38th SICOT
Orthopaedic World Congress

30 November - 2 December 2017
Cape Town South Africa

Abstract Book

e-Posters

Abstract no.: 46154

EPIDEMIOLOGY OF ORTHOPEDIC TRAUMA CASES IN A TERTIARY MEDICAL CENTER IN THE PHILIPPINES

Orland Joshua ALIMBUYUGUEN
East avenue medical center, Quezon city (PHILIPPINES)

This study was conducted to describe the incidence of fractures seen in all the orthopedic cases at a tertiary hospital in the Philippines. Specifically it sought to describe the patients as to their demographic characteristics particularly age, gender, place of injury, and mode and mechanism of injury. Type of fracture was classified based on Gustilo Anderson and AO/OTA classification system. It determined the relationship between the demographic factors and type of fractures. Data gathered from 304 patients, of both sex, from all ages, admitted or not, in the trauma center were collected from the trauma registry, from February to December, 2015. Using a cross-sectional study, continuous data were analysed using frequency counts and percentages. Relationship of variables was assessed using Pearson R. Findings showed that patients seen at the emergency room were less than 17 years old, males and from urban areas. Vehicular accidents and falls were the most common mode of injury. Gunshot wounds and self-injury were the least cases seen at the emergency room. In terms of the type of wounds, patient seen at the emergency room had either single or closed wounds. Based on OA/OTA classification on bone fractured, these were fractures around radius and ulna, as the most common followed by fractures in humerus, and tibia. Age was positively related to severity of fracture using Pearson R with a confidence interval of 0.05 (2 tailed). This implies that the older the patient, the more severe the fracture.

Abstract no.: 46165

ANKLE ARTHRODESIS IN HEMOPHILIC PATIENTS

Matthieu EHLINGER[1], David EICHLER[2], Adrien D'AMBROSIO[3], Henri FAVREAU[3], Philippe ADAM[4], Francois BONNOMET[4]
[1]university teaching hospital, strasbourg (FRANCE), [2]CHU, strasbourg (FRANCE), [3]CHU strasbourg, strasbourg (FRANCE), [4]CHU Strasbourg, strasbourg (FRANCE)

Introduction : hemophilic arthropathy is painful, invalidating, destructive. Authors report a retrospective study of ankle arthrodesis in patients with end-stage hemophilic arthropathy under continuous infusion of clotting factors. The purpose was to evaluate the benefits of continuous infusion of clotting factors regarding long-term functional improvement and radio-clinical results. Material: form 2000 to 2013, 12 ankles arthrodesis were performed in 9 patients with mean age of 39 years. A continuous infusion of anti-hemophilic factors was used and supervised by the physician of the regional hemophilic treatment center. Evaluation was clinical (KITAOKA, OLERUD scores) and radiological (PETTERSSON score). Mean preoperative KITAOKA score was 22 points (2-55), OLERUD score was 37 points (20-85) and PETTERSSON score was 7 points (5-12). Mean factor VIII rate before surgery < 1% (<1-3). Results : Mean follow-up was 8 years (2-16). At latest follow-up, KITAOKA score was 69 points (32-92) and OLERUD score was 70 points (30-100). Improvement was essentially obtained on the item concerning pain. 78% of the patients were satisfied. Mean factor VIII at time of incision was 90% (24-117) and 109% (75-152%) on day one. We reported no post-operative hematoma and no secondary infectious complications. Radiological fusion was observed in all patients 3.5 months (3-4) after surgery. Discussion / conclusion : ankle arthrodesis in end-stage hemophilic arthropathy improved both the function and quality of life of this group of patients. Continuous infusion of clotting factors contributed significantly to these results, by allowing early and intensive rehabilitation, and offered security regarding hemorrhagic complications.

Abstract no.: 46166

CLINICAL OUTCOMES OF UNI KNEE ARTHROPLASTY PROSTHESIS. INVESTIGATION OF CONTRIBUTORY RISK FACTORS LEADING TO FAILURE. RETROSPECTIVE STUDY OF 106 CASES.

Matthieu EHLINGER[1], Benjamin SCHEIBLING[1], Henri FAVREAU[1], Adrien D'AMBROSIO[1], Philippe ADAM[2], Francois BONNOMET[1]
[1]CHU strasbourg, strasbourg (FRANCE), [2]CHU strasbourg, strabsourg (FRANCE)

Introduction : Medial Unicompartimental Knee Arthroplasty (UKA) prostheses achieved good radiological, clinical outcomes. We conducted a retrospective study to analyse factors that may influence the outcomes with a special focus on the evolution of patellofemoral joint (PFJ). The hypothesis was that the outcomes were good, without a bad evolution of PFJ compared to controlateral knees without any UKA. Material : A Retrospective study was conducted on a continuous series of 164 medial UKA. Clinical (IKS, Oxford Score) and radiological examinations have been conducted for each patient (Iwano). A special focus on PFJ and risk factor research was done. Results : At the last follow-up, 106 UK were analysed. The mean follow-up was 49 months. The mean IKS score was 172 ($p<0,0001$) and 20 for the Oxford score ($p<0,0001$). Patient satisfaction was : satisfied (91%), partially satisfied (3%), unsatisfied (6% including 3 revision cases). The mean flexion was 121 degree ($p=0,008$). The mean HKA angle was 175 degree (172 pre-operative). Unfavourable factors of IKS score were : excessive tibial posterior slope, frontal plane femoral angle, femoral distal cut and anterior offset, excessive patellofemoral subluxation, HKA angle < 175 degree. The risk of progressive osteoarthrosis of PFJ and patellofemoral subluxation increased but as much as in controlateral native knees. Postoperative Iwano grade did not influence postoperative patellofemoral pain. Discussion/conclusion : Our hypothesis is confirmed, UKA prostheses provide good radiological and clinical outcomes without generating major damage of the PFJ compared to knees without any UKA. Several prognostic factors were underlined.

Abstract no.: 46167

RECONSTRUCTION WITH MASSIVE ALLOGRAFTS FOR TUMOR RESECTION IN THE LOWER LIMB: A CASE SERIES AT MIDDLE TERM FOLLOW UP

Matthieu EHLINGER[1], Luca CANNAVO[2], Adrien D'AMBROSIO[2], Henri FAVREAU[3], Antonio DI MARCO[2], Philippe ADAM[1], Francois BONNOMET[1]
[1]CHU Strasbourg, strasbourg (FRANCE), [2]CHU strasbourg, strasbourg (FRANCE), [3]CHU strasbourg, strabsourg (FRANCE)

Introduction: The reconstruction after resection of a bone tumor can be achieved in different ways. We analyze a series of massive bone allograft. Objectives were: look for possible recurrence, assess consolidation of graft, radiological and functional outcomes at follow up. Secondary objectives were: examine complications, assess effectiveness of methods of fixation. Hypothesis was that the consolidation was effective but with heavy complications. Methods: we retrospectively reviewed 14 patients (01/2001-10/2015): 5 Osteosarcoma, 4 Chondrosarcoma, 3 Ewing Sarcoma, 2 metastases. Resection concerned 3 proximal tibia, 3 distal tibia, 4 proximal femur, 2 distal femur, 2 femoral shaft. The mean resection was 14.5cm (femur) and 17cm (tibia). Allografts were fixed with 6 IMN, 1 nail+plate, 4 plates, 2 THA, 1 TKA. The MTST score was assessed at last follow up. X-ray evaluates recurrences, graft integration, loosening. Results: At a mean follow up (33.3 months): 6 patients were alive without recurrence, 4 living with secondary spread of disease, 4 died, no local recurrence was observed, 2 deep infections were noted (1 amputation, 1 nonunion with implant failure), 1 aseptic nonunion with implant failure was observed. Mean MTST score was 73%. Integration of graft was observed in 12 cases. Consolidation period was 20 months for plates, 14 months for nails. Discussion/Conclusion: Massive bone allografts are an effective surgical reconstruction strategy with satisfactory functional score and very few local recurrences. Consolidation is satisfactory (86%) but rate of complications (14% infection) confirms our hypothesis. We reported better radiological results with nail fixation.

Abstract no.: 46168

A 10 YEAR CASE REVIEW SERIES OF PLASTIC SURGERY INPUT IN THE MANAGEMENT OF PELVIC AND ACETABULAR TRAUMA AT A NATIONAL TREATMENT CENTRE

Mcquade COLIN[1], John GIBBONS[2], Brendan O'DALY[2], Michael LEONARD[2]
[1]The National Centre for Pelvic & Acetabular Fractures, The Adelaide & Meath Hospital incorporating the National Children's Hospital, Tallaght, Dublin 24, Longford (IRELAND), [2]The National Centre for Pelvic & Acetabular Fractures, Dept. of Trauma & Orthopaedic Surgery, The Adelaide & Meath Hospital incorporating the National Children's Hospital, Dublin (IRELAND)

Our unit is the national tertiary referral centre for pelvic and acetabular fractures in Ireland, operating on 100 – 120 patients per annum. Such patients may have significant associated soft tissue injuries. There is currently no on-site plastic surgery service at our institution. Our primary outcome measure was the number of patients with pelvic and acetabular fractures over 10 years requiring plastic surgery procedures. Secondary outcomes included the mean number of additional operations per patient, post-operative outcomes and number of inter-hospital transfers. Inpatients with pelvic and acetabular fractures transferred from our centre to an affiliated tertiary referral centre with a plastic surgery unit between 2006 – 2015 inclusive were identified using the Hospital Inpatient Enquiry System. Medical charts were reviewed to determine outcome measures. 10 patients were transferred for a plastic surgery procedure. Eight had surgery for sacral or lower limb soft tissue injuries. One patient each had surgery for a facial or upper limb injury. The mean number of plastic surgery procedures per patient was 1.9. At follow-up, 1 patient had 100% skin graft failure. One patient had an infected skin graft. All remaining patients had satisfactory soft tissue outcomes. The mean number of inter-hospital transfers was 1.5 per patient. Significant soft tissue injuries mean patients are likely to undergo further procedures. In our setting, there is also the burden of interhospital transfer which can cause delays in treatment. This data is highly relevant at a time when many countries are reviewing the configuration of their trauma services.

Abstract no.: 46169

SIMULATION SOFTWARE FOR PERIPROSTHETIC FEMORAL FRACTURE

Matthieu EHLINGER[1], Hadrien COURTECUISSE[2], Philippe ADAM[3], Francois BONNOMET[3], Daniel BAUMGARTNER[4]

[1]CHU strasbourg, strasbourg (FRANCE), [2]ICUBE laboratory, Strasbourg (FRANCE), [3]CHU Strasbourg, strasbourg (FRANCE), [4]ICUBE laboratory, strasbourg (FRANCE)

Introduction: Weak areas appear in femur during periprosthetic fracture due to the prosthesis itself. The main objective is to simulate fracture of femoral bone coupled with prosthesis. The final goal is to propose some guidelines for optimal distance between hip and knee prosthesis as well as type of prosthesis to minimize the risk of periprosthetic fracture. Material: methodology consists: 1- classification of scenarios, 2- CT-scan acquisition, 3- segmentation of data, 4- mesh generation and boundary condition identification, 5- fracture simulation and validation against experimental cases. Three fall scenarios were considered: 1- fall on the knee (2.8m/s), 2- torsion (0.1rad/ms), 3- lateral impact (4.4m/s). Results: The fracture simulation relies on a triangular FE mesh in which the prosthesis is considered as rigid with tied contact interfaces with the bone. shaft is divided in five heterogeneous parts where cortical layers as well as cancellous bone are distinguished. Cortical and cancellous bone are also able to break, thus reproducing fracture, thanks to a Tsai-Wu criterion. The complete FE modeling and simulation is achieved using Altair Hyperworks 11.0 software. A special attention is carried out to the hourglass energy that must remain lower than 10 % of the total energy. three different fracture schemes were predicted, correspond to the three fall scenarios. Discussion/conclusion: a first perspective of that pilot study, a parametric study will be undertaken to explore the influence of distance between hip and knee prosthesis as well as type of prosthesis on the fracture scheme for each fall scenario.

Abstract no.: 46170

WHEN THE ANTEROLATERAL LIGAMENT (ALL) OF THE KNEE SHOULD BE RECONSTRUCTED?

Radek HART, Martin KOMZAK
General Hospital, Znojmo (CZECH REPUBLIC)

The aim of this study was to evaluate the effect of the ALL recontruction during the singl-bundle (SB) anterior cruciate ligament (ACL) surgery and to compare it with the double-bundle (DB) reconstruction in a prospective randomised controled study. SB ACL and ALL reconstruction (Group I; 20 cases) and DB ACL reconstruction (Group II; 20 cases). All measurements were performed using an image-free computer navigation system. Internal rotation (IR) were done with the rollimeter (force 2,5 Nm) attached to the iron shoe during the surgery. All tests were performed at 30° of flexion. In Group I, IR was tested before the surgery, after the SB ACL reconstruction, and after the additional ALL reconstruction. In Group II, IR was tested before and after the surgery. Results: In Group I, mean IR before surgery was 17,6°, after the ACL reconstruction 12,3° ($p < 0,05$), and after the ALL reconstruction 8,6° ($p < 0,05$). In 7 cases (35 %) with remaining rotational laxity after the ACL reconstruction less than 12° the stability in IR after the ALL reconstruction did not improve significantly ($p > 0,05$). In Group II, IR was 18,2° at average before the surgery and 10,4° after the ACL reconstruction ($p < 0,05$). We found no statistically significant difference between both groups in terms of IR laxity before and after the surgery. Conclusions: Isolated SB reconstruction stabilizes the knee in IR sufficiently only in about 1/3 of patients. In remaining 2/3 of cases the addition of the ALL reconstruction is important.

Abstract no.: 46172

KINEMATIC ANALYSIS OF THE HEALTHY AND ARTHROTIC KNEE AND AFTER THE TKR

Radek HART, Filip BUCEK
General Hospital, Znojmo (CZECH REPUBLIC)

The aim of this prospective study was to analyse rotational movement of the tibia in relation to the femur during flexion-extension. In 2014 and 2015 included volunteers and patients were evaluated using computer navigation system during the surgery. Every study group consisted of 30 consecutive cases. There were these groups: volunteers with healthy knees and patients undergoing TKR who were evaluated before and after the surgery. TKRs included all types of condylar replacements. The knee rotational stability was assessed by the computer in 0°, 30°, 60°, 90°, and 120° flexion. Afterwards, curves were created using an another computer software. Results: In the healthy knee the tibia is in mild external rotation in relation to the femur in extension („screw-home“ mechanism). During knee flexion between 0°- 30°, the tibia reaches internal rotation of 10°- 15°. With increasing flexion the tibial rotation remains in the same extent. Arthrotic knees and all types of TKRs have very different patterns of tibial movement. The most similar curve to the healthy knee draws the tibia after the posterior cruciate ligament sacrifying TKR. The internal rotational stability is physiologically decreasing with increasing flexion. In arthrotic knees and after TKRs the highest internal rotational stability in extension and in 120°flexion. The external rotational stability of arthrotic knees and after TKRs is much smaller than in healthy knees. Conclusions: Tibial rotational movements in arthrotic conditions and after TKRs significantly differ from native knee joints.

Abstract no.: 46173

INFLUENCE OF POSTERIOR CONDYLAR OFFSET ON THE KNEE FLEXION AFTER THE TKR SURGERY

Radek HART, Filip BUCEK
General Hospital, Znojmo (CZECH REPUBLIC)

The purpose of the study was to find out if the posterior condylar offset (PCO) has influence on the postoperative range of motion. 100 consecutive patients with primary osteoarthritis underwent TKR surgery. Posterior cruciate ligament-retaining fixed-bearing cemented TKR was implanted. Beginning first day after surgery, exercises were performed every day. To evaluate the PCO before and after the surgery, a conventional X-ray analysis using an image intensifier in the operating theatre was applied. The PCO was measured from the dorsal edge of condyles or TKR to a line tangential to the posterior cortex of the femoral diaphysis. An independent physician measured maximal passive flexion before surgery and at the follow-up control (12 months postoperatively). The mean maximum flexion angle before the surgery was 112,2° (range, 40° to 135°) and at the follow-up control 108,9° (range, 80° to 130°). It remained unchanged in 52, increased in 24 and decreased in 24 patients. The PCO was at average before the surgery 27,6 mm (range, 20 to 38 mm) and after the surgery 27,2 mm (range, 20 to 34 mm). The PCO was significantly greater in 24, smaller in 32 and the same in 44 cases after the TKR. No statistical dependence of the range of knee flexion on the PCO was found. Changes in the PCO do not influence significantly the range of knee flexion after the TKR surgery. There are more important factors influencing the final result.

Abstract no.: 46174

RESULTS OF THE PREVENTION OF TOTAL KNEE ARTHROPLASTY INFECTION

Radek HART, Filip BUCEK
General Hospital, Znojmo (CZECH REPUBLIC)

The purpose of the prospective study was to evaluate results of all interventions accepted at the department. Methods: We prospectively followed-up for one year 500 consecutive cases treated with condylar TKA between September 2013 and August 2015. All TKAs were performed with computer assistence. Mean age of our patients was 74 years. A BMI > 30 kg/m2 was present in about the half of cases. One third of patients had diabetes mellitus. Prior to surgery, we carried out decolonization when a patient was a bacterial carrier. Prophylactic antibiotics (cefazolin) were standardly administered one hour before the surgical procedure and continued for 48 hours when sucction drains were withdrawn. Skin desinfection was done first with iodine and then with chlorhexidine. Turniquet was not applied in any case. Tranexamid acid was administered to reduce bleeding. Cell-saver was used routinely to prevent allogenic blood transfusion (immunomodulation effect). Suction was exchanged 60 minutes after skin incision and gloves just before cement (without antibiotics) application. Light handle was not touched by operation team. Hydrofiber wound coverage with silver was applied and changed six days after the surgery. Results: Under above mentioned circumstances we did not observed any deep infection following TKA in our patients in at least 12 months follow-up. Conclusions: We believe a prerequisite for the success in preventing periprosthetic joint infection is implementation of all described measures. Longer follow-up and higher number of cases will be necessary for confirmation of this statement.

Abstract no.: 46177

THE ANTERIOR INTRA-PELVIC LIMITED (MODIFIED RIVES-STOPPA) APPROACH FOR FIXATION OF ACETABULAR FRACTURES- OPERATIVE TECHNIQUE AND PRELIMINARY TREATMENT RESULTS

Suryakant SINGH[1], Hitesh DAWAR[2], Deepak RAINA[2]
[1]INDIAN SPINAL INJURIES CENTRE, NOIDA (INDIA), [2]INDIAN SPINAL INJURIES CENTRE, New Delhi (INDIA)

BACKGROUND: Acetabular fractures are a great surgical challenge for orthopedic surgeons. The choice of operative approach is dependent on the fracture type, direction of displacement, and duration from initial injury. The objective of this study was to evaluate the efficacy of the modified Stoppa approach in acetabular fractures. OBJECTIVE: To evaluate the clinico-radiological outcomes in patients with Acetabular fractures operated with the modified Stoppa approach. METHOD: 12 patients with acetabular fractures and operated by the modified Stoppa approach admitted at Indian Spinal Injuries Centre, New Delhi from 2014- 2016 were recruited. Evaluation was done in terms of hip function by Merle D'Aubigne hip score, quality of fracture reduction and union. RESULTS: Of the 12 operated cases, 50% were anterior column fractures while 25% were both-column fractures, the rest 25% were anterior column with posterior hemi-transverse fractures and T-fractures. Mean age of the patient was 42.5 years. Mean operative time was 140 minutes. Average blood loss was 520 ml. 60 % Patients had associated injuries. The Radio-graphic measurement according to the Matta Radio-logical grading, were graded as good to excellent in 10 patients, Fair or poorer in 2 patients. Merle D'Aubigne hip score was Excellent in 2, good in 8 and fair in 2 cases. All fractures healed within 12 weeks. CONCLUSION: Excellent and good results could be achieved through the modified Stoppa approach for the treatment of acetabular fractures. Hence, it could be used as an alternative to the classical Ilio-inguinal approach.

Abstract no.: 46178

ROTATING HINGE KNEE PROSTHESIS IS ASSOCIATED WITH POORER CLINICAL OUTCOMES AS COMPARED TO CONSTRAINED CONDYLAR KNEE PROSTHESIS IN TOTAL KNEE ARTHROPLASTY

Jason Beng Teck LIM[1], Hwei Chi CHONG[2], Hee Nee PANG[1], Keng Jin Darren TAY[1], Shi Lu CHIA[1], Ngai Nung LO[1], Seng Jin YEO[1]
[1]Department of Orthopaedic Surgery, Singapore General Hospital, Singapore (SINGAPORE), [2]Orthopaedics Diagnostic Centre, Singapore General Hospital, Singapore (SINGAPORE)

Introduction: This study aims to evaluate if there are any differences in patient-reported outcome measures between semi-constrained condylar constrained knee (CCK) and fully constrained rotating hinged knee (RHK) prostheses in mid-term follow-up. Methods: We reviewed prospectively collected data of our hospital arthroplasty registry between 2007 and 2014 with minimum of 2 years follow-up. 39 patients were identified to have RHK prosthesis TKA and matched for number of primary/revision TKA, gender, age, body mass index (BMI) and pre-operative clinical scores to a control group of 78 patients with CCK TKA. Patient demographics, range of movement), varus/valgus deformity (VVD), Short Form-36 (SF-36) scores, Oxford Knee Score (OKS), Knee Society Score (KSS) and patient reported satisfaction were evaluated. An independent t-test was used to compare outcomes between the two groups. Statistical significance was defined as $p < 0.05$. Results: Pre-operatively the study group of RHK and the matched control group of CCK had similar demographics, proportion of primary/revision TKA and baseline clinical scores ($p > 0.05$). At 2-years follow-up, patients with CCK prostheses had significantly better clinical outcomes as compared to patients with RHK prosthesis in terms of KSS functional scores (60.6 versus 36.9; $p < 0.001$), OKS (23.0 versus 29.1; $p=0.01$), SF-36 sub-domains of physical functioning (PF) (52.4 versus 34.0; $p=0.009$), physical role functioning (PRF) (57.8 versus 38.5; $p=0.068$) and physical component score (PCS) (43.7 versus 37.5; $p=0.007$). Conclusion: We conclude that the increased component constraint and possibility of more altered knee kinematics of RHK is associated with poorer clinical outcomes as compared to CCK.

Abstract no.: 46184

THE OUTCOMES OF THE SHORT STEM TOTAL HIP ARTHROPLASTY IN PATIENTS 50 YEARS OR YOUNGER WITH OSTEONECROSIS OF THE FEMORAL HEAD

Yingyong SUKSATHIEN
Orthopaedic department, Maharat Nakhon Ratchasima Hospital, Nakhon Ratchasima (THAILAND)

Introduction: In young patients with osteonecrosis of the femoral head (ONFH), the conventional cementless total hip arthroplasty (THA) showed satisfactory results in many studies, however, there were a few studies about the short stem THA in these patients groups. Methods: The authors reviewed 100 hips in 78 young patients who underwent THA with Metha short stem from November 2010 to November 2013. The appearance of bone trabeculae development and radiolucent was reviewed using Gruen's classification. The Harris hip score (HHS) was recorded at 6, 12, 24, 36, 48 and 60 months postoperatively. Results: The mean age of patient was 39.2 years (18-50) at the time of surgery with the mean BMI of 22.6 (16.5-32.5, SD 3.5). The average follow-up period was 52.8 months (36-72). The mean HHS was significantly improved from 44.2 (22.7-74, SD 7.6) preoperatively to 97.6 (87-100, SD 2.5) at 6-months postoperatively ($p<0.01$). The radiographic change around the stems showed bone trabeculae development at zone 1(74 cases)(74%), 2(51 cases)(51%), 3(40 cases)(40%), 6(100 cases)(100%) and 7(96 cases)(96%). There were 2 cases (2%) of 5 and 4 mm subsidence respectively and the radiolucent line was observed at zone 1 in both cases. There was 1 case (1%) of intraoperative femoral fractures and was treated with cerclage wires with no further subsidence. There was 1 case (1%) of distal stem perforation that had stable bone ingrowth. Conclusion: Clinical and radiographic results of the short stem THA in young patients with ONFH are generally satisfactory. Its design can preserve the bone stock.

Abstract no.: 46189

A NOVEL TECHNIQUE FOR AN UNUSUAL PROBLEM. BIOABSORBABLE NAIL FIXATION FOR METATARSAL HEAD FRACTURE

Thomas HESTER, Ben BARKHAM, Rory CUTHBERT, Laurence JAMES
University Hospital Lewisham, London (UNITED KINGDOM)

Isolated osteochondral fractures of the metatarsal head are uncommon with only a handful of cases reported. Management options have included non-operative, K-Wire or screw fixation which frequently require the need for removal. We report a case treated by ORIF with bioabsorbable nails. 47F presented 5 days after a fall, with pain in her 4th toe. On examination, ecchymosis, swelling and decreased range of movement throughout. Radiographs sdemonstrated a dorsomedially displaced metatarsal head osteochondral fracture, with the fragment in the 3rd web space. After failed closed reduction, standard MTPJ approach was used. The osteohondral fragment was devoid of attachments, was reduced and held with a K-Wire. 2 divergent bioabsorbable nails were placed with countersink. Reduction was confirmed by direct inspection and K-Wire removed. Examination showed good tracking and stability. Radiographs showed no evidence of avascular necrosis, or arthritic change and AAOFAS was excellent at 4 months. Closed reduction can be difficult, due to the small size, or rotated/locked fragment as in this case. ORIF is not without complication, wires may be removed and pin site infections can occur, screws may be prominent and either cause further articular cartilage trauma or need removal. Residual stiffness has been reported, however with stable fixation from bioabsorbable nails, the patient started FROM as pain allowed immediately, achieving an excellent result. Bioabsorbable nails have been used before but transition to this fracture has yet to be made. We believe this case demonstrates that these devices can be a valid alternative to fixation and achieve comparable outcomes

Abstract no.: 46195

INTRA-OPERATIVE SEQUENTIAL STRETCHING TO REDUCE "DIFFICULT-TO-REDUCE" TOTAL HIP REPLACEMENT

Sudhir Kumar GARG
Government Medical College & Hospital, Chandigarh (INDIA)

Introduction: It is challenging to reduce total hip replacement while restoring limb length in patients with significant shortening. We devised a technique to carry out intra-operative sequential stretching of soft tissues to reduce difficult-to-reduce total hip replacement. Material & methods: Between 2013-16, more than 150 total hip replacements were done. 28% patients had shortening ranging from 20 to 35 mm. In many patients, it was not possible to achieve reduction of trial total hip replacement with desired neck length and head size due to tight soft tissues. To achieve reduction in these patients, instead of desired prosthetic head i.e. 36/32/28 mm, smaller prosthetic head of minimum available neck length was inserted and reduction was achieved. Hip was left in reduced position for few minutes. The procedure was repeated with gradually increasing neck lengths of 22.2 mm/ 28 mm/ 32 mm or 36 mm size head till it was possible to reduce total hip replacement with desired neck length as determined on preoperative templating. Results: This technique was used in 19 patients where it was not possible to achieve reduction of the trial total hip replacement with desired neck length and head size. With this technique, it was possible to achieve reduction in these very tight total hip replacements. In none of the patient, additional soft tissue release was done. Conclusions: We were able to reduce total hip replacement with pre-operative shortening of upto 35 mm using this technique without resorting to extensive soft tissue release.

Abstract no.: 46207

DELAYED EXPRESSION OF CIRCULATING TGF-□1 AND BMP-2 LEVELS IN HUMAN NONUNION LONG BONE FRACTURE HEALING

Yoshiaki HARA[1], Hisashi MATSUMOTO[2], Nobuyuki SAITO[2], Takanori YAGI[2], Hiroaki IIDA[2], Kazuki MASHIKO[2], Hiroshi YASUMATSU[3], Tomokazu MOTOMURA[3]

[1]KAMAKARI, INZAI (JAPAN), [2]KAMAGARI, INZAI (JAPAN), [3]KAMAGARI, Inzai (JAPAN)

Background: The healing process of bone fracture requires a well-controlled multistage and sequential order beginning immediately after the injury. However, complications leading to nonunion exist, creating serious problems and costs for patients. Transforming growth factor-beta 1 (TGF-b1) and bone morphogenic protein 2 (BMP-2) are two major growth factors involved in human bone fracture healing by promoting various stages of bone ossification. In this study, we aimed to determine the role of these factors during the fracture healing of human long bones and assess their impacts on nonunion condition. Methods: We performed a comprehensive analysis of plasma TGF-b1 and BMP-2 levels in blood samples from 9 patients with proved nonunion and 9 matched patients with normal union following a predetermined time schedule. The concentrations of TGF-b1 and BMP-2 were measured at each time point using a ELISA. Result: TGF-b1 and BMP-2 levels were detectable in all patients. For all patients, a maximal peak for TGF-b1 was found at 3-week. In normal union group, TGF-b1 showed a maximal peak at 2-week while nonunion group had a delayed maximal peak at 3-week. Plasma levels of BMP-2 for all patients and for normal union group reached a maximal peak at 1-week, but nonunion group showed a delayed maximal peak at 2-week. In general, plasma TGF-b1 or BMP-2 level was significantly different between two groups. Conclusion: The expression levels of TGF-b1 and BMP-2 appeared to be delayed in nonunion patients which could play an important role in developing an early marker of fracture union.

Abstract no.: 46211

THE EFFECT OF ABDOMINAL AND SPINAL MUSCLES FATIGUE IN SPINAL POSTURES

Mohammed ELMAJEE[1], Mahmoud AL-HINAI[1], Frances ARNALL[1], Irfan SIDDIQUE[2]

[1]Salford University/Manchester/United Kingdom, Manchester (UNITED KINGDOM), [2]Salford Royal Hospital/Manchester/United Kingdom, Manchester (UNITED KINGDOM)

Abstract: Fatigue in spinal/abdominal muscles has been correlated with LBP disorders in many recent studies. Nonetheless, there are not many studies that investigated the effects of this fatigue on pelvic parameters such as pelvic tilt in static dynamic spinal postures by the application of the DIERS system. Method: a (pre/post-test) cohort study was conducted in 10 healthy individuals to investigate the effect of spinal and abdominal muscles fatigue on pelvic tilt (DL-DR), trunk inclination (VP-DM) and the lordotic angle (ITL-ILS max) in a static spinal posture and on the rotation of the T6, L2 and L4 vertebras in a dynamic spinal posture. results: In the static spinal analysis, abdominal and spinal muscles fatigue had a significant effect ($p < 0.05$) on pelvic tilt (DL-DR), trunk inclination (VP-DM) and lordotic angle (ITL-ILS max) for 40% of the participants. However, overall there were no significant differences in the mean values for all participants for the parameters measured pre- and post-test. conclusion : there was no a specific pattern for the changes in the spinal parameters observed in the included participants and there was no a statistical significance in the mean values for all participants pre- and post-test ($p > 0.05$). Nevertheless, the application of simple and quick fatigue tests resulted in changes in all the static parameters (pelvic tilt (DL-DR), trunk inclination (VP-DM) and the lordotic angle (ITLILS max)) as measured by the DIERS system, reaching statistical significance ($p < 0.05$) in many of the included participants.

Abstract no.: 46215

ARE ABNORMALLY HIGH VALUES OF C-REACTIVE PROTEIN (CRP) AND ERYTHROCYTE SEDIMENTATION RATE (ESR) IN EARLY POSTOPERATIVE PERIOD ARE RELIABLE INDICATORS OF UNDERLYING INFECTION AFTER TOTAL HIP AND KNEE REPLACEMENT ?

Sudhir Kumar GARG, Anant KRISHNA, Sandeep GUPTA, Rohit JINDAL
Government Medical College & Hospital, Chandigarh (INDIA)

Introduction: Persistently high CRP and ESR are important indicators of underlying infection. Due to paucity of literature on natural response curve, elevated levels in early postoperative period may lead to unwarranted anxiety and interventions. This study was done to establish natural response curve in the acute phase (<3 weeks) after total hip and knee replacement surgeries. Material & methods: A total of 73 patients, 31 THR, 26 bilateral TKR and 16 unilateral TKR were enrolled. Quantitative CRP and ESR analysis was done preoperatively and postoperatively on 1st, 2nd, 3rd, 7th, 12th day and 3 weeks. Results: CRP levels increased from baseline i.e. THR 4.10±1.46, bilateral TKR 3.49±1.08, unilateral TKR 3.19±1.55, to peak values at day 2, THR 204.88±45.69, bilateral TKR189.56±33.27 and unilateral TKR 124.36.56±35.50, with return to baseline by 3 weeks in all 3 groups. ESR levels increased from baseline, THR 19.00±3.54, bilateral TKR 21.53±4.16, unilateral TKR 20.56±5.07, to peak values at day 3, THR 93.25±6.40, bilateral TKR 89.73±6.15, unilateral TKR 81.31±4.82, and remained elevated above baseline at 3 weeks in all 3 groups. Conclusions: This study shows that values of CRP and ESR rises to very high levels in early postoperative period with rapid decrease and return to normal at 3 weeks. Only if instead of a falling trend, there is a rising trend of CRP within 3 weeks or beyond, then along with clinical sign and symptoms, CRP can serve as a serological indicator that would raise an index of suspicion for underlying infection.

Abstract no.: 46218

SPINAL MENINGIOMAS:A DIAGNOSTIC CHALLENGE

Sohael KHAN[1], Shraddha SINGHANIA[2], Pradeep SINGH[3], Saherish KHAN[2], Suvarn GUPTA[2], Taosef SYED[4], Shashank JAIN[2], Akhita SINGHANIA[2]
[1]Datta Meghe Institute of Medical Sciences, Chandrapur (INDIA), [2]Datta Meghe Institute of Medical Sciences, Wardha (INDIA), [3]Dr.H.L.Hiranandani Hospital, Mumbai (INDIA), [4]Kannur Medical College, Manglore (INDIA)

Spinal meningiomas are rarely reported as pure epidural tumors and when present, may cause diagnostic dilemma preoperatively. The unique combination of a wholly epidural tumor causing neural foraminal widening has not been previously described. We describe a case of pure epidural tumor in a 25-year-old female who presented with back pain. An apparent complete resection was performed. Intraoperatively the surgeon observed an entirely epidural tumor with no dural attachment. Histological examination confirmed that the tumor was a meningioma. In this paper, we describe a case of extradural meningioma affecting the thoracic spine and present their clinical profiles, radiological findings, operative management, and follow-up data, along with discussion over its differential diagnosis.

Abstract no.: 46220

FIBULAR STRUT GRAFT FOR NON-UNITED FEMORAL NECK FRACTURES IN CHILDREN

Adham Are ELGEIDI, Abed EL-NEGERY
Mansoura School of Medicine, Mansoura (EGYPT)

Background: Non-united fracture neck of femur in children continues to be real challenge. Many surgical treatment options have been described. all aim to achieve union while avoiding leg length discrepancy and coxa vara. Purpose: To evaluate clinical and radiological outcomes of fibular strut grafts for non-united femoral neck fractures with or without sub-trochanteric valgus osteotomy. Patients & Methods: Twelve children with non-united femoral neck fractures (9 males and 3 females) with an average age of 8.2 years (5 – 12 years) were managed and functional results evaluated between July 2013 and July 2015. Mechanisms of injury were fall from height in ten patients and road traffic accident in 2 cases. Nine cases of femoral neck non-union were after failed internal fixation and 3 cases were neglected fractures. 6 cases were treated by fibular strut graft and sub-trochanteric valgus osteotomy with contoured plate and 6 cases were treated by fibular strut graft and hip spica. Results: The mean follow-up period was 20.4 months (range 12-36 months). Union was achieved in all 12 cases by an average time of 3.5 months (range, 2.5 - 6 months). All patients were satisfied at five months. For final analysis of clinical and radiographic results, the Ratliff's classification was used. We obtained 11 cases as good results, 1 case as fair. Conclusions: Fibular strut grafts is reliable option for treatment of pseudo-arthrosis in femoral neck fracture non-union in children. It is successful in restoration of femoral neck length in children with non-united femoral neck fractures.

Abstract no.: 46236

ANTERIOR GREATER TROCHANTERIC MUSCLE PEDICLE BONE GRAFTING: A VIABLE GRAFT OPTION ADJUNCT TO HIP OSTEOTOMY OR FRACTURE SURGERY

Noppachart LIMPAPHAYOM, Phatcharapa OSATEERAKUN, Vajara WILAIRATANA, Pairatch PRASONGCHIN
Faculty of Medicine, Chulalongkorn University, Bangkok (THAILAND)

Introduction: The objectives were to evaluate a technique, outcomes and complications following anterior greater trochanteric with gluteus medius muscle pedicle bone graft (AMG) procedure in the treatment of adolescent and active adult hip disorders. Methods: 20 patients (20 hips) with a mean age of 22.7±15.6 (range; 10.0-63.5) years underwent AMG procedure and followed more than 12 months postoperative were retrospectively enrolled. AMG procedure was performed in conjunction with subcapital osteotomy for slipped capital femoral epiphysis in 12 and open reduction for fracture/dislocation in 8 hips. At the most recent evaluation, patient functional status was rated by Harris hip score (HHS) and radiographic changes were graded according to Tonnis criteria. Complications were defined as Tonnis grade >2 or hip requiring further surgery. Univariate analysis was used to explore factors associated with complications. Spearman's rank correlation coefficient was calculated between HHS and Tonnis grading. Results: At mean follow-up of 4.4±2.6 (range; 1.1-9.5) years, mean HHS was 87.4. Tonnis grading was rated as 0 in 10 hips, 1 in 5 hips, 2 in 2 hips, and 3 in 3 hips. Avascular necrosis of the femoral head as a complication developed in 3 hips (15%). Clinical parameters including age at surgery, duration of follow-up and diagnosis were not significantly associated with postoperative complications. A negative correlation between HHS and Tonnis grade was shown by Spearman's rank correlation. (rs=-0.49, p=0.03) Conclusion: The AMG can be safely recommended as an adjunct bone graft procedure when performing anterior open reduction of adolescent and active adult hip disorders.

Abstract no.: 46237

“ HELP! I FELL FROM A FRUIT TREE”- AN ANALYSIS OF FRACTURE PATTERNS RESULTING FROM FALLS FROM FRUIT TREES

Simret RANDHAWA, Muhammad Syafik YUNUS, Yao Yi PHANG, Chun Sing HAN, Muhammad Yusof AZIZ
Hospital Sultan Haji Ahmad Shah, Temerloh, Kuala Lumpur (MALAYSIA)

Introduction: Falls comprise a significant cause of morbidity and mortality. At our center, falls from trees represent 41% of all cases of fall from height reported. This study was designed to identify the incidence and injury patterns of falls sustained from trees. Methods: This study is a retrospective review of all cases of falls from trees and its related injuries resulting in admission between January 2016 and December 2016.Patient records were analysed to identify specific injury patterns such as upper or lower limb fractures, spinal cord injury and head injury. Results: 29 cases were identified. 89 percent (n= 26) of the patients were males and 11% (n=3) were females. Thoracolumbar (51.7%), distal end radius (17.2%), tibia (10.3%) and ankle (10.3%) fractures constituted the most common fractures encountered in our patients. 62% of falls occurred from fruit trees of which a third of them were due to falls from rambutan trees. Discussion: Our findings are interesting in that the incidence and timing of falls from trees reflect the local activity and seasonal activity of the geographical area. Most falls occurred during the fruit season which may indicate increased tree climbing activity during that period. Furthermore our observation that climbing rambutan trees incurred the highest morbidity could be due to its softer branches which may not withstand a grown man’s weight. Conclusion: Falls from trees involve mostly young males and establishing effective fall prevention guidelines will help reduce incidences and improve outcomes.

Abstract no.: 46240

EXPERIENCE OF USING INTERLOCKING NAIL IN PATHOLOGIC PROXIMAL FEMUR FRACTURE

Yu Hung CHEN
Far Eastern Memorial Hospital, Tainan City (TAIWAN)

The intramedullary nail fixation has been proven to have sufficient durability for metastatic femoral fractures. The previous studies indicated the benefits of prophylactic surgical treatment of impending fractures in metastasis and cement augmentation during operation. We present the results of these patients treated with interlocking nail in Far Eastern Memorial Hospital (FEMH) and share our experiences and relative findings from the data analysis. We made a retrospective study of 26 patients with proximal femoral metastases treated with intramedullary nails between Jan.2011 and Jun.2016 in our department. There were 9 prophylactic and 17 therapeutic nails with a mean follow-up of 13.2 months. The fixations of the impending fractures were performed according the Mirels' scoring system (≥9). The intramedullary nails were performed to the included cases with or without percutaneous cement augmentation. We evaluated all the cases in the aspects of pain relief, operative parameters and function improvement. In our report, proximal femur metastatic fractures were treated with IMN successfully with no revision cases needed, and significant difference in the pain relief and function improvement were also noted. We also concluded by our statics that prophylactic treatment of impending fracture presents significant fewer operation time, less blood loss, earlier ambulation and shorter hospital stay, thus improving patients' quality of life. As for the cement augmentation, we do not identify the significant benefits as previous studies. However, the limitation including small size of sample and short-term follow-up may impact the outcome and lead to different conclusion.

Abstract no.: 46243

HETEROTOPIC OSSIFICATION AFTER REVERSE POLARITY SHOULDER REPLACEMENT

Pratima Premchand KHINCHA, Emmet GRIFFITHS, Joideep PHADNIS, Puneet MONGA
Wrightington Hospital, Wigan (UNITED KINGDOM)

We report on the incidence and severity of heterotopic ossification (HO) following reverse polarity shoulder replacement. We have identified reverse polarity shoulder replacements carried out between 2007 and 2015 at our institution from our prospective database. Two independent clinicians reviewed and graded the films for HO (Kjaersgaard-Anderson). The grade of HO was noted at initial presentation, maximal grade and at final follow up. To rule out the presence of remaining osteophytes, fragments or debris the initial post-operative radiograph was reviewed. We identified 205 reverse polarity shoulder replacements with a mean follow up of 25 months (1-92). This series included 47 revisions. The main primary indication was cuff tear arthropathy in 68%. Mean age at surgery was 73 years. There were 104 cases of HO in our population (51%) with a median grade of 1. Primary surgery was associated with a reduced incidence (50%) compared to revision surgery (58%). There was no increased risk for male patients. HO is evident in most within the first year but we had several cases in which the initial diagnosis was not made until 18 months. We found that HO progressed at least one grade from initial presentation in 31 patients (30%). This is a large series of reverse polarity shoulder replacements. We have as expected shown an increase risk of HO after revision surgery and contrary to previous published work that gender has no influence. The functional implication of such a high prevalence of HO remains unclear and needs further investigation in future studies.

Abstract no.: 46245

COMPARISON OF CLINICAL EFFICACY AMONG REMIFENTANIL, NICARDIPINE AND REMIFENTANIL PLUS NICARDIPINE CONTINUOUS INFUSION FOR HYPOTENSIVE ANESTHESIA DURING ARTHROSCOPIC SHOULDER SURGERY

Joonyub KIM[1], Yoon JONG PIL[2], Seok Won CHUNG[3]
[1]Myongji Hospital, Goyang-Si, Gyeonggi-do (SOUTH KOREA), [2]Kyungpook National University School of Medicine, Daegu (SOUTH KOREA), [3]Konkuk University School of Medicine, Seoul (SOUTH KOREA)

Introduction: Hypotensive anesthesia is crucial during arthroscopic shoulder surgery to reduce bleeding and allow for clear visibility. The aim of this study was to compare the clinical efficacy of continuous infusion of remifentanil, nicardipine, and remifentanil plus nicardipine to control hypotensive anesthesia in arthroscopic shoulder surgery. Methods: For this study, we enrolled 45 consecutive patients who were scheduled to have arthroscopic rotator cuff repair surgery, and we randomly allocated them into remifentanil (Group R, n=15), nicardipine (Group N, n=15), and remifentanil plus nicardipine (Group RN, n=15) groups. During the surgeries, these drugs were administered with continuous infusion. We analyzed the mean arterial pressure (MAP) and heart rate during surgery, stay time in the recovery room, visual analogue scale (VAS) scores, use of anti-emetics in the recovery room, and postoperative blood urea nitrogen and creatinine changes. Results: The VAS score in the recovery room was higher for Group R (mean 5.6, SD 1.4) than for Groups N (mean 3.9, SD 0.9) and RN (mean 4.0, SD 1.1) ($p=0.000$). There were no statistical differences regarding other clinical variables among the three groups (all $p>0.05$) except for MAP at 120 minutes of surgery between Groups N and RN (N: 84.67 [SD 10.7] mmHg, RN: 65.4 (SD 9.2) mmHg, $p=0.027$). Conclusion: The continuous infusion of remifentanil plus nicardipine appeared to be advantageous for maintaining hypotensive anesthesia until 120 minutes of arthroscopic shoulder surgery without rebound pain in a post-anesthesia care unit.

Abstract no.: 46254

ANATOMICAL VARIATIONS IN THE TIBIAL INSERTION OF THE ANTERIOR CRUCIATE LIGAMENT. AN MRI STUDY

Henry MAGILL[1], Neil JAIN[2], Clare CULLEN[2]
[1]North Manchester General Hospital, Belfast (UNITED KINGDOM), [2]North Manchester General Hospital, Manchester (UNITED KINGDOM)

Introduction Tunnel placement is considered of upmost importance in the outcome from Anterior Cruciate Ligament (ACL) reconstruction. The purpose of this study was to determine the variability of the tibial insertion of the ACL in order to aid the surgeon when performing anatomical ACL reconstruction. Methods One-hundred Knee MRI scans performed in our unit were reviewed. Measurements were taken from sagittal images to determine the antero-posterior (AP) length of the tibia, the AP distance from the anterior aspect of the tibia to the anterior ACL and the AP distance to the posterior ACL. Results The mean Tibia AP length was 36.6mm (SD 3.3mm). There was greater mean distances observed in males than females when measuring the Anterior Tibia to Anterior ACL (15.9mm to 14.2mm), Anterior Tibia to Posterior ACL (31.5mm to 28.1mm) and ACL Footprint AP length (15.5mm to 13.8mm). However, there was similarity in the proportional distance from the Anterior Tibia to the mid-point of the ACL from the total AP length of the Tibia (61.5% to 60.8%) with an overall mean value of 61% (SD 4.4%). Discussion Our findings show a variability in the distance from the anterior tibia to the ACL and the overall AP length of the tibia between males and females, however the proportion of these distances is fairly consistent between males and females of all ages. Such findings may help in the pre-operative planning of ACL reconstruction surgery or aid with radiographic post-operative assessment following such surgery.

Abstract no.: 46256

THE INTERNET AS A SOURCE OF PATIENT INFORMATION ABOUT KNEE REPLACEMENT SURGERY.

Henry MAGILL[1], Josh MACKEY[2], Williamson NATHAN[3], Maruthainar NIMALAN[4]

[1]Chelsea and Westminster Hospital, Belfast (UNITED KINGDOM), [2]Frimley Park Hospital, Surrey (UNITED KINGDOM), [3]Newcastle Royal Infirmary, Newcastle (UNITED KINGDOM), [4]Royal Free Hospital, London (UNITED KINGDOM)

Abstract Introduction: YouTube™ is becoming increasingly popular as a primary source of health information viewed by both Doctors and their patients. The site has more than 6 billion hours of video being viewed each month. Information remains unregulated and non-validated, this study aims to analyse the information freely provided to the public on the topic of knee replacement surgery. Methods: A systematic search of YouTube™ was performed. The keywords 'Knee replacement' and 'Knee replacement surgery' were searched individually on February 2014. All content was analysed by two independent adjudicators. Videos were categorized in a range of parameters including usefulness, broadcaster details, operation details, complications and individual symptoms mentioned. All video statistics were recorded including video length, view count, likes and dislikes. Results: A total of 99 videos met the inclusion criteria. Medical professionals provided the largest proportion of videos (44.2%) with the highest popularity rating (Like: Dislike ratio 12.4). Despite this, videos from Medical professionals suffered lower than average view counts. Worryingly, 29% of videos made no reference to either pre or post-op symptoms and few videos referred to success rates (15.1%) or risks and complications of surgery (30.1%). Discussion/Conclusion: YouTube™ appears to be an unreliable source of information relating to knee replacement surgery. Medical professionals may benefit from providing and verifying high-quality videos for patient information to act as an adjunct to the consultation. This may also benefit in saving time and managing patient expectations.

Abstract no.: 46258

RADIOGRAPHIC ANALYSIS OF RE-RUPTURES OF RECONSTRUCTED ACLS - EVALUATION OF TUNNEL POSITION AS A POSSIBLE CAUSE OF FAILURE

Andree ELLERMANN[1], Alexander ZIMMERER[2], Christian SOBAU[1]
[1]ARCUS Sportklinik, Pforzheim (GERMANY), [2]ARCUS Sportklinik, Calw (GERMANY)

Introduction: Previous studies detected tunnel malpositioning as possible causes for the failure of ACL reconstruction. We investigated various radiological angles to find possible causes for the failure of reconstructed ACLs. Methods: 100 patients with digital radiographs were included and angles of femoral and tibial tunnel position in coronal and sagittal plane were analyzed. Furthermore subgroups were built: Trauma/Non-Trauma, Hamstring/BTP-Patella, Transtibial/Anteromedial. Results: Trauma group differed significantly from non-trauma group in the angle of the tibial tunnel in the ap radiograph (trauma group 28.4°, non-trauma group 22.67°; p = 0.013). Hamstring group differed significantly from BTB group in the inclination angle of the femoral tunnel in the ap radiograph (HS group 54.86°, BTB group 62.78°; p = 0.015). There was also a significant difference concerning the tibial tunnel in the ap radiograph (HS group 29.56°, BTB group 21.63°; p = 0.0001). BTB trauma group had an average of 23.56° for ap tibial tunnel relative to BTB non-trauma group of 16.91° (p=0.013). In addition there was a significant difference when comparing ap tibial tunnel in transtibial trauma group with transtibial non trauma group (TT trauma = 27.66°, TT non trauma = 21.15°; p = 0.017). Conclusion: Only a few significant differences in the measured angles could be found. A real trauma was necessary to rupture the reconstructed ACL in 87%. In 13% we could find a possible cause within the tibial tunnel: the steeper the tibial tunnel was, less trauma was necessary for failure.

Abstract no.: 46259

HEMIARTHROPLASTY VERSUS ORIF ACETABULAR FRACTURE IN THE ELDERLY: COMPARISON OF PERIOPERATIVE OUTCOMES IN A NATIONAL PELVIC AND ACETABULAR REFERRAL CENTRE OVER 5 YEARS.

John GIBBONS, Mark QUINN, Brendan O'DALY, John MCELWAIN, Michael LEONARD

Tallaght Hospital, Dublin (IRELAND)

Introduction: The increasing incidence of acetabular fractures in the elderly and the fracture complexity seen in this cohort represents one of the greatest challenges faced by trauma orthopaedic surgeons today. Although surgical intervention allows for earlier mobilization and avoidance of the complications of prolonged bedrest the patients ability to tolerate what is often major surgery is always of concern. There are no formal guidelines of best practice in the treatment of these patients which is not the case for intracapsular hip fractures, (a fracture within the same joint), where guidelines have been established for acute surgery is recommended in virtually all cases. Methods: This study was undertaken to evaluate the peri-operative outcomes for 42 age- and sex-matched patients undergoing acetabular ORIF and hemiarthroplasty, over a 5-year period, to assess if there is a significant difference in early outcome parameters. Results: There was no significant difference in mortality or post-op infection. A significant difference between the two cohorts was observed with operative times, blood loss, need for transfusion, and need for ICU admission, all higher in the acetabular ORIF group. Conclusion: Our paper supports the concept that acute ORIF of acetabular fractures, with appropriate peri-operative support, can be undertaken safely. There is no difference in the major peri-operative outcomes of mortality or infection when compared with hip fracture patients requiring hemiarthroplasty.

Abstract no.: 46265

ANALYSIS OF CEMENT LEAKAGE IN 140 CONSECUTIVE PATIENTS OF PERCUTANEOUS VERTEBROPLASTY (VTP) FOR OSTEOPOROTIC VERTEBRAL COMPRESSION FRACTURES (VCF) BY A SINGLE SURGEON IN A SINGLE CENTRE – DOES SURGEON EXPERIENCE PLAY A ROLE ?

Sathik Babu M.B.[1], Saumyajit BASU[2]
[1]Park Clinic and Institute of Neurosciences, Chennai (INDIA), [2]Park Clinic and Institute of Neurosciences, Kolkata (INDIA)

Background: Percutaneous Vertebroplasty(VTP) has been shown to be an excellent method of pain relief for Osteoporotic Vertebral Compression Fractures(VCF). Occurrence of cement leakages is 34 to 48%. The aim of this study is to analyze the incidence and pattern of cement leakages with respect to the surgeon's learning curve. Materials & Methods: In a retrospective study from December2005-August2015, 140 consecutive VTPs, done by single Centre and surgeon were studied and cement leakages were assessed, with respect to the whole group, the first 70 patients(GroupA) and the subsequent 70 patients(GroupB). Result: Out of 140 patients (50males, 90females) with an average age of 66 years (range 52-90) cement leakages occurred in 31(22.14%). There were 23 leakages (32.8%) in groupA, 8 leakages (11.42%) in groupB, with a pvalue=0.004. The most common site was dorsolumbar (whole group 18, groupA 56.5%, and groupB 50%), most common location was disc space (whole group 20, groupA 61%, groupB 62.5%). Average filling of vertebra with cement in the total group was 52.98, 55.6% in groupA and 51% in GroupB(p=0.04). Average age of patients was 69 for the whole group and 70 for groupA, 66.25 for groupB(p = 0.29). Average T-score in the whole group was -2.82, groupA was -2.9 and -2.75 in groupB(p= 0.79). Conclusion: We conclude that the incidence of cement leakages decrease with the increasing experience of the surgeon. Increasing cement filling in the vertebral body leads to more leakages. The effects of age and T-score do not correlate statistically with the cement leakage.

Abstract no.: 46270

IN VIVO ANALYSIS OF SHOULDER JOINT THREE-DIMENSIONAL TRANSIENT MOTION AFTER CLAVICLE HOOK PLATE FIXATION BASES ON FSA

Lan CAO[1], Jinwu WANG[2]

[1]Department of Orthopaedics & Bone and Joint Research Center, Shanghai Ninth People's Hospital Affiliated to Shanghai Jiao Tong University,School of Medicine, SHANGHAI (CHINA), [2]Department of Orthopaedics & Bone and Joint Research Center, Shanghai Ninth People's Hospital Affiliated to Shanghai Jiao Tong University,School of Medicine, Shanghai City (CHINA)

Objective: To explore the effect of clavicular hook plate for the shoulder joint three-dimensional instantaneous motion of postoperative clavicular fracture. Methods: Three clavicle fracture patients using clavicular hook plate fixation was recruited. The clavicular and hook plate motion were reconstructed using three-dimensonal computed tomography and a solid modeling software. In vivo, clavicular and hook plate motion during functional postures were obtained using a flat type fluoroscopic imaging technique. Local coordinate systems were established on the clavicle and hook plate, to obtain the 6 degree-of-fredom(DOF) during abduction and analysis the motion after clavicle hook plate fixation. Results: The clavicular hook plate in patients has influence on both shoulder joint adduction and internal activities. This study of patients with clavicular hook plate in the internal and external rotation changes with normal collarbone rotation angle 27° almost no difference, distal clavicle in forward displacement (average 6.8 mm) compared to normal 5.1 mm has increasing trend, abducent angles of the patients can only reach 84.79°,the A-H average value was 5.47mm. Conclusion: Patients with clavicular hook plate, after 3 ~ 6 months of the surgery, shoulde remove the internal fixation timely, prevent the subacromial impingement syndrome.

Abstract no.: 46272

THE APPLICATION OF 3D PRINTING TECHNOLOGY IN ORTHOPAEDICS AND REHABILITATIVE DEVICES

Tao LI[1], Jinwu WANG[2], Ming XIAO[1], Yuanjing XU[1]

[1]Department of Orthopaedics & Bone and Joint Research Center, Shanghai Ninth People's Hospital Affiliated to Shanghai Jiao Tong University,School of Medicine, SHANGHAI (CHINA), [2]Department of Orthopaedics & Bone and Joint Research Center, Shanghai Ninth People's Hospital Affiliated to Shanghai Jiao Tong University,School of Medicine, Shanghai City (CHINA)

With the development of digital medicine,medical imaging systems, material science,CAD/CAM and other technology,the application of 3D printing technology is increasingly being integrated into orthopedics and rehabilitative devices . Conforming to patients' anatomic structure,3D printing technology can be used to make individualized orthopaedics models, surgical templates, implants, rehabilitative devices accurately and rapidly.3D printing technology has a number of advantages,such as patient-specification,saving material and time. To date, the application of 3D printing technology in orthopedics and rehabilitative devices is also facing many problems because of material ,cost ,standardization and other restrictions.

Abstract no.: 46273

A PRELIMINARY STUDY ON THE EFFICACY OF SEQUENTIAL INJECTION THERAPY OF GLUCOCORTICOID AND HYALURONAN FOR KNEE OSTEOARTHRITIS

Jinwu WANG[1], Mingzheng PENG[2], Ning LI[3]
[1]Department of Orthopaedics & Bone and Joint Research Center, Shanghai Ninth People's Hospital Affiliated to Shanghai Jiao Tong University,School of Medicine, Shanghai City (CHINA), [2]Department of Orthopaedics & Bone and Joint Research Center, Shanghai Ninth People's Hospital Affiliated to Shanghai Jiao Tong University,School of Medicine, SHANGHAI (CHINA), [3]School of Biomedical Engineering, Shanghai Jiao Tong University, SHANGHAI (CHINA)

Objective: To investigate the efficacy of sequential injection therapy of glucocorticoid and hyaluronan for knee osteoarthritis. Methods: From August 2012 to August 2013, 64 patients (27 males and 37 females) with knee osteoarthritis were treated in our hospital department. All the patients were randomly divided into two groups. For the experimental group, patients were treated with glucocorticoid (Diprospan) injection in the first week and with sodium hyaluronate (ARTZ) in the following two weeks. For the control group, patients were only treated with sodium hyaluronate during the three weeks. The Western Ontario McMaster (WOMAC) instrument was adopted to evaluate the efficacy and the repeated measures analysis of variance was adopted to make a comparison between above two therapies. Results: Compared to baseline, the experimental group showed a more significant decrease during the first month than the control group regarding to WOMAC total scale, pain and function subscale. Six months later the WOMAC scale increased in both groups and the effect was still significant in the experimental group while not in the control group. Conclusion: The effect of sequential injection therapy of glucocorticoid (diprospan) and sodium hyaluronate (ARTZ) for knee osteoarthritis is better than sodium hyaluronate only.

Abstract no.: 46277

INCIDENCE OF CRANIAL FACET JOINT VIOLATION IN OPEN VERSUS PERCUTANEOUS PEDICLE SCREW PLACEMENT IN SINGLE LEVEL LUMBAR FUSION - ANALYSIS OF RISK FACTORS.

Sathik Babu M.B.[1], Saumyajit BASU[2]
[1]Park Clinic and Institute of Neurosciences, Chennai (INDIA), [2]Park Clinic and Institute of Neurosciences, Kolkata (INDIA)

Background: Cranial facet joint violation (FJV) can lead to accelerated Adjacent Segment Degeneration (ASD) – we compared the incidence FJV in percutaneous and open pedicle screw placement in single level lumbar fusions and evaluated the risk factors. Material and Method: 30 patients in each group of open and percutaneous screw placement having single level lumbar fusion for degenerative conditions between Jan2013 to Dec2015 were selected. Postoperative CT scans were assessed by two fellowship trained spine surgeons and one radiologist – FJV was graded as per Seo classification (0=no impingement; 1=screw head in contact/suspected to be in contact with joint, 2=screw clearly invaded the joint). Chi square test was used to determine FJV with respect to surgical technique (open/percutaneous), the joint violated (L3/4vsL4/5), age, sex and BMI. Results: Cranial FJV occurred in 38.33% in the percutaneous group (23/60, Grade1=15, Grade 2=8) and 51.67% in the open group (31/60, All grade 1) ($P<0.0001$). BMI (>=30 vs <30) (90%vs60%) and L4/5 facet vs L3/4 (56.8%vs37.5%) and Age (<60years vs >=60) (71.73%vs42.85%) showed significant association for increased FJV ($P<0.05$). Sex does not show any correlation. Inter-observer reliability is fair (k=0.60-0.68). Conclusion: Higher rate of proximal FJV was found in the open group though grade 2 violations were commoner in the percutaneous group. Patients with increased BMI, L4/5 facet joint and Age<60 were independent risk factors. Surgeons should be extra cautious to avoid this complication during surgery and modify the entry point and trajectory in patients more likely to have proximal FJV to avoid ASD.

Abstract no.: 46280

THE JUDET QUADRICEPSPLASTY FOR ELDERLY TRAUMATIC KNEE EXTENSION CONTRACTURE: A CASE REPORT AND SYSTEMATIC REVIEW OF THE LITERATURE

Benjamin DING
Khoo Teck Puat Hospital, National Healthcare Group, Singapore (SINGAPORE)

Introduction: Traumatic injuries to the knee are frequently complicated by extension contractures. The Judet Quadricepsplasty has been performed regularly in young patients and allows for controlled, sequential release of extrinsic and intrinsic knee contracture components while reducing the potential for iatrogenic quadriceps rupture. We document our institutions experience with this procedure in an elderly patient and a systematic review of the current literature.Methods: We followed up on an elderly patient with post-traumatic flexion contracture that failed conservative management and underwent Judet Quadricepsplasty. A systematic review of the literature was performed and relevant data from 12 articles was extracted. Results: 1 elderly patient underwent the procedure and had her knee range of motion improve dramatically from 20 degrees of flexion to 100 degrees of flexion. There was a residual extension lag of 5 degrees which did not impede on the patients daily activities. The procedure was mainly performed in young adult males in most studies and the range of motion improvement ranged from 51° to 110°. Wound infections were the most common complication but otherwise other complications and severe residual extension lag were rare. Conclusion: The Judet Quadricepsplasty is a useful procedure for severe extension knee contractures that has failed conservative management in all age groups of patients. It is associated with significant increases in range of motion with low rates of complication or extension lag.

Abstract no.: 46281

CHRONIC DIALYSIS IS ASSOCIATED WITH IMPLANT LOOSENING IN PATIENTS UNDERGOING HIP HEMIARTHROPLASTY FOR FEMORAL NECK FRACTURES

Benjamin DING
Tan Tock Seng Hospital, National Healthcare Group, Singapore (SINGAPORE)

Introduction: Hip fractures in patients with end-stage renal disease (ESRD) are associated with frequent complications and poorer outcomes. Patients on chronic dialysis are at additional risk of dialysis related complications such as myocardial infarction and early osteolysis. This study analysed the complications and outcomes of hemiarthroplasty in patients with femoral neck fractures with ESRD with and without pre-existing dialysis. Methods: We reviewed the medical records of 53 ESRD patients with 57 fractures treated with hemiarthroplasty between 2005 and 2015 with a mean age of 68 (50-86) years. The mean follow up time in the group was 39 months. Patient demographics, surgical and medical complications, outcomes and follow up radiographs were analysed for differences. Results: Patient in both groups had statistically similar demographics and comorbidity scores. Patients on chronic dialysis were older, 72.7±7.8 vs 61.6 ±16.8 (p=0.004) and had a higher incidence of hyperparathyroidism 9 vs 0 (p=0.003). These patients were more likely to develop cardiopulmonary complications in the perioperative period, relative risk (RR) 8.70 (1.0-75.0), p=0.02 and implant loosening, RR 7.29 (0.83 – 63.8). The incidence of loosening was higher in patients with hyperparathyroidism RR 3.47, p=0.06, nearing statistical significance. Cemented techniques however did not appear to affect complications or outcomes. Conclusion: Patients in ESRD on chronic dialysis were more likely to develop cardiopulmonary complications and implant loosening after hip arthroplasty for femoral neck fractures. Our study did not show any difference in complications or outcomes between cemented or cementless fixation.

Abstract no.: 46282

RADIAL FRACTURE SHAFT OBLIQUITY: A NOVEL PREDICTOR OF DISTAL RADIOULNAR JOINT INSTABILITY IN RADIAL SHAFT FRACTURES

Benjamin DING
Tan Tock Seng Hospital, National Healthcare Group, Singapore (SINGAPORE)

Purpose: We assessed the utility of using radial shaft fracture obliquity measurements on radiographs as a predictor of intra-operative distal radio-ulnar joint (DRUJ) instability. We also clinically validated previously described predictors of DRUJ instability which included fracture line within 7.5cm of the lunate fossa, radial shortening >5mm and ulna styloid fracture. Methods: We retrospective analysed the radiographs of all surgically managed patients in our unit with radial shaft fractures from 2006 – 2016. The degree of obliquity was analysed on the basis of the maximum fracture-line angle in either the coronal or the sagittal plane. Patient demographics, mechanism of injury and other radiological parameters were also analysed and recorded. Results: A radial shaft fracture obliquity >30 degrees is predictive of DRUJ instability, P=0.001. Radial fracture shaft obliquity >30º was the most sensitive radiological parameter for predicting DRUJ instability, 76.1%. Previously described radiological parameters were found to be clinically significant for predicting DRUJ instability but were of moderate sensitivity. Conclusion: Oblique radial shaft fractures appear to be associated with increased incidence of DRUJ instability. These novel radiologic parameter may be used in combination with pre-existing parameters in predicting DRUJ instability prior to surgery.

Abstract no.: 46285

INDRADURAL EXTRAMEDULLARY TUMOR OF SPINAL CORD- CASE SERIES

Pashupati CHAUDHARY
BPKIHS, Dharan (NEPAL)

Background: Intradural or primary spinal cord tumors (neoplasms) are uncommon lesions and fortunately affect only a minority of the population. However, when lesions grow, they result in compression of the spinal cord, which can cause limb dysfunction, motor and sensation loss, and, possibly, lead to death. Aim and Objective: To evaluate and management of intradural intramedullary spinal cord tumors presented to department of Orthopaedics, BPKIHS, Dharan.Materials and methods: This is retrospective interventional study done at the department of Orthopaedics,BPKIHS,Dharan,Nepal over a period of 4 years from March 2010 to April 20014. A total of 5 patients with intradural extramedullary tumor were operated. The patient's age ranged from 20 to 50 years and the mean follow-up was 12 weeks.Results: The study comprised of 5 patients with intradural extramedullary tumor of spinal cord The age incidence in this series ranged from 20 years to 50 years. 4 patients were males and 1 was female. 2 tumors were in dorsal region where as 3 tumors were in lumbar region. Discussion: Patients with intramedullary extramedullary spinal cord tumors typically present with back pain referred from the level of the lesion, sensory changes, or worsening function. Optimal treatment options depend on the patient's clinical symptoms and neurologic finding.Conclusion: Intradural or primary spinal cord tumors (neoplasm) are uncommon lesions and fortunately affect only a minority of the population. Patients with neurologic symptoms and confirmatory findings from imaging studies benefit most from surgical excision, with the surgical goal of total gross resection of the lesion

Abstract no.: 46286

CASES OF SUDDEN DETERIORATION OF CERVICAL SPINAL CORD

Ogoshi TOMOFUMI
1-16-610, Kamochou, Yonago (JAPAN)

Introduction: Patients of cervical injury have many problems in airway, breathing and circulation because of their paralyzed intercostal muscle. They can only breathe through their diaphragm, so their amount of ventilation is decreased. It is also difficult for them to release their sputum because of their disability of movement and cough reflect. I would like to discuss to you 2 cases of sudden death. Case 1: The man was about 70 years old. He was busy working in the mountains cutting trees. As he was doing this, trees fell down and hit his head. After that, his arms and legs could not move. He was transported to our hospital. His C5 was dislocated and ASIA score was A. He was operated on the first day. After the operation, FRANKEL was still stage A but his general condition was improving. He was transported though a wheeled chair. After 21 days, his urine decreased. We could not revive him and his family didn't wish to have him dissected. We did A1 but we couldn't find the reason of his death. Case 2: He was about 60 years old. He fell down from a tree with 5 meters height. He was transported through a helicopter to our hospital. His ASIA score was A and he was operated on admission. After the surgery, he regained his consciousness and he could sit without any problem. 3 days from admission, his blood pressure suddenly dropped. We were able to manage his blood pressure but he died on that day. After dissection, the reason of his death was found out to be ischemia of the intestinal tract.

Abstract no.: 46288

ANATOMICAL EVALUATION OF CALCANEUS IN PATIENTS FOR ACCURATE OPEN REDUCTION AND INTERNAL FIXATION

Jumpei INOUE[1], Makoto FUKUTA[2], Kunio YAMADA[2]
[1]Komaki city Hospital, Aichi prefecture Komaki city (JAPAN), [2]Komaki City Hosital, Komaki (JAPAN)

Introduction: The aim of this study was to reveal the anatomical features of posterior facets of the talocalcaneal joint by analyzing calcaneus on performing computed tomography (CT). Methods: The study comprised 40 (20 women) patients undergoing CT scan of ankle. The coronal plane was vertically reconstructed against the major axis of the calcaneus. Three points of posterior facets of the talocalcaneal joint were made on the coronal plane: anterior end(point A), posterior end (point B), and midpoint between point A and point B (point C). The tilt of the posterior facets of the talocalcaneal joint and length at the three points on the coronal plane when the screws were inserted parallel to the subchondral bone were measured. Results: The average tilt of point A against point B was 17.1° varus in men and 16.8° varus in women. The average tilt of point C against point B was 17.8° valgus in men and 15.8° valgus in women. The average length of point A was 43.5 mm in men and 38.2 mm in women. The average length of point B was 40.3 mm in men and 34.9 mm in women. The average length of point C was 25.0 mm in men and 23.7 mm in women. Conclusions: The tilt of the posterior facets of the talocalcaneal joint on the coronal plane changed from valgus to varus, going anteriorly from posterior. The lengths were a difference of more than 10 mm at the anterior end from the posterior end of this facet.

Abstract no.: 46289

MULTIMODAL DRUG INFILTRATION IN TOTAL KNEE ARTHROPLASTY: IS POSTERIOR CAPSULAR INFILTRATION WORTH THE RISK?

Piya PINSORNSAK
Faculty of medicine, Thammasat university, Patumthani (THAILAND)

Introduction: Multimodal local anesthetic infiltration (MLAI) provides effective pain control in patients undergoing total knee arthroplasty (TKA). Data are limited on the added benefits of (posterior capsular infiltration) PCI using different combinations of local anesthetic agents. Therefore, we investigated the effectiveness of pain control in MLAI with and without PCI. Materials and Methods: In double-blind, randomized controlled trial of patients scheduled for unilateral primary TKA; 86 patients were randomly assigned to receive MLAI with PCI (Group I) or without PCI (Group II). Analgesic agents were bupivacaine, morphine, ketorolac and epinephrine. All patients received spinal anesthesia and patient-controlled analgesia (PCA) after surgery. The visual analogue scale (VAS) and morphine consumption were recorded 24 hours postoperatively. MLAI-related side effects, blood loss, and length of hospital stay were monitored. Results: There were no statistically significant differences between Group I and Group II in VAS pain scores in the first 24 hours after surgery, PCA morphine consumption (p=0.647), blood loss (p= 0.625), and length of hospital stay (p= 0.17). There were no neurovascular complications in both groups.Conclusion: MLAI with PCI did not provide significant analgesic benefits nor reduce morphine consumption. Hence, MLAI without PCI is a good alternative method of pain control without any risk of neurovascular structures injury.

Abstract no.: 46300

HOSPITAL LENGTH OF STAY AFTER REVERSE SHOULDER ARTHROPLASTY IS DECREASED BY PRESERVING THE SUBSCAPULARIS DURING A DELTOPECTORAL APPROACH

Alexandre LÄDERMANN
La Tour Hspital, Meyrin (SWITZERLAND)

Introduction With an aging population it is becoming increasingly necessary to establish the most cost-effective care. One factor that may influence length of stay (LOS) and cost in reverse shoulder arthroplasty (RSA) is the surgical approach. Hypothesis The hypothesis was that a subscapularis-sparing (SSCS) approach would be associated with lower cost and equal complication compared to a traditional deltopectoral (TDP) approach. Methods A prospective evaluation was performed of patients undergoing RSA over a 2 year period. A deltopectoral incision was used followed by either sparing of the subscapularis tendon or traditional takedown of the subscapularis (TDP). Hospital stay, adverse events (readmission, prolonged admission, subsequent surgery), physical therapy, as well as patient satisfaction, were collected in the 3 months following RSA. Results LOS was shorter with the SSCS approach compared to the TDP approach (from 8.2 ± 6.4 days to 15.2±11.9 days; P = .04). At 3 months postoperative the SANE score (80 ± 11% vs. 70 ± 6%; P = 0.04) and active elevation (130 ± 22° vs. 109 ± 24°; P = 0.01) were higher in the SSCS group. The SSCS approach resulted in a net cost savings of $5900 per patient. Postoperative physical therapy, pain levels, and patient satisfaction were comparable in both groups. No immediate intraoperative complications were noted. Conclusion LOS is minimized with an SSCS approach compared to a TDP approach. Functional outcomes are also improved in the early postoperative period without increasing the complication rate or decreasing patient satisfaction.

Abstract no.: 46304

OUTCOME OF COMBINED RECONSTRUCTIVE PROCEDURE WITH REROUTING OF THE TIBIALIS ANTERIOR TENDON IN SEVERE FLEXIBLE FLATFOOT

Osman Abd Ellah MOHAMED
Al Azhar university, Giza (EGYPT)

Introduction: The clinical appearance of the severe flexible flat –foot consists of a collapsed medial longitudinal arch. Heel valgus fore foot abduction heel cord tightness, and forefoot supinatus or varus (1) on review of literature surgical treatment has beer. reserved for children with symptomatic severe flexible flatfoot .not responding to the usual conservative measures (2-6) surgical procedures fall into three general categories :1)tendon transfer or lengthening 2)osteotomy . And 3) arthrodesis (5) .however, no surgical technique is universally accepted. In this study, a combined reconstructive technique is described that addresses all components of the deformity in one sitting. Materials and methods Thirty feet in 20 patients (ten males And ten females) were the subject Of this study performed in Al Azhar university Hospital in Damietta The ages ranged from 9to 14 years (average 36 months). Most of the patients presented with their parents in the outpatient clinic asking for referral to the physiotherapy department for the periodical dispensing of medical shoes or shoe inserts for flatfoot. The results were assessed to the relief of the relief of foot strain and calf pains, improvement in shoe wear. General activity and foot shape. To evaluate foot shape, reconstruction of the medial arch and heel posture were assessed. The children and parents were satisfied with the final results in17 feet (89.5%). improvement of the radiological measurements was evident and was statistically significant.

Abstract no.: 46313

SUPRA PATELLAR NAILING FOR TIBIA FRACTURES - NEVER THOUGHT OF INDICATIONS

Hitesh DAWAR[1], Surbhit RASTOGI[2], Deepak RAINA[2]
[1]Indian Spinal Injuries Centre, GURGAON (INDIA), [2]Indian Spinal Injuries Centre, New Delhi (INDIA)

Suprapatellar nailing has conventionally been described for proximal metaphyseal fractures of the Tibia. The technique which not many Orthopaedic surgeons are familiar with, is not a commonly practised one - and we believe the reason is that surgeons aren't aware of other indications. This paper describes the use of supra patellar nailing in various other case scenarios at a tertiary trauma centre, with excellent radiological and functional results.

Abstract no.: 46314

ROLE OF SINGLE SHOT ANTIBIOTIC SURGICAL PROPHYLAXIS IN PROXIMAL FEMUR FRACTURES IN ELDERLY

Hitesh DAWAR[1], Apurv GABRANI[2], Surbhit RASTOGI[2], Deepak RAINA[2]
[1]Indian Spinal Injuries Centre, GURGAON (INDIA), [2]Indian Spinal Injuries Centre, New Delhi (INDIA)

A surgical site infection (SSI), which is a common cause of nosocomial infection, is defined as an infection that occurs at or near a surgical incision within 30 days of the procedure or within one year if an implant is left in place. Among surgical patients, SSIs account for 38 percent of nosocomial infections. Current guidelines recommend that prophylactic antibiotics end within 24 hours of surgery completion, even though there is no documented benefit of antibiotics after wound closure in the reduction of SSI. This study included elderly patients (>50 years) with proximal femur fractures managed surgically with implants, who were given just a single preoperative shot of antibiotic as surgical prophylaxis in the year 2013, and followed up for a year, at a tertiary care trauma centre. 58 cases were included, with mean age of 73.95 (50-96) years. 3(5.17%) patients had local, and 3(5.17%)had systemic complications (1 had both); 2(3.44%) of these required prolonged antibiotic administration after the surgery. We believe that a single shot antibiotic is as good a Surgical Prophylaxis for prevention of SSI as any other Antibiotic regimen.

Abstract no.: 46318

SURVIVORSHIP OF MEDIAL OPENING WEDGE HIGH TIBIAL OSTEOTOMY IN THE ELDERLY

Pakpoom RUANGSOMBOON[1], Keerati CHAREANCHOLVANICH[2], Thos HARNROONGROJ[2], Chaturong PORNRATTANAMANEEWONG[2]
[1]Siriraj Hospital, Mahidol University, Bangkok (THAILAND), [2]Siriraj Hospital, Mahidol university, Bangkok (THAILAND)

Background: Medial opening wedge high tibial osteotomy (MOWHTO) has been widely used in osteoarthritic (OA) knee with varus deformity in young patients. Its efficacy in older patients is unknown. We aimed to evaluate the survivorship of MOWHTO in elderly patients as the primary outcome. The secondary outcome is to evaluate loss of correction angle, which is a common complication. Materials and method:A retrospective study of 50 elderly patients (≥ 60 years) with varus OA knee who underwent MOWHTO was conducted. Patients with previous knee surgery were excluded. Medical records and radiographs were reviewed. Survivorship was analyzed using Kaplan-Meier curves. The starting and end points were time of operation and time of subsequent TKA, respectively. Loss of correction angle was defined as the change of medial proximal tibial angle (MPTA) between 3 months and 1 year postoperatively. Results: Patients' mean age was 66 ± 5.0 years. Mean correction angle was 10.6 ± 3.6 degrees. The union rate of osteotomy site was 100%. In survival analysis, Median follow-up time was 6.0 ± 3.0 years. Two patients required subsequent TKA. The survivorship of MOWHTO at 4 years was 95.5% (95%CI, 96.0 to 98.0). The loss of correction angle was 1.0 ± 0.5 degrees at 1 year postoperatively. Conclusion: This study proved that MOWHTO in patients ≥ 60 years had good mid-term survivorship with acceptable complications. This procedure can be the alternative option for varus OA knee in the elderly.

Abstract no.: 46320

TREATMENT PATHOLOGICAL FRACTURE OF THE PROXIMAL HUMERUS USING THE INTRAMEDULLARY NAIL

Karl WU
Far Eastern Memorial Hospital, - (TAIWAN)

As for treating pxoximal humerus pathological fracture, intramedullary nailing can provide the benefit of protection the long segment, rigid fixation, close procedure and early full weight bearing. Modern humeral nail designs and techniques can provide better stability and less rotator cuff management. Twenty cases with proximal humerus pathologic fracture were reviewed.All the procedures were by done by antegrade nailing with reaming using humeral nail. The mean operation time was 2 hours. The mean VAS improved from 7.5 (range 7-8) to 1.5 (range 1-2). The mean blood loss was 35 ml (range 20-50 ml). The mean follow up was 6.5 months (range 3-12 months). There was no shoulder impingement, proximal screw loosening or radial nerve injury after operation. All the cases got early return of function within 6 weeks after surgery.The modern nails solve the problem in proximal screw loosening and ultimate fixation failure. It also offers screw-in-screw technology for improved fixation in osteoporotic bone. As for surgical approach, we obtained access more medially through the supraspinatus muscle belly and obtained a nail entry point at the superior articular surface. This may cause less shoulder impingement than the traditional approach. Comparing with plating, nailing provides minimal invasive procedure with less blood loss and operation time. Our cases demonstrated that even proximal humerus pathological fracture can be well treated with nailing technique. The complications of proximal screw loosening, shoulder impingement or radial nerve injury were not encounter in our cases.

Abstract no.: 46321

RECENT CHANGES OF RADIOLOGICAL FINDINGS AND PATIENTS' BACKGROUND OF RHEUMATOID HIPS

Yuichi MOCHIDA[1], Naoto MITSUGI[1], Tomoyuki SAITO[2]
[1]Yokohama City University Medical Center, Yokohama (JAPAN), [2]Yokohama City University School of Medicine, Yokohama (JAPAN)

Introduction: According to introduction of effective drugs for rheumatoid arthritis (RA), several changes have been reported. The aim of this study was to investigate recent changes of the cases of THA in RA. Methods: Between 2000 and 2015, 81 primary cases of RA-THA were performed. The age at the time of surgery, pre- and peri-operative laboratory data were reviewed. Also, the medication were also carefully reviewed. In radiographic analyses, presence of acetabular protrusion and spur formation around the acetabulum were evaluated. For femoral side, canal width ratio and cortical index were analyzed. Results: The number of RA-THA was significantly decreased with time ($p<0.01$) . The average age at surgery showed continual increase ($p<0.05$) . The administration rate and averaged dose of prednisolone were decreased with year ($p<0.01$) . On the other hand, although the average dose of methotrexate (MTX) was increased with year ($p<0.05$) . The averaged pre-surgical CRP decreased with year ($p<0.05$) , but peri-surgical change of CRP did not show changes. The presence of acetabular protrusion was decreased and the spur formation around the acetabulum was increased. Although the canal width ratio did not show changes, the cortical index were significantly increased with year ($p<0.01$) . Discussion and Conclusion: Our results may reflect osteoarthritic changes of RA hips. Based on these findings, the surgical technique may be influenced in implant fixation because of improved bone condition.

Abstract no.: 46323

NOVEL WAY OF TREATING HUMERAL SHAFT FRACTURES IN DEVELOPING COUNTRIES

Faseeh SHAHAB[1], Shahabuddin .[2], Ilyas MANSOOR[3], Zirkle LEWIS G[4]
[1]Khyber TEaching Hospital, Peshawar (PAKISTAN), [2]Shahab Orthopaedic Hospital, Peshawar (PAKISTAN), [3]Sajid Hospital, Quetta (PAKISTAN), [4]sign fracture care international, Richland (UNITED STATES)

Introduction:Humerus shaft fractures present unique challenge due to its anatomy. There are various treatment options. Both Nails and plates can be used for operative treatment. The purpose of this study was to analyze the results of SIGN FIN nail for treating humeral shaft fractures in both acute and delayed/revision cases. METHOD: Initially, 114 patients were included which were treated by two surgeons working in different hospitals from September 2009 till October 2016. Prospectively collected data was reviewed. All patients were operated with same implant and hand reaming. Patients with pathological fractures and/or follow-up less than 12 weeks were excluded. Patients were evaluated for clinical and radiological healing, infection, shoulder impingement and revision surgery.RESULT: Fifty-eight patients were included in final analysis. Thirty-six patients had RTA and 13 had gunshot wound. The average follow-up was 72 wks. Time from injury to surgery varied from 1 day to 3 years. There were 18 patients with previous nonunion. One patient developed infection. Forty-three patients achieved clinical and radiological healing. Three required additional surgery. Union rate was 85% (34/40) in patients undergoing surgery within first month. Patients undergoing surgery within first month were more likely to achieve union compared to surgery after 1 month (p-value 0.02). Fin nails of diameter 7-8mm had more union rates compared to 9-11mm but this association was not significant(p-value 0.23). Eighteen patients complained of shoulder impingement.CONCLUSION:SIGN Fin nails are effective in treating humeral diaphyseal fracture in developing countries. Early surgery with proper size implant and technique result in good outcome.

Abstract no.: 46324

TREATING INTRA-ARTICULAR DISTAL FEMUR FRACTURES WITH SIGN NAIL

Faseeh SHAHAB[1], Shahabuddin .[2], Zirkle LEWIS G[3]
[1]Khyber Teaching Hospital, Peshawar (PAKISTAN), [2]Shahab Orthopaedic Hospital, Peshawar (PAKISTAN), [3]SIGN fracture care international, richland (UNITED STATES)

INTRODUCTION:Intraarticular distal femur fractures constitute 7% of all femur fractures. Treatment is challenging considering the peculiar anatomy of distal femur. The preferred implant is plate and screw construct. Some authors have used retrograde IM-nail and others used distal femur replacement. The purpose of this study was to analyze the results of retrograde SIGN-IM-nail in treating these fractures. METHOD: Initially, thirteen patients were included in this study. They were treated by single surgeon from February 2010 till October 2016. Prospectively collected data was reviewed. Approach involved medial parapatellar arthrotomy and subsequent reduction of articular fracture and IM=nailing. Patients with follow-up less than 8 weeks were excluded. All patients were evaluated for clinical and radiological healing, infection, range of movements, complications and revision surgery. RESULT: Eleven patients were included in final analysis. There were 10 male patients and average age of patients was 33 years. All patients had RTA. The average follow-up was 83 weeks. Time from injury to surgery varied from 1-56 days. There were 4 each AO/OTA 33-C2 and C3 fractures. No patient developed infection. All patients achieved clinical and radiological healing at final follow-up. Five patients had complete knee ROM while 2 patients had flexion less than 80 degrees. Two patients required manipulation under anesthesia. Three patients had elective implant removal. CONCLUSION: SIGN IM nails is a very effective treatment modality for distal femur intra-articular fractures. It requires anatomic reduction and provides stable fixation. This is an ideal option in developing countries with limited access to other implants.

Abstract no.: 46328

TECHNIQUE USING THE MODIFIED ROLLING HITCH FOR SPLIT PERONEUS BREVIS TENDON TRANSFER IN LATERAL ANKLE STABILIZATION

Chih-Kai HONG[1], Wei-Ren SU[1], Sheng-Pin LO[2]
[1]Department of Orthopaedic Surgery, National Cheng Kung University Hospital, College of Medicine, National Cheng Kung University, Tainan (TAIWAN), [2]Department of Orthopaedics, Chia-Yi Christian Hospital, Chiayi (TAIWAN)

We report our technique for split peroneus brevis lateral ankle stabilization using the modified rolling hitch for tendon graft fixation. Applying the modified rolling hitch for tendon grasping in this procedure was useful, and it could decrease the surgical time and avoid the tendon injury caused by the needle.

Abstract no.: 46335

COMPARISON OF THE METHOD USING 3D PRINTING MODEL AND PICTURE ARCHIVING AND COMMUNICATION SYSTEM(PACS) IN PREOPERATIVE PLANNING FOR OPEN WEDGE HIGH TIBIAL OSTEOTOMY(HTO)

Hee-Soo KYUNG[1], Hee-June KIM[2], Hyun-Joo LEE[2], Il-Hyung PARK[2]
[1]Department of Orthopaedic Surgery, Kyungpook National University Hospital, DAEGU (SOUTH KOREA), [2]Department of Orthopaedic Surgery, Kyungpook National University Hospital, Daegu (SOUTH KOREA)

PURPOSE: The purpose was to compare the accuracy of the method using 3D printing model with the method using PACS images in HTO. MATERIALS AND METHODS: The patients underwent HTO using either 3D printing model (20 knees) or method based on a PACS image (20 knees) for medial OA. After obtaining the correction angle for the target point (62.5% point of the mediolateral tibial plateau width), in the 3D printing method, the wedge-shaped 3D-printed model was designed with the measured angle and osteotomy section and was produced by the 3D printer. The PACS method used preoperative radiographs to shift the weight bearing axis. The accuracy of the HTO and the proportion of acceptable range (62.5 ± 5%) and tibial slope angle were compared using the full-length lower limb radiographs at the sixth postoperative week. RESULTS: The weight bearing line on the tibial plateau was corrected from a preoperative 21.1% to a postoperative 61.6 % in the 3D group and from 19.5% to 61.4% in the PACS group. The patients in an acceptable range were more in 3D printing group (80%) than in PACS group (60%) (p=0.028). The mean of absolute difference with the target point was less in 3D printing groups (2.4 ± 2.5) than PACS group (6.2 ± 5.1) (p=0.006). The posterior tibial slope was not significantly different in 3D printing group (0.073), whereas different in PACS group (p=0.042). CONCLUSIONS: In HTO, correction based on the 3D printing method was more accurate than correction using the PACS method.

Abstract no.: 46336

MID-TERM RESULTS AFTER ANTERIOR CRUCIATE LIGAMENT RECONSTRUCTION USING FOUR-STRAND SINGLE SEMITENDINOSUS TENDON

Hee-Soo KYUNG[1], Hee-June KIM[2], Jung-Won HAN[2]
[1]Department of Orthopaedic Surgery, Kyungpook National University Hospital, DAEGU (SOUTH KOREA), [2]Department of Orthopaedic Surgery, Kyungpook National University Hospital, Daegu (SOUTH KOREA)

Purpose: The purpose of this study was to evaluate the mid-term results after ACL reconstruction using a single four-strand semitendinosus tendon. Materials and Methods: We evaluated 81 patients (84 cases) who had undergone ACL reconstruction using an autologous single four-strand semitendinosus tendon. The patients consisted of 77 men and 4 women with a mean age of 28.8 years years. Femoral fixation device was PINN-ACL CrossPin in 44 cases and extracortical suspension device in 40 cases. Suture tie around a screw post and an additional bioabsorbable screw were used for tibial fixation. The mean follow-up period was 72.0±8.3 months (53-95 months). Clinical evaluation was performed using Lachman test, pivot-shift test, KT-2000 arthrometer, Lysholm score, Tegner activity score, IKDC score and return to pre-injury sports activity. Radiologic evaluation was performed using plain radiographs to evaluate joint space narrowing. Results: All patients showed normal range of motion at the final follow-up. The Lachman test was positive in 4 cases, and pivot-shift test was positive in 3 cases. Lysholm score improved from 76.7 to 92.2, Tegner activity score improved from 5.1 to 6, IKDC score improved from 72.0 to 86.5, and mean anterior translation by KT-2000 improved from 7.4 mm to 2.3 mm, and 80.2% of patients returned to pre-injury sports activity. No significant differences in joint space narrowing were observed in plain radiographs. Conclusion: In this study, good results were obtained after ACL reconstructions using the autologous four-strand single semitendinosus tendon with maintaining the joint stability at mid-term follow-up.

Abstract no.: 46337

EVALUATION OF ARTHROSCOPIC TRAINING USING A PORCINE KNEE MODEL

Hee-Soo KYUNG[1], Hee-June KIM[2], Dong-Hyun KIM[2]
[1]Department of Orthopaedic Surgery, Kyungpook National University Hospital, DAEGU (SOUTH KOREA), [2]Department of Orthopaedic Surgery, Kyungpook National University Hospital, Daegu (SOUTH KOREA)

Introduction: The purpose of this study was to evaluate the effectiveness of arthroscopic skills training. Methods: A routine diagnostic arthroscopic exercise using a porcine knee was performed. A checklist of 10 tasks was used in the training and the time taken to complete the checklist was evaluated, and the Arthroscopic Surgery Skill Evaluation Tool (ASSET) score was used to score the training and evaluate the practice session. A total of 14 residents attended this training, including five first- and second-year residents, five third- and fourth-year residents, and four orthopedic fellows. The ASSET score and time taken to complete the task checklist were evaluated, and the first and third practice sessions were scored to evaluate the effectiveness of the training. Results: The mean ASSET score improved from 21.8 in the first practice session to 24.9 in the third session ($p < 0.001$); the time taken to complete the task checklist decreased from 242 s in the first practice session to 207.5 s in the third session ($p < 0.001$). The ASSET score and the time taken to complete the task improved in all groups between the first and third practice sessions. The degree of improvement in the ASSET score and the time taken to complete the task checklist between the first and third practice sessions in each group were not statistically different among the groups ($p=0.857$, $p=0.263$, respectively). Conclusion: Porcine knees provide good material for residents and young orthopedic surgeons for teaching and training of arthroscopic surgical techniques.

Abstract no.: 46338

TOTAL KNEE ARTHROPLASTY CONVERSION FOR PATIENTS WITH ANKYLOSED KNEES

Hee-Soo KYUNG[1], Hee-June KIM[2], Kwang-Hwan KIM[2]
[1]Department of Orthopaedic Surgery, Kyungpook National University Hospital, DAEGU (SOUTH KOREA), [2]Department of Orthopaedic Surgery, Kyungpook National University Hospital, Daegu (SOUTH KOREA)

Introduction: The purpose of this study was to evaluate the results of total knee arthroplasty for patients with ankylosed knees. Methods: We evaluated seven patients (10 knees) who underwent total knee arthroplasties for ankylosed knees from 1995 to 2008. There were two men and five women, with a mean age of 44.1 years (42–48 years). The mean follow-up period was 10.2 years (1–19.5 years). A rectus snip was performed in all cases, and V-Y quadricepsplasty was used in one case of severe quadriceps contracture. In all cases, we used the PFC Sigma PS fixed model (DePuy Orthopaedics Inc., Warsaw, Indiana, USA). The goal was more than 90_ of flexion. Clinical evaluation was performed using range of motion (ROM), Knee Society (KS) Knee Score, KS Function Score, and complications. Radiographs were used to evaluate loosening or osteolysis. Results: The ROF was improved from 9.5o (0–30 o) to 78.5o (15–115 o), The Knee Score improved from 42.6 (25–70) to 68.6 (41–97), and the Function Score improved from 39 (0–60) to 66 (40–90). A radiolucent line was detected in two cases (one patient) around the tibial component, and one case had a necrosis of skin edge. Only one case had no improvement of motion. Conclusion: Total knee arthroplasty conversion for patients with ankylosed knees can achieve good results for motion and function without osteotomy of the tibial tuberosity when there is good quality soft tissue of the thigh.

Abstract no.: 46339

TOTAL KNEE ARTHROPLASTY CONVERSION AFTER OPEN WEDGE HIGH TIBIAL OSTEOTOMY

Hee-Soo KYUNG[1], Hee-June KIM[2], Tae-Seong KIM[2]
[1]Department of Orthopaedic Surgery, Kyungpook National University Hospital, DAEGU (SOUTH KOREA), [2]Department of Orthopaedic Surgery, Kyungpook National University Hospital, Daegu (SOUTH KOREA)

High tibial osteotomy(HTO) was regarded as one of the good method for the treatment of the osteoarthritis with varus deformity, especially younger patients, which improve the function up to 80 – 90%. However, it will be need to convert total knee arthroplasty(TKA) up to 23%. Recently, open wedge HTO is popular than the closed wedge HTO. The advantages of the open wedge HTO are no need to fibular osteotomy and easy control of the accurate correction angle. There were many reports about the conversion to TKA after closed wedge HTO, bur rare about open wedge HTO. So these three cases are about conversion to TKA after open wedge HTO. Especially, medial instability during KA procedure was focused because open wedge HTO need deep release of the medial soft tissue structures. One case was converted to TKA using conventional PS-type implant. Another two cases aere need ed to convert to the TKA using varus-valgus constraint implant. TKA conversion after open wedge HTO should be cautious to select implant type according to the medial soft tissue release.

Abstract no.: 46341

PERIPROSTHETIC JOINT INFECTION WITH STREPTOCOCCUS DYSGALACTIAE

Tunay ERDEN
Bezmialem Vakif University, Istanbul (TURKEY)

Introduction:Streptococcus dysgalactiae(SD) is a common pathogen among elderly population. However, there is no periprosthetic joint infection (PJI) case reported that is infected with Streptococcus dysgalactiae subspecies equisimilis subspecies (SDSE) in English literature. Patient:An elderly patient was undergone a total knee arthroplasty(TKA) three years ago had the diagnosis of cellulitis at his leg followed by swelling, pain and hyperemia localized at his knee. Three knee aspirations were done and the SDSE was identified. There were no direct contacts of patient to animals.Results:The debridement was done, femoral and tibial components were retained and the insert was changed. Postoperative antibiotic treatment was continued with cephalosporin. The patient was free of infection at last follow-up(11months).Discussion:PJI is most devastating complication of TKA. According to our search there is only one PJI case that was Streptococcus dysgalactiae subspecies dysgalactiae (SDSD) however in our case the subtype was determined as SDSE, which is the first SDSE related PJI reported in the literature.

Abstract no.: 46342

DENOSUMAB COMBINED WITH SUNITINIB IN PATIENT WITH BONE METASTASIS OF HUMERUS FROM RENAL CELL CARCINOMA

Takafumi UEDA, Shigeki KAKUNAGA, Yukiko MATSUOKA, Ikuo KUDAWARA

Department of Orthopaedic Surgery, Osaka National Hospital, Osaka (JAPAN)

Bone metastases from renal cell carcinoma (RCC) are a major cause of morbidity. Surgery is choice of treatment but regarding metastasis of humerus, the function of shoulder/elbow is poor after reconstructive surgery. Recently, we have started conservative treatment with denosumab and sunitinib for such patients and presented the preliminary outcome. Three patients were diagnosed with RCC metastasis of humerus at our institute. Case 1: 57 year-old male with previously diagnosed RCC and metastasis of humerus and lung. After resection of all lesions, the humerus lesion relapsed. To preserve shoulder/elbow function, he underwent denosumab and sunitinib treatment. Twelve months later, he has no pain and his shoulder/elbow has recovered to the same before relapse. Case 2: 48 year-old male presented with bone tumor of proximal humerus, with no known history of malignancy. Scanning and needle biopsy showed RCC metastasis. Treatment with denosumab and sunitinib was started. Marginal sclerosis of bone lesion and partial response of renal lesion was observed after 3 months with no limitation of shoulder function. Case 3: 79 year-old female presented with bone tumor of proximal humerus, with no known history of malignancy. Needle biopsy showed RCC metastasis, then denosumab and sunitinib was administered. Pain-relief was obtained after two months. There were no adverse effects from denosumab and sunitinib treatment in all patients. Conclusion: Patients with bone metastasis of humerus from RCC treated with denosumab and sunitinib showed good response to treatment. This treatment is a feasible option for patients with RCC metastasis of non-weight bearing bone.

Abstract no.: 46352

USE OF A BIPHASIC CEMENT BONE SUBSTITUTE IN THE MANAGEMENT OF METAPHYSEAL FRACTURES

Quan You YEO, Ernest Beng Kee KWEK
TAN TOCK SENG HOSPITAL SINGAPORE, SINGAPORE (SINGAPORE)

Objectives: In recent years, the increase in utilisation of bone substitutes in the reconstruction of bone defects has been fuelled by the donor site complications associated with autologous bone harvesting. However the ability of bone substitute to stimulate bone union while maintaining fracture reduction has been a topic of debate. Cerament Bone Void Filler (CBVF) is a novel biphasic and injectable ceramic bone substitute that has high compressive strength and the ability to promote cancellous bone healing. Materials and Method: This is a retrospective study to evaluate the surgical outcome of utilising CBVF in the treatment of depressed metaphyseal bone fractures over a one year period. The patients were followed up for at least six months after surgery and clinical parameters such as wound site complications were collated. Radiographic imaging was evaluated to determine loss of fracture reduction and rate of cement resorption. Results: Seven patients with depressed metaphyseal fractures were enrolled, which included: (i) one proximal humerus fracture; (ii) two tibial plateau fractures; and (iii) four calcaneal fractures. None of the patients showed significant collapse in fracture reduction after six months of follow up. Cement resorption was noted in one patient as early as three weeks after surgery. There were no cases of cement leak or wound site complications. Conclusion: Cerament Bone Void Filler (CBVF) is a promising bone graft substitute in the management of depressed metaphyseal bone fractures, with the ability to maintain fracture reduction despite cement resorption.

Abstract no.: 46353

RELIABILITY OF CORONAL AND SAGITTAL OBLIQUE MAGNETIC RESONANCE IMAGES DURING DIAGNOSIS OF PARTIAL-THICKNESS TO SMALL FULL-THICKNESS SUPRASPINATUS TEARS

Joonyub KIM[1], Kyong-Hwan KOH[2], Seong Hun KIM[3]
[1]Myongji Hospital, Goyang-Si, Gyeonggi-do (SOUTH KOREA), [2]Ilsan Paik Hospital, Goyang-Si (SOUTH KOREA), [3]National Insuracne Service Ilsan Hospital, Goyang-Si (SOUTH KOREA)

Introduction:The aim of this study was to verify the reliability of coronal and sagittal oblique images during the diagnosis of partial to small full-thickness supraspinatus tears among orthopedic surgeons.Methods:Three observers evaluated 62 cases of supraspinatus tears (Group I: Low-grade partial-thickness tears; Group II: High-grade partial-thickness tears; Group III: Small full-thickness tears). We randomly evaluated the T2-weighted proton density fat-suppressed coronal and sagittal oblique images. After two weeks, we evaluated again and obtained the final interpretations after simultaneous exposures to the coronal and sagittal oblique images. ICC was used to evaluate the reliability. Results: Regarding the coronal oblique images, the ICC for interobserver reliability was 0.880 (95% CI; 0.818-0.924,p=0.000), and those for intraobserver reliability were between 0.846 and 0.929 (all p=0.000). For the sagittal oblique images, the ICC for interobserver reliability was 0.812 (95% CI; 0.713-0.880,p=0.000), and those for intraobserver reliability were between 0.811 and 0.881 (all p=0.000). Regarding the final interpretations, the ICC for interobserver reliability was 0.907 (95% CI; 0.859-0.941, p=0.000). Between the second and final interpretations, the ICCs for observer A were 0.985 for the coronal images (95% CI, 0.975-991) and 0.867 for the sagittal(95% CI, 0.779-0.920); for observer B, 0.906 for the coronal images(95% CI, 0.844-943) and 0.911 for the sagittal(95% CI, 0.853-0.946);and for observer C,0.970 for coronal (95% CI, 0.950-0.982)and 0.942 for sagittal (95% CI, 0.903-965). Conclusion: The inter- and intra-observer reliability values for coronal and sagittal oblique images during the diagnosis of partial to small full-thickness supraspinatus tears among orthopedic surgeons were excellent.

Abstract no.: 46358

THE FLOATING HIP: COMPLICATIONS AND OUTCOMES.

Dariush GOURAN SAVADKOOHI[1], Babak SIAVASHI[2], Ehsan PENDAR[3], Arash AALIREZAEI[3]

[1]tehran university of medical sciences, sina hospital, TEHERAN (IRAN), [2]tehran university of medical sciences, sina hospitl, joint reconstruction research center, tehran (IRAN), [3]tehran university of medical sciences, sina hospital, tehran (IRAN)

Abstract BACKGROUND: Simultaneous ipsilateral fractures of the femur and pelvis is called floating hip. We decide to perform a descriptive study of the treatment decisions, complications, and outcome of patients suffering this injury. Materials and methods: 22 patients with ipsilateral pelvis and femur fracture were studied retrospectively from medical recordings and radiographies. RESULTS: The average follow-up was 24 months. Six patients (28%) had an acetabular fracture, 4 (18%) had a pelvic ring fracture, and 12 (54%) had both fractures concomitant with the ipsilateral femoral fracture. All of the fractures were fixed .When multiple operative settings were used, the femur fracture was mostly fixed at the first operation. Complications included deep venous thrombosis (DVT) (14%), heterotopic ossification (HO) (8%), femoral head avascular necrosis (AVN) (4%), osteoarthritis (OA) (16%), and traumatic sciatic nerve palsy (14%). Leg length discrepancy were seen in 20% and infection in 2%. CONCLUSIONS: Ipsilateral injuries to the femur and the pelvis or acetabulum ("floating hip") are severe injuries usually caused by high-energy trauma. The acetabulum and pelvic ring are more commonly fractured together than either alone. The femur fracture will most commonly be addressed first. Surgeons should be aware of the high incidence of potential complications associated with this devastating combination of injuries (overall 88%).

Abstract no.: 46359

A COMPARISON OF MEDIAL PARAPATELLAR AND MIDVASTUS APPROACHES IN TOTAL KNEE ARTHROPLASTY

Dariush GOURAN SAVADKOOHI[1], Babak SIAVASHI[2], Ehsan PENDAR[3], Arash AALIREZAEI[3]

[1]tehran university of medical sciences, sina hospital, TEHERAN (IRAN), [2]tehran university of medical sciences, sina hospitl, joint reconstruction research center, tehran (IRAN), [3]tehran university of medical sciences, sina hospital, tehran (IRAN)

Background: The midvastus and the medial parapatellar approaches are among the most common approaches for total knee arthroplasty. The purpose of this study was to compare the early clinical outcomes of these two approaches.Methods: In this prospective, randomized study of thirty-two patients who underwent bilateral total knee arthroplasty, the midvastus approach was used in one knee and the medial parapatellar approach, in the contralateral knee.Clinical outcome was assessed and compared with use of the Knee Society pain and function scores, the straight-leg-raising test, range of motion, and isokinetic strength testing. Results: Comparisons of postoperative Knee Society scores between both approaches at the time of the two-year follow-up did not yield a significant difference in outcome. Isokinetic strength testing at twelve weeks postoperatively revealed no significant differences in muscle strength. No significant difference was found with respect to total blood loss, straight-leg-raising test, range of motion, or patient preference. There was no clinically relevant difference in operative times between the two approaches.Conclusions: The medial parapatellar approach and midvastus approach for total knee arthroplasty were both associated with excellent short-term clinical results. Some surgeons believe that the midvastus approach avoids damage to the quadriceps mechanism and therefore would be associated with improved muscle function. This prospective series did not identify a substantive difference between the two approaches. We believe that the decision between these surgical approaches should be based on surgeon preference and experience.

Abstract no.: 46360

PATELLA RESHAPING AND CIRCUMFERENTIAL DENERVATION OF THE PATELLA IN TOTAL KNEE ARTHROPLASTY VERSUS PATELLA RESHAPING ONLY

Dariush GOURAN SAVADKOOHI[1], Babak SIAVASHI[2], Ehsan PENDAR[3], Arash AALIREZAEI[3]

[1]tehran university of medical sciences, sina hospital, TEHERAN (IRAN), [2]tehran university of medical sciences, sina hospitl, joint reconstruction research center, tehran (IRAN), [3]tehran university of medical sciences, sina hospital, tehran (IRAN)

This study compared the rates of anterior knee pain and functional outcomes between reshaped patellas and reshaped patellas with a circumferential patella denervation. Thirty six patients who underwent patellar reshaping only were compared with fifty four patients with patella reshaping and denervation for knee pain and functional outcomes at a minimum of 2 years after total knee arthroplasty. There were no significant differences between the 2 groups regarding Knee Society Scores, anterior knee pain scores, or visual analog scale scores. The groups had similar incidences of anterior knee pain. Patients in each group reported no significant pain with kneeling, squatting, and departing an automobile. Similar proportions of patients were disappointed with their overall outcomes in each group. Patellar reshaping with or without denervation during total knee arthroplasty lead to similar incidences of anterior knee pain.

Abstract no.: 46364

ANALYSIS AND TREATMENT STRATEGY OF INTRA-OPERATIVE ACETABULAR FRACTURES DURING TOTAL HIP ARTHROPLASTY

Youqiang SUN[1], Min SHAO[2], Qingsheng WANG[2], Ting HE[2], Leilei CHEN[3], Xuting ZOU[3], Zhinan HONG[3], Wei HE[4]

[1] First Affiliated Hospital of Guangzhou University of Chinese Medicine, Perth (CHINA), [2]Third Affiliated Hospital of Guangzhou University of Chinese Medicine, Guangzhou (CHINA), [3] First Affiliated Hospital of Guangzhou University of Chinese Medicine, Guangzhou (CHINA), [4]First Affiliated Hospital of Guangzhou University of Chinese Medicine, Guangzhou (CHINA)

Purpose To explore the causes and treatment strategies of intra-operative acetabular fractures during total hip arthroplasty and to conceive a new intra-operative acetabular fracture classification. Methods We collected 1065 hips which had received the surgery of THA in our two hospitals from 2005 to 2014. Separately, they were 660 femoral neck fractures, 334 avascular necrosis and 71 hip dysplasia patients. There were thirteen patients experienced intra-operative acetabular fractures during THA. The thirteen patients were followed up from 0.5 to 5 years with an average of 42 months and the function of the hips were evaluated by the Harris rating scale of the hip function. Result These thirteen cases' postoperative X-rays indicated that the patients' prosthesis were in good Location and the incisions were all healed in the first intention without any early complications and all upped to clinical healing at the eight-week and without any signs of acetabular peri-prosthetic radiolucent and loosening. Both of the final Harris scores were significantly different from their preoperative Harris score. At last, we conceived a new intra-operative acetabular fracture classification according to these data Conclusion It can be good results in intra-operative acetabular fractures by applying our experience dealing with them. By many ways, we also conceived a classification of the acetabular fracture during THA and its treatment strategy. However, the classification and treatment strategy we proposed was just a personal experience and it also needs a further large sample to validate and support. Keywords Total hip arthroplasty, intra-operative acetabular fracture, classification, strategy

Abstract no.: 46371

ANATOMY OF THE ANKLE CAPSULE: A CADAVERIC STUDY

Direk TANTIGATE[1], Peter NOBACK[2], Mani SEETHARAMAN[2], Justin GREISBERG[2], Turner VOSSELLER[2]

[1]Siriraj Hospital Mahidol University, Bangkok (THAILAND), [2]Columbia University Medical Center, New York (UNITED STATES)

Introduction: Bony and ligamentous injuries of the ankle have been well defined. However, few studies have addressed the degree to which damage of the ankle joint capsule may participate in these injuries. This study aims to determine the dimensions of the ankle capsule and its relation to adjacent structures. Methods: Thirteen ankle specimens were systematically dissected. Methylene blue solution was injected to identify the ankle capsule. The external and internal dimensions were measured as the perpendicular distance of the capsular reflection to the bony margin of the distal tibia and talus. Measurement of each point was repeated three times using a digital caliper. Results: The anterior aspect of the capsule demonstrated the most proximal capsular reflection in all specimens. The most proximal attachment of the anteromedial, anterior middle and anterolateral capsule was 10.3, 13.5 and 9.8 mm, respectively. The most proximal attachment of the posteromedial, posterior middle and posterolateral region was 8.7, 6.2 and 3.5 mm, respectively. The posterior attachments of the medial and lateral malleoli were negligible. There was a confluence of the capsule and ligamentous complex on the medial side and with the transverse tibiofibular ligament about the posterolateral ankle. Conclusion: The most proximal attachment of the ankle capsule was located at the anterior aspect of the distal tibia. The medial and posterolateral capsule were confluent with the ligamentous complexes of the ankle in those regions. This study may be an initial step in helping to understand how this structure plays a role in ankle joint injury.

Abstract no.: 46374

FUNCTIONAL OUTCOMES AFTER FRACTURE-DISLOCATION OF THE ANKLES

Direk TANTIGATE[1], Gavin HO[2], Joshua KIRSCHENBAUM[2], Christina FREIBOTT[3], Benjamin ASHERMAN[2], Justin GREISBERG[2], Turner VOSSELLER[2]

[1]Siriraj Hospital Mahidol University, Bangkok (THAILAND), [2]Columbia University Medical Center, New York (UNITED STATES), [3]Columbia University Medic, New York (UNITED STATES)

Background: Although there is a wealth of reported outcome after operative treatment of ankle fractures, there has been a limited focus on functional outcome of operatively treated ankle fracture-dislocations. The purpose of this study is to compare functional outcome after operative treatment in ankle fractures with and without dislocation. Methods: A retrospective chart review of operatively treated ankle fractures over a three year period was performed. Sixty-two ankle fracture patients older than 18 years with a minimum follow-up of 12 months were included. Demographic variables, complications, and functional outcome determined by Foot and Ankle Outcome Score (FAOS) were recorded. Comparison of demographic variables and FAOS were performed between these two groups. Results: The mean follow-up time was 40 months. Twenty patients (32.3%) were fracture-dislocations. The fracture-dislocation cohort demonstrated worse FAOS than the nondislocation cohort (symptoms 73 vs 79, pain 75 vs 85, ADL 80 vs 88, Sport 63 vs 76 and QOL 54 vs 60, respectively), although none of these differences were statistically significant. Patients with ankle fracture-dislocation had bi- and trimalleolar fractures (P = .007). There was no statistically significant difference in patient demographics or the rate of complications. Conclusion: Fracture-dislocations of the ankle presented with more bimalleolar and trimalleolar fractures, although there was no statistically significant difference in terms of functional outcome. Although our data showed no difference in outcome, there was a trend towards worse outcomes in the dislocation cohort.

Abstract no.: 46377

PAEDIATRIC SCAPHOID NON-UNION: TREATMENT CHOICES

Jameel SYED SUHAIB[1], Roshin THOMAS[2], Ashok SINGH[2]
[1]Dumfries and Galloway Royal Infirmary, DUMFRIES (UNITED KINGDOM),
[2]Dumfries and Galloway Royal Infirmary, Dumfries (UNITED KINGDOM)

Introduction:Historically, scaphoid fractures in children and adolescents were thought to involve the distal pole which did not result in long term morbidity. Changing patient characteristics has altered fracture epidemiology, which now mimics the adult pattern with “waist” becoming the commonest involved region.Methods :We report 2 cases of paediatric scaphoid non-union.One patient was treated conservatively with a plaster cast for 8 weeks. The second patient opted to have surgery and underwent open reduction and internal fixation along with iliac crest bone graft. We assessed the results of both patients at 8 weeks post initiation of treatment.Results: Short term follow up at 8weeks showed radiological union and a pain-free range on movement in both patients.Conclusion: Paediatric scaphoid fractures are uncommon injuries and therefore paediatric scaphoid non-unions are extremely rare. Patients and parents should be appropriately counselled regarding potential complications and benefits of both forms of treatment. This would enable them to make an informed choice regarding their preferred treatment option.

Abstract no.: 46378

POST TRAUMATIC - ACUTE CARPAL TUNNEL SYNDROME

Jameel SYED SUHAIB[1], Amanda HAWKINS[2], Roshin THOMAS[2]
[1]Dumfries and Galloway Royal Infirmary, DUMFRIES (UNITED KINGDOM),
[2]Dumfries and Galloway Royal Infirmary, Dumfries (UNITED KINGDOM)

Introduction: Carpal tunnel syndrome is known to be one of the commonest types of upper limb compressive neuropathies. More often than not, it has a chronic type of presentation. Acute form of carpal tunnel syndrome which is not very common, can present as a surprise in a post traumatic wrist. The degree of trauma may not necessarily involve a fracture of the carpus. This involves a high degree of suspicion and the need for urgent surgical decompression is of utmost importance to prevent serious post compressive squeal.Methods: We present a case report of a patient who sustained a fall on an outstretched hand and sustained injury to the non dominant wrist. The patient attended A&E on the same day and was sent home with conservative advice as there were no fractures or distal neurovascular deficits. Patient presented to the orthopaedic clinic 24 hours later with gross swelling of the wrist and signs of acute median nerve compression. Although no signs of compartment syndrome were seen, this was urgently dealt by performing an urgent extended carpal tunnel decompression over the next 2 hours. Results: Post operative, patient was found to have instant relief and the signs of median nerve compression were negligible. Conclusion: Fracture of the distal radio-ulnar joint or the carpal bones may cause acute median nerve compression. A simple expanding haematoma without a fracture is sufficient to increase the carpal tunnel pressure and warrant an urgent surgical decompression to prevent devastating complications of an acute compressive neuropathy.

Abstract no.: 46380

THE ANTERIOR INTRA-PELVIC APPROACH FOR ACETABULAR FRACTURES UTILIZING APPROACH SPECIFIC INSTRUMENTS AND AN ANATOMICAL-PRESHAPED, THREE DIMENSIONAL SUPRAPECTINEAL PLATE

Florian GRAS[1], Ivan MARINTSCHEV[2], Lars GROSSTERLINDEN[3], Markus ROSSMANN[3], Isabel GRAUL[2], Gunther O. HOFMANN[4], Johannes M. RUEGER[5], Wolfgang LEHMANN[5]

[1]Dept. of Trauma-, Hand- and Reconstructive Surgery, University Hospital Jena, Jena (GERMANY), [2]Dept. of Trauma-, Hand- and Reconstructive Surgery, University Hospital Jena, Jena (GERMANY), [3]Dept. of Trauma-, Hand- and Reconstructive Surgery, University Hospital Hamburg-Eppendorf, Hamburg (GERMANY), [4]Dept. of Trauma-, Hand- and Reconstructive Surgery, University Hospital Jena and Dept. of Trauma and Reconstructive Surgery, Klinikum Bergmannstrost Halle, Jena and HAlle (GERMANY), [5]Dept. of Trauma-, Hand- and Reconstructive Surgery,University Hospital Hamburg-Eppendorf, Hamburg (GERMANY)

Objectives: Anatomical acetabular plates were recently introduced to fix acetabular fractures via the anterior intra-pelvic (AIP-) approach. Therefore we asked: I.) Do the three-dimensional anatomical-preshaped, suprapectineal plate (SP) interferes with the fracture reduction quality? II.) How often does the AIP-approach need to be extended by the first window of the ilioinguinal approach? Material&Methods: In an observational case series of two level-one Trauma centres, patients with unstable acetabular fractures were treated with the SP via the AIP-approach +/- enlargement, in 2014. Fracture reduction results were measured in postoperative CT-scans and graded according to Matta´s quality of reduction. Intraoperative parameters and perioperative complications were recorded. Radiological results and functional outcome were followed up at one-year. Results: 30 patients (9x♀ + 21x♂; mean age□SE: 64+/-8 years) were included, using the AIP-approach in 19 cases and an enlargement by the first window of the ilioinguinal approach in 11 cases (preferential for two-column fractures). The mean operating-time was 202+/-59min; the fluoroscopic-time was 66+/-48sec. Fracture-gaps and -steps in pre- versus postoperative CT-scans were 12.4+/-9.8 versus 2.0+/-1.5 and 6.0+/-5.5 versus 1.3+/-1.7mm. At 13.4+/-2.9 months follow-up, Matta grading was excellent in 50%, good in 25%, fair in 11% and poor in 14% of cases. The modified Merle d´Aubigné score was excellent in 17%, good in 37%, fair in 33% and poor in 13% of cases. Conclusion: The AIP-approach, utilizing approach-specific instruments and anatomical-preshaped, three-dimensional suprapectineal plates, became the standard-procedure in our departments. Radiological and functional early results justifying joint preserving surgery in most cases.

Abstract no.: 46384

STAPHYLOCOCCUS LUGDUNENSIS : A RARE PATHOGEN CAUSING FINGER OSTEOMYELITIS

Pradyumna RAVAL
Wishaw General Hospital. ML2 0DP. Scotland., Glasgow (UNITED KINGDOM)

Staphylococcus Lugdunensis is a relatively new micro-organism discovered less than thirty years ago. It is a skin commensal whose role has been identified in causing infective endocarditis, abscesses and osteomyelitis amongst other infections. Most cases in literature are isolated case reports of various infections caused by this pathogen. We report a rare case of osteomyelitis of distal phalanx in a healthy individual caused by Staphylococcus Lugdunensis. In our opinion this could be the first case of its kind in literature.

Abstract no.: 46385

KLEBSIELLA PNEUMONIAE CAUSING SPONDYLODISCITIS: AN UNUSUAL CAUSE OF BACK PAIN IN AN ELDERLY PATIENT.

Pradyumna RAVAL, Ammar ABBAS
Wishaw General Hospital. ML2 0DP. Scotland., Glasgow (UNITED KINGDOM)

Spondylodiscitis is a manifestation of a blood borne infection in the elderly. The diagnosis can be really challenging, especially in those patients with significant co-morbidities. Although Staphylococcus aureus has been incriminated as the most common causative micro-organism, other rare pathogens have been described in literature. We present a rather unusual case of an octogenarian who presented with back pain and no obvious foci of infection anywhere else. Blood culture revealed Klebsiella Pneumoniae as the causative micro-organism. This patient showed dramatic improvement on intra-venous antibiotics and was asymptomatic on follow up with complete resolution of his back pain.

Abstract no.: 46386

PURULENT INFECTION IN A NATIVE ADULT HIP WITH HEALED PERTHE'S DISEASE : A RARE PRESENTATION.

Pradyumna RAVAL, Ammar ABBAS
Wishaw General Hospital. ML2 0DP. Scotland., Glasgow (UNITED KINGDOM)

Septic arthritis of a joint is one of the few orthopaedic emergencies wherein a prompt diagnosis and early intervention is warranted in order to prevent any further joint destruction. Septic arthritis of hip has a dramatic presentation in the paediatric population, but is relatively unheard of in adults. In the few adult patients who present with septic arthritis of native hip joint, an underlying comorbidity like rheumatoid arthritis or diabetes is frequently present. We present an extremely rare case of a purulent septic arthritis in a healthy individual with healed Perthes disease; which was successfully treated with open arthrotomy.

Abstract no.: 46388

NORMAL RANGE OF MOTION OF THUMB METACARPOPHALANGEAL JOINT

Tatsuki EBATA, Ikuo NAKAI, Akira KOGURE, Ken-Ichiro GOTO
Sakura Orthopaedic Hospital, Sakura (JAPAN)

Objective: Range of motion (ROM) of thumb MP joint differs widely among individuals. The purpose of this study was to define difference between right and left ROM of the thumb MP joint in normal population and assess the utility value of normal side as normal indicator. Material and Methods: Three hundred hands of 150 normal subjects were included in this study. Seventy-five were men and 75 were women. Flexion angle and extension angle of the MP joints were measured. Results: The average flexion angle was 59.5 degrees. The average extension angle was 7.9 degrees. The average difference of flexion angle between right and left was 4.8 degrees (from 0 to 28). The average difference of extension angle between right and left was 6.4 degrees (from 0 to 38). For a p value was 0.05, the one-sided 100p percentile of flexion angle was 10.6 and extension angle was 14.3. For a p value was 0.01, the one-sided 100p percentile of extension angle was 15.1 and extension angle was 20.1. Conclusions: The differences between right and left in flexion angle was 4.8 degrees and those in extension was 6.4 degrees. They were small enough to consider as normal indicators. The results of one-sided 100p percentile illustrated that flexion loss of more than 11 degrees and extension loss of more than 15 degrees were suspicious of contracture of the MP joint, flexion loss of more than 16 degrees and extension loss of more than 21 degrees strongly suggested contracture of the MP joint.

Abstract no.: 46389

DOES CHRONIC ACL INSUFFICIENCY RESULT IN INFERIOR QUALITY HAMSTRING AUTOGRAFT?

Arjun NAIK[1], Prashant ACHARYA[2]
[1]Father Muller Medical College Hospital, MANGALORE (INDIA), [2]Father Muller Medical College Hospital, Mangalore (INDIA)

Availability of a good quality autograft of adequate length is the first step towards a successful knee ligament reconstruction. Being able to predict the quality and length of hamstring autograft can go a long way in making the surgeon's pre-operative planning a lot easier. The purpose of this study was to find out if any correlation existed between the duration of ACL injury with history of repeated instability episodes and the quality and length of Hamstring graft that I harvested.Methods:Forty consecutive patients who underwent ACL reconstruction using quadrupled Hamstring tendon graft were evaluated with regards to the duration of injury, number of instability episodes and graft characteristics like difficulty in harvesting the graft, quality and length of the graft.Results:We found a statistically significant difference between the usable length of harvested Hamstring tendon in patients with acute and chronic injury [p= 0.004]. There was a significantly high risk of the graft being shorter and of poor quality in patients with chronic ACL insufficiency [odds ratio=5.7].Conclusion: Chronicity of ACL injury with repeated strains can cause fibrosis at the musculotendinous junction and result in harvest of a poor quality and short hamstring autograft. A detailed history with regards to duration of injury and repeated instability episodes will help a surgeon plan better when anticipating a sub-optimal graft.

Abstract no.: 46394

MINIMALLY INVASIVE PERCUTANEOUS SURGERY IN TREATMENT CALCANEAR SPUR.

Nicola DAU[1], Roberto PELUCCHI[2], Valter DEANESI[3]
[1]OSPEDALE VILLA CHIARA BOLOGNA, Sassari (ITALY), [2]CLINICA ZUCCHI MONZA, MONZA (ITALY), [3]Villa Berica, Vicenza (ITALY)

43 patients, 27 male and 16 female, underwent calcanear spur removal by percutaneous surgery between 2013-2015. all the patients were subject to local anesthesia. surgery was conducted using a no.64 scalpel blades to practice a minimun incision in the skin and to cut the plantar fascia. calcanear spur was removed using a cylindrical burrs no.3.1-15 mounted on a micromotor 7500 rpm. Suture was removed after 1 week and all the patients were full functional in 2-3 weeks. We did not have any postoperative complications.

Abstract no.: 46395

SEX DOES NOT INFLUENCE THE CLINICAL OUTCOME OF ANATOMIC ANTERIOR CRUCIATE LIGAMENT RECONSTRUCTION IN THE SHORT TERM UTILIZING THE "ALL-INSIDE" TECHNIQUE

Tiefenboeck THOMAS[1], Mark SCHURZ[1], Stephanie SYRÈ[1], Roman OSTERMANN[1], Markus WINNISCH[1], Julian JOESTL[2], Marcus HOFBAUER[1]
[1]Medical University of Vienna, Department of Trauma Surgery, Vienna (AUSTRIA), [2]eMedical University of Vienna, Department of Trauma Surgery, Vienna (AUSTRIA)

Purpose: To determine whether there are sex differences on objective and functional outcomes after anterior cruciate ligament (ACL) reconstruction utilizing the all-inside technique with a minimum follow-up of 24 months. Methods: All patients who underwent ACL reconstruction using the all-inside technique between January 2011 and October 2012 were reviewed and divided in two groups (group A: males; group B: females) that were equal according to the patients' number and age. Functional outcome measurements included the Lysholm score, International Knee Documentation Committee score, Visual Analog Scale score, Tegner Activity Scale before surgery and at 3-, 6-, 12- and > 24 months follow-up. At final follow-up, anterior-posterior knee laxity was tested with the KT-2000 arthrometer (MEDmetric, San Diego, CA) device. Results: A total of 54 patients met the inclusion criteria study; 27 males and 27 females with a mean age of 29 years (range, 18 to 54 years) and a mean follow-up of 31 months (range, 24 to 45 months). The evaluated scores showed no significant difference between baseline and clinical follow-up. However, women presented with a poorer outcome between baseline, 3- and 6- months leading to equal results at 12 and > 24 months. Conclusions: In conclusion, the findings of this study reveal that equal objective and subjective success can be obtained following primary ACL reconstruction utilizing the all-inside technique in both male and female patients. At two-year follow-up, an overall high subjective satisfaction and objective knee stability can be expected for both male and female patients.

Abstract no.: 46397

IMPACT OF NUTRITIONAL STATUS ON FUNCTIONAL OUTCOME IN PATIENTS WITH FEMORAL NECK FRACTURE

Koichi MIYAKOSHI[1], Hiroshi KURODA[2], Hideo EGURO[2], Takashi KAMEOKA[2], Tomomasa NAKATANI[2]

[1]Department of Rehabilitation Medicine, Kameda Medical Center, Tokyo (JAPAN), [2]Department of Orthopedic Surgery, Kameda Medical Center, Chiba (JAPAN)

Introduction: Prediction of the functional outcome is important to provide effective treatment and rehabilitation program. But it is sometimes difficult to predict the functional outcome, because various factors can affect the prognosis. Malnutrition is considered to be one of important factors affecting functional outcome. In this study, we report the relationship between the nutritional status on admission and functional outcome in patients with femoral neck fracture. Methods: The subjects were consecutive femoral neck fracture patients who admitted to our hospital, from April 2014 to march 2015. Our hospital is an acute care community hospital. We collected the following variables from the medical records retrospectively. The candidates for prognostic factors were, age, gender, mini nutritional assessment short-form (MNA-SF) on admission. The MNA-SF is comprised of six items (food intake decline, weight loss, mobility, psychological stress or acute disease, neuropsychological problems and body mass index). The outcome indicator was functional independence measure (FIM). Multivariate analysis was done using stepwise regression analysis. SPSS19 Japanese edition was used to complete the analysis. Results: The participants were 74 patients. The mean age was 81.3 years, mean MNA-SF was 9.3 and mean FIM was 74.8. Significant predictive factors of FIM elucidated by stepwise regression analysis were age and MNA-SF. Among assessment items of the MNA-SF, neuropsychological problems had the highest impact. Various factors should be taken into consideration to predict future functional outcome in patients with femoral neck fracture.

Abstract no.: 46404

ACROMIOCLAVICULAR JOINT DISLOCATION TREATED WITH BOSWORTH SCREW AND ADDITIONAL K-WIRING: RESULTS AFTER 7.8 YEARS – STILL AN ADEQUATE PROCEDURE?

Thomas TIEFENBOECK[1], Domenik POPP[1], Sandra BOESMUELLER[1], Stephan PAYR[1], Julian JOESTL[1], Micha KOMJATI[2], Harald BINDER[1], Mark SCHURZ[1], Roman OSTERMANN[1]

[1]Medical University of Vienna, Department of Trauma Surgery, Vienna (AUSTRIA), [2]Department of Orthopaedics, Hospital of sacred Heart of Jesus, Vienna (AUSTRIA)

Purpose: The purpose of this study was to present our data at a long-term having undergone treatment of acromioclavicular (AC) joint dislocation using the Bosworth Screw with additional K-wiring. Material and Methods: This study was conducted as a retrospective single centre data analysis. All patients treated operatively for AC joint dislocation with a Bosworth screw and additional K-wire fixation were asked to participate in this study. Results: The study population consisted of 22 patients, 20 male and 2 female, with a mean age of 40 years ± 15.6 years. The overall mean clinical outcome at the latest follow up was: Constant 95, DASH 6.4, ASES 94.6, SST 99.02, UCLA 33.1 and VAS 0.29 – representing a good-to-excellent long-term outcome in all patients after at least two years follow-up. Overall, 19 patients (86%) reported to be very satisfied with the achieved result, 15 patients (68%) reported to be able to participate in every sports activity and 16 patients (73%) reported to be able to perform their daily work without limitations. Overall, complications occurred in three patients (14%). Only one patient remained unsatisfied with the achieved result. Conclusion: Summarizing, our reported results showed that the surgical fixation of acute AC joint dislocation with a Bosworth screw and additional K-wire fixation leads to good-to-excellent functional outcome and highly satisfactory results in the majority of patients. Despite its complications, in accordance with our results, Bosworth screw fixation with additional K-wiring in AC joint dislocation represents an adequate and cheap surgical procedure.

Abstract no.: 46405

BIOMECHANICAL ANALYSIS OF TWO DIFFERENT SUTURE TECHNIQUES IN ANTERIOR CRUCIATE LIGAMENT GRAFT-LINK TENDON PREPARATION: AN ANATOMICAL SPECIMEN STUDY

Thomas TIEFENBOECK[1], Lena HIRTLER[2], Markus WINNISCH[1], Julian JOESTL[1], Thomas KOCH[3], Micha KOMJATI[4], Marcus HOFBAUER[1], Roman OSTERMANN[1]

[1]Medical University of Vienna, Department of Trauma Surgery, Vienna (AUSTRIA), [2]Department of Anatomy and Cell Biology, Medical University of Vienna, Vienna (AUSTRIA), [3]Institute of Materials Science and – Technology, Technical University of Vienna, Vienna (AUSTRIA), [4]Department of Orthopaedics, Hospital of sacred Heart of Jesus, Vienna (AUSTRIA)

Purpose: To measure and compare the biomechanical properties (elongation and load to failure) of two different graft link preparation techniques. Methods: Thirty fresh-frozen anatomical specimen knees were used. Both tendons (semitendinosus and gracilis) were harvested and randomly assigned according to one of the two different preparation techniques (continuous loop technique vs. buried-knot technique). The mechanical properties of both techniques were measured. Results: In the group of the continuous loop technique, the mean load to failure was 731 N ± 95 N (median 709 N; range; 619 to 935 N) and the overall elongation of the graft was 9.59 mm ± 2.05 mm (median 8.75 mm; range, 7.15 to 12.83 mm). In the group of the buried-knot technique, the mean load to failure was 848 N ± 56 N (median 844 N; range; 731 to 955 N) and the overall elongation of the graft was on average 8.2 mm ± 0.7 mm (median 8.2 mm; range, 7.2 to 9.6 mm). Conclusions: The buried-knot technique showed better results with significantly higher load to failure and significantly less elongation rates compared to the continuous loop technique. Clinical relevance: It is essential in clinical practice to choose the ideal graft link preparation technique to ensure the highest graft stability.

Abstract no.: 46406

DOES A BIGGER DIAMETER OF THE USED SUTURES INFLUENCE MECHANICAL STABILITY OF THE GRAFT IN ACL ALL INSIDE RECONSTRUCTION – A BIOMECHANICAL CADAVER STUDY

Thomas TIEFENBOECK[1], Lena HIRTLER[2], Markus WINNISCH[1], Micha KOMJATI[3], Julian JOESTL[1], Thomas KOCH[4], Marcus HOFBAUER[1], Roman OSTERMANN[1]

[1]Medical University of Vienna, Department of Trauma Surgery, Vienna (AUSTRIA), [2]Department of Anatomy and Cell Biology, Medical University of Vienna, Vienna (AUSTRIA), [3]Department of Orthopaedics, Hospital of sacred Heart of Jesus, Vienna (AUSTRIA), [4]Institute of Materials Science and – Technology, Technical University of Vienna, Vienna (AUSTRIA)

Introduction: In accordance to the diameter of the harvested graft different suture types are used for graft link preparation of the ACL reconstruction. Thus the aim of this study was to determine whether a difference in the used suture diameter influence biomechanical stability of the preparated graft. Material and Methods: In an anatomic specimen study, ligament preparation was enrolled in 24 cadavar knees. The used material was the semitendinosus / gracilis tendon, which was after harvesting fresh frozen (-80°) for four weeks. Then grafts were defrosted, randomized (in 2 groups) and preparated with the same method: 12 with a suture; FibreWire® No. 2 and 12 with a FibreWire® No. 0. Results: There was a significance difference (p=0.006) found between the two different groups in regard to the load to failure rate. Presenting a significant better load to failure rate in the group used the FibeWire® No. 2. There was no difference in elongation of the grafts or mode to failure found in the two groups. Conclusion: We can conclude, that graft preparation with a bigger suture type is recommended to gain better load to failure rates. Regarding the elongation rate different used suture types are not influencing the outcome.

Abstract no.: 46411

PERIPROSTHETIC FEMORAL FRACTURES ASSOCIATED WITH TOTAL HIP REPLACEMENT

Andris JUMTINS[1], Inese BREIDE[2], Ruta JAKUSONOKA[1], Silvestris ZEBOLDS[2]

[1]Orthopaedic Chair, Riga Stradins University, Riga (LATVIA), [2]Hospital of Traumatology and Orthopaedics, Riga (LATVIA)

Introduction: The incidence of periprosthetic femoral fractures increases by year due to the increasing number of primary and revision total hip replacement (THR) procedures. The aim of this study is to evaluate the periprosthetic fractures associated with THR, reasons, severity and treatment options.Methods:Retrospective analysis of two groups of patients, treated from 2009 till 2010 and from 2014 till 2015 was performed. The patient's functional assessment, and radiological examination were included in the evaluation. The Vancouver classification of periprosthetic femoral fractures was used. Results: The first group included 27 patients (15 females, 12 males, age range 39-99, mean age 70 years); the second group included 29 patients (13 females, 16 males, age range 39-85, mean age 71 years) with periprosthetic femoral fractures. According to the Vancouver classification there were 2 type AL, 5 type B1, 8 type B2, 6 type B3 and 6 type C fractures in the first group; 5 type AL, 5 type AG, 7 type B1, 4 type B2, 3 type B3 and 5 type C fractures in the second group. In the first group patients underwent dynamic compression plating, revision endoprosthesis and cable wiring or the combination of those methods. Angled stable plating was added as a treatment option in the second group of patients.Conclusions : Study shows similar number of periprosthetic femoral fractures treated with THR during 2-year periods in last 7 years and increased number of angled stable plate usage in second group.

Abstract no.: 46415

LCP VERSUS LISS PLATES IN DISTAL FEMUR FRACTURES

Tamer Farouk Hussein EL SAID, Bilal EL YAFAWY
Rashid Hospital-Dubai Health Authority, Dubai (UNITED ARAB EMIRATES)

Background: The introduction of locked plates has provided the means to increase the rigidity of fixation in osteoporotic bone or in the presence of periarticular or juxta-articular fractures with a small epiphyseal segment. The distal femoral locking compression plate (DF-LCP) allows placing compression and locking screws in the same plate. This capability led to the development of “hybrid” fixation which uses non-locked screws to either aid in coronal plane fracture reduction using the plate’s anatomic contour, compress the fracture site in simple fracture patterns, or for diaphyseal fixation especially in highly comminuted fractures and in osteoporotic bone. Aim To compare the clinical, radiographic and functional results of using DF-LCP versus LISS plates in fixation of distal femoral fracture AO/OTA 33-A or 33-C in a cohort of patients. Material and methods: A prospective comparative study of 40 distal femoral fracture patients AO 33-A or 33-C, randomized in consecutive series fixed using either DF-LCP or LISS plates. All patients completed the whole follow up program of 18 months. Results: Functional and radiological assessment done according to Schatzker scoring system .LCP has relatively better functional and radiological outcomes than LISS plates. No significant difference in operative timing, blood loss, infection, non-union or metal failure rate. Conclusion: Either plates can be used as a suitable device for fixation of challenging distal femoral fractures with sever comminution and low bone quality. Satisfactory results with high union and low complication rates can be achieved when respecting biologic and biomechanical principles.

Abstract no.: 46416

TITLE: MEDIAL KNEE RESURFACING HYPE OR REALITY: INDIAN PERSPECTIVE IN MEDIAL OA KNEE PATIENTS

Sankalp MUTHA
Center for Knee Resurfacing, Mumbai (INDIA)

Title: Medial Knee Resurfacing Hype or Reality: Indian Perspective in Medial OA knee Patients Sankalp Mutha Teaching Institution, Mumbai, India Keywords: Knee,Resurfacing,Replacement,Joint,New,Surgical,Medial Background Background: The objective of the present study was to evaluate the short to medium term clinical outcome of Medial Knee Resurfacing in comparison with Knee Replacement in Indian patients. Objectives The mean age of patient was 57.8 years (Range 50 to 70) mean follow up period was minimum 12 months. The Preoperative Diagnosis was medial unicompartmental Osteoarthritis in 11 patients. Study Design & Methods Methods: Eleven Knees of Orthoglide Knee Resurfacing performed between March 2012 to March 2015 (6 males and 5 females studied) The mean age of patient was 57.8 years (Range 50 to 70) mean follow up period was minimum 12 months. The Preoperative Diagnosis was medial unicompartmental Osteoarthritis in 11 patients. Results Results: The mean improvement in Oxford Knee score was from 15 (Range from 10 to 16) to 41 (Range from 35 to 46) and mean WOMAC score improved from 30 (range 20 to 36) to 86 (Range from 80 to 92) at mean follow up of 33 months. Good to excellent results obtained in all of the knees with one case of persistent anterior knee pain managed by Vissco supplementation and Knee Brace over 3 months. Conclusions Conclusions: • Newer designed; minimally invasive Medial knee resurfacing appears to be safe and can be effective, especially with optimal pre-operative and ongoing post-op. patient education.

Abstract no.: 46430

TREATMENT OF SCHATZKER TYPE V AND VI PROXIMAL TIBIAL FRACTURES USING DUAL PLATE FIXATION BY DUAL INCISION

Maharaj Sharan GUPTA
Raffels Hospital, Panchkula (INDIA)

Itroduction:Schatzker type V and VI fractures of proximal tibia are a challenge to treat for Orthopedic Surgeon.Communition, intraarticular extensions and associated soft tissue injuries add further problems. The purpose of this study was to evaluate the results of treatment of Schatzker type V and VI fractures of proximal tibia by dual plate fixation with dual incisions.Material and Methods:Twenty patients with Schaztker type V and VI who were treated with dual incisions and dual plating were analysed retrospectively.Radiographs were taken in two planes,at immediate post-op period and final follow up.Minimum follow up was one year (1-9 yrs).Clinical outcomes were evaluated on Oxford Knee Society Score.Results:20(14 males and 6 females) patients who completed the follow up were included in study.13 had type V and 7 had type VI fractures.2 cases had associated compartment syndrome and two had associated injuries.The mean duration of follow up was 4 years.Six cases required bone grafting to lift the lateral condyle fractures .All patients had immediate satisfactory intra articular reduction defined as<2 mm step or gap .2 patients developed varus later on.These were cases where weak medial plate(Small buttress plate tubular Plate) was inserted.Mean union time was three months and Society score was 86.One patient had infection which needed implant removal.Conclusion: The treatment of these fractures with dual incisions and dual plating resulted in satisfactory clinical and radiological outcome.This can be good option for these types of fractures.

Abstract no.: 46431

NEUROFILAMENT DISTRIBUTION IN THE LONG HEAD OF THE BICEPS TENDON AND THE SUPERIOR LABRUM

Sandra BOESMUELLER[1], Antal NÓGRÁDI[2], Patrick HEIMEL[3], Christian ALBRECHT[4], Sylvia NUERNBERGER[4], Heinz REDL[3], Christian FIALKA[1], Rainer MITTERMAYR[1]

[1]AUVA Trauma Center Meidling, Vienna (AUSTRIA), [2]University of Szeged, Department of Anatomy, Histology and Embryology, Szeged (HUNGARY), [3]Ludwig Boltzmann Institute for Experimental and Clinical Traumatology, Vienna (AUSTRIA), [4]Medical University of Vienna, Department of Trauma Surgery, Vienna (AUSTRIA)

Introduction: Type II SLAP repair is accompanied by a prolonged period of pain compared to long head of the biceps tendon (LHBT)-releasing techniques like tenodesis or tenotomy. Suture anchors might affect neuronal structures accounting for the postoperative pain. The study aim was to histologically investigate the distribution of neurofilament in the type II SLAP region. Methods: Ten LHBTs including the superior labrum were dissected from fresh human specimen and immunohistochemically stained with neurofilament 200kD. All slides were scanned, converted into TIF and regions of interest (ROI) were defined. Segmentation was performed according to the defined ROI's and measurement using a programmed algorithm specifically created for this purpose. The segmented nerves were counted and their total size and the area of other tissue were measured separately for the different ROIs. Results: Distribution of neurofilament positive cells in absolute numbers revealed a clear but insignificantly higher amount in favour of ROI I, representing the superior labrum anterior to the LHBT origin. Setting ROI I at 100% a significant difference could be seen compared to ROI III, representing the superior labrum posterior to the LHBT origin (ROI I vs. ROI III with a p-value <0.05). Conclusion: The density of neurofilament is inhomogeneously distributed throughout the LHBT and the superior labrum with the highest number of neurofilament in the anterior superior labrum. Thus, suture anchor placement in type II SLAP repair could play an important role for the postoperative pain related outcome. If possible, anchors should be placed only posterior to the LHBT origin.

Abstract no.: 46432

CLINICAL OUTCOME AND RETURN TO SPORTS AFTER TYPE II SLAP REPAIR - A PROSPECTIVE STUDY

Sandra BOESMUELLER[1], Thomas TIEFENBOECK[2], Marcus HOFBAUER[2], Adam BUKATY[3], Gerhard OBERLEITNER[4], Wolfgang HUF[5], Christian FIALKA[1]

[1]AUVA Trauma Center Meidling, Vienna (AUSTRIA), [2]Medical University of Vienna, Department of Trauma Surgery, Vienna (AUSTRIA), [3]Medical University of Vienna, Division of General Anaesthesia and Intensive Care Medicine, Vienna (AUSTRIA), [4]Wilhelminenspital der Stadt Wien, Department of Trauma Surgery, Vienna (AUSTRIA), [5]Medical University of Vienna, Center for Medical Physics and Biomedical Engineering, Vienna (AUSTRIA)

Introduction: Although isolated arthroscopic type II SLAP repair is itself a small surgical intervention, patients tend to suffer from a prolonged period of pain, and are restricted in their sports activities for at least 6 months after surgery. The hypothesis of this study was that isolated type II SLAP repair leads to a satisfactory clinical outcome with a significant but late decrease of pain, thus indicating the time to return to pre-injury sports activities. Methods: Outcome measures were assessed using the Individual Relative Constant Score (CSindiv), the American Shoulder and Elbow Surgeons (ASES) Score, the Visual Analogue Scale (VAS), and the Short Form 36 (SF-36). Data were collected preoperatively, as well as at 3, 6, 12 and >24 months postoperatively. Results: 11 patients with an average age of 31.8 years (range: 22.8-49.8 years) underwent arthroscopic repair of isolated type II SLAP lesions. Mean follow-up time was 41.9 months (range: 36.1-48.4 months). 6 months after surgery, there was a statistically significant improvement of function according to the CSindiv ($p=0.004$), the ASES Score ($p=0.006$), and the SF-36 subscale “physical functioning” ($p=0.014$) and a statistically significant decrease of pain according to the VAS ($p=0.007$) and the SF-36 subscale “bodily pain” ($p=0.022$) compared to preoperative levels. Conclusions: Arthroscopic type II SLAP repair with suture anchors leads to a satisfactory functional outcome and return to pre-injury sports levels, with delayed, but significant pain relief observed 6 months after surgery. Thus, 6 months after surgery seems to be an appropriate time point for returning to sports.

Abstract no.: 46439

FLEXIBLE INTRAMEDULLARY NAILS: THE PANACEA FOR PAEDIATRIC FEMORAL SHAFT FRACTURES

Jagandeep VIRK[1], Jagdeep SINGH[2], Anoop KALIA[2]
[1]GMCH SECTOR 32 CHANDIGARH, MOHALI (INDIA), [2]GGSMC, Faridkot (INDIA)

Introduction: Management of paediatric femoral shaft fractures continues to evolve with time with flexible intramedullary nailing being one of the options to treat a specific age group of children. Grey zone exists concerning the cost effectiveness and appropriate timing of nail removal in treating such fractures. Aims and Objectives: To evaluate the treatment outcome of fracture shaft of the femur in children in the age group of 5- 12 years with “flexible intramedullary nail”. Material and Methods: The study comprised of 30 consecutive cases of acute fractures of the femoral shaft in children of the age group of 5 to 12 years. Only closed fractures of the mid-diaphyseal region of the femur were included while supracondylar, subtrochanteric and pathological fractures were excluded. Flexible intramedullary nails of stainless steel (n=16) or titanium (n=14) were used for fixation of these fractures. Results: Evaluation of the results was done according to the criteria by Flynn et al. 21(70%) out of 30 patients had an excellent result and remaining 9 (30%) had a satisfactory result. All fractures united with a full range of motion at the hip and knee joint. No major complications were encountered. Conclusion: Intramedullary elastic nailing of simple diaphyseal femur fractures in children is an effective method with negligible complications. Treatment cost can be significantly lowered by using the much cheaper stainless steel flexible nails rather than the more expensive titanium nails, since there no difference in the ultimate clinical, radiological and functional outcome between the two groups.

Abstract no.: 46440

SOLITARY GIANT OSTEOCHONDROMA OF ILLIUM

Jameel SYED SUHAIB[1], Sanjay Prasad HEGDE[2]
[1]Dumfries andGalloway Royal Infirmary, DUMFRIES (UNITED KINGDOM),
[2]Narayana Hrudalaya Hospitals, Bangalore (INDIA)

Introduction:Osteochondromas (osteocartilaginous exostosis) is a cartilage capped bony neoplasm arising on the external surface of bone containing a marrow cavity that is continuous with that of the underlying bone. It arises in bones preformed by endochondral ossification and the most common site of involvement is the metaphyseal region of the long bone of the limbs. Materials and Methods:We present a case report of 30 year old male , with h/o pain and swelling in right hip of 3 months duration.He had no previous h/o trauma.Pain was under control with analgesics but the swelling rapidly increased in size. Imaging revealed a 15x 8 cms irregular cauliflower shaped osteosclerotic mass arising from the right illium which showed a speckled calcific appearance.The tumor like growth appeared aggressive and encroaching into the surrounding structures.The entire mass was resected en bloc as it was sessile ,well encapsulated and spanned over the inner table of the lower 2/3rd of the illium. H.P.E. was reported aa an osteochondroma. Post operatively patient was mobilised next day and was regular on follow up. Currently patient is doing well and has returned back to his activities of daily living and occupation.Conclusion:Timely intervention and accurate diagnostic modalities are of prime importance in diagnosing and differentiating a malignant tumor from a benign one. Meticulous resection , dedicated rehab , and a regular follow up can give desiring results

Abstract no.: 46444

EFFECTS OF WHOLE-BODY VIBRATION ON THE FLEXIBILITY OF THE TRICEPS SURAE AND PEAK VENOUS VELOCITY DURING ACTIVE ANKLE EXERCISE

Kouji TSUDA[1], Naonobu TAKAHIRA[2], Haruna SUDO[3], Kenta SAKAI[2], Miki SAKAMOTO[2]

[1]Kitasato University, Tokyo (JAPAN), [2]Kitasato University, Kanagawa (JAPAN), [3]Nitobe Memorial Nakano General Hospital, Tokyo (JAPAN)

Introduction: Venous thromboembolism prophylaxis includes promoting venous flow through active ankle exercise (AAE) to activate the calf muscle pump. The extent of the promotion depends on the capacity of the calf muscle vein. We hypothesized that high calf muscle flexibility increases venous capacity and calf muscle pump function. We regard whole-body vibration (WBV) as an effective method to increase muscle flexibility and aimed to examine whether increase in calf muscle flexibility augments peak velocity (PV) in the superficial femoral vein during AAE. Materials and Methods: Twenty healthy young adults performed AAE every 2 seconds in the supine posture before and after stretching of the calf muscle while standing on a stretching board or WBV machine, with the knee extended. We measured PV during the AAE on pulsed Doppler ultrasonography and ankle dorsiflexion range of motion (ROM) with the knee extended before and just after stretching. The participants rested 10 minutes before each stretching. One-way repeated-measures analysis of variance was performed with Bonferroni adjustment to compare the main effects on PV and ROM. Results: The PVs during AAE did not change significantly ($F=1.09$; $p=0.35$). ROM significantly increased in the order of before stretching, after using the stretching board, and after using the WBV machine (all $p<0.05$). Discussion: The reason PV was unchanged and ROM increased was that calf muscle stretching with the knee extended affected the gastrocnemius superiorly to soleus that had soleal vein with abundant blood. Conclusion: Increased dorsiflexion ROM with the knee extended did not augment PV during AAE.

Abstract no.: 46445

INTERMITTENT PNEUMATIC COMPRESSION INCREASES THE PEAK VENOUS VELOCITY OF THE FEMORAL VEIN DURING ACTIVE ANKLE EXERCISE

Kenta SAKAI[1], Naonobu TAKAHIRA[2], Miki SAKAMOTO[2], Haruna SUDO[2], Kouji TSUDA[2]

[1]Kitasato University, Kanagawa prefecture (JAPAN), [2]Kitasato University, Kanagawa (JAPAN)

Introduction: Venous thromboembolism, a serious, frequent complication during/after orthopedic surgery, occurs even after ambulation that activates calf and foot pumping. An intermittent pneumatic compression (IPC) device is used to promote venous flow during ambulation. However, the promotion of venous flow by IPC devices during ambulation has not been examined because of difficulties. We regard active ankle exercise (AAE) that activates calf pumping at the bedside as a simple alternative to ambulation, and examined whether IPC augments AAE-induced increase in peak velocity (PV) in the superficial femoral vein. Materials and Methods: Twenty healthy young adult men in a sitting posture performed AAE every 2 seconds or had a mobile IPC device applied under the following 5 conditions: plantar flexion (heel raise) alone, dorsiflexion (toe raise) alone, IPC alone, plantar flexion with IPC, and dorsiflexion with IPC. We measured PV three times in each condition using pulsed Doppler ultrasonography, and used the means of the three values for statistical analysis. Results: The PVs in all the conditions were significantly higher than the PV at rest. The PVs in the 2 conditions of AAE with IPC were significantly higher than those with AAE alone and IPC alone (all $p < 0.05$). Conclusions: IPC can effectively augment the AAE-induced increase in PV, and increase the thromboprophylactic effect of AAE.

Abstract no.: 46447

EVALUATION OF VASCULAR PATTERN USED COLOR DOPPLER ULTRASONOGRAPHY IN SOFT TISSUE TUMORS.

Naoto OEBISU, Manabu HOSHI, Makoto IEUCHI, Tadashi IWAI, Akiyoshi SHIMATANI, Yoshitaka BAN, Naoki TAKADA, Hiroaki NAKAMURA
Osakacity University, Osaka (JAPAN)

Introduction: Several imaging modalities have been applied to assess these tumors, including plain radiography, nuclear medicine, computed tomography (CT), magnetic resonance imaging (MRI), ultrasonography (US), angiography and positron emission tomography. Most general practitioners, however, find it difficult to distinguish benign from malignant lesions. Although MRI and CT are the most common modalities for evaluating soft tissue masses, many patients have difficulty undergoing these examinations. Additionally, their cost may be prohibitive. Resolution of US has undergone marked development. Purpose: The aim of the present study was to elucidate the usefulness of color Doppler (CD) US for preoperative differential diagnosis between benign and malignant soft tissue tumors. Materials and methods: 193 soft tissue tumors (69 malignant, 124 benign) were examined with CDUS. The maximum size, depth, tumor margins, shape, echogenicity and textural pattern were measured on gray-scale images. CDUS was used to evaluate the vessel characteristics such as occlusion, shunts, trifurcations, and vascular pattern. The Mann-Whitney U, Fisher's exact and $\chi 2$ tests were used for unpaired comparisons between the quantitative parameters. Result: Shunt, trifurcation, and vascular pattern proved helpful in differentiating benign from malignant lesions. The vascular pattern analysis showed low sensitivity (57.4%) and moderate specificity (77.4%). A combination of any vessel characteristics demonstrated moderate sensitivity (67.3%) and high specificity (84.6%). Conclusion: Vessel characteristic analysis enables differentiation of benign and malignant lesions and evaluation of soft tissue tumors.

Abstract no.: 46450

IS COMPUTED TOMOGRAPHY OF BICONDYLAR TIBIAL PLATEAU FRACTURES MORE INTERPRETABLE AFTER BRIDGING EXTERNAL FIXATION THAN BEFORE FIXATION?

Oog Jin SHON[1], Kang-Il KIM[2]

[1]Department of Orthopedic Surgery, Yeungnam University Medical Center, Daegu (SOUTH KOREA), [2]Department of Orthopaedic Surgery, Center for Joint Diseases and Rheumatism, Kyung Hee University Hospital at Gangdong, Seoul (SOUTH KOREA)

Introduction : This study compared the inter- and intra-observer reliability of the computed tomography (CT) scans in bicondylar tibial plateau fracture (Bi-TPF) according to the timing on checking preoperative CT scans. Methods : Patients who underwent CT after EF were classified as group 1 (n=18), and patients who underwent CT before EF were classified as group 2 (n=18). Five observers were given plain radiographs and CT images and was performed again 6 weeks later. This study used the AO Foundation and Orthopaedic Trauma Association (AO/OTA) classification, Schatzker classification, and three-column classification by Luo et al. Preoperative planning was classified according to skin incision and plate position. We designed a fracture severity score in which the skin incision and plate position were weighted 2:1 compared to the three-column score. Results : Overall, the inter-observer reliabilities for fracture classification and preoperative planning were higher in group 1 than in group 2. The mean absolute difference of severity scores between two ratings between two groups was statistically significant. (p=0.028) Overall, the intra-observer reliabilities for fracture classification and preoperative planning were higher in group 1 than group 2. The level of training of the observer showed statistically significant impact on mean absolute difference of severity scores between surgeons and residents. (p=0.000) Conclusion : Inter- and intra-observer reliability for fracture classification and preoperative planning were better when CT was performed after external fixation in Bi-TPF. Thus, we suggest that it is necessary to perform CT scan after applying external fixation in Bi-TPF patients.

Abstract no.: 46451

DOES MEDIAL COMPARTMENT ARTHROSIS WITH KISSING LESIONS NEED UNICOMPARTMENTAL KNEE ARTHROPLASTY?

Oog Jin SHON[1], Kang-Il KIM[2]

[1]Department of Orthopedic Surgery, Yeungnam University Medical Center, Daegu (SOUTH KOREA), [2]Department of Orthopaedic Surgery, Center for Joint Diseases and Rheumatism, Kyung Hee University Hospital at Gangdong, Seoul (SOUTH KOREA)

Background: In cases of advanced medial compartment arthritis with kissing lesions, high tibial osteotomy (HTO) is known to be a relative contraindication, and unicompartmental arthroplasty (UKA) is preferred instead. However, in young patients, arthroplasty can be disastrous when complications occur. However, no previous study comparing the treatment outcomes of HTO and UKA in these cases has been reported. Hence, the purpose of this study was to compare the clinical and radiographic outcomes between HTO and UKA in these cases. Methods: From January 2007 to January 2012, all patients who were treated with HTO or UKA were reviewed in this study. Forty-five patients were selected and divided into the HTO group (n = 23) and UKA group (n = 22). We clinically evaluated the Lysholm Knee Scoring Scale, Visual Analog Scale, Hospital for Special Surgery, and Western Ontario and MacMaster scores preoperatively, 6 and 12 months postoperatively, and in the final follow-up. We radiographically measured the femoral-tibial angle and mechanical axis deviation preoperatively and at the final follow-up. Results: All clinical outcomes gradually improved in both groups from the postoperative period to the final follow-up. At the final follow-up, all clinical outcomes were slightly better in the UKA group than in the HTO group, but were not statistically significant. However, the differences of all radiographic outcomes showed statistically significant at the final follow-up. Conclusions: The clinical outcomes suggest that HTO might be a good alternative treatment to UKA in medial unicompartmental arthritis with kissing lesions in relatively young patients.

Abstract no.: 46456

GLOMUS TUMORS: OUTCOME BASED ON TUMOR LOCATION

Zain-Ur-Rehman REHMAN
Allied Hospital, faisalabad, Faisalabad (PAKISTAN)

INTRODUCTION: Glomus tumors present as painful less than 2cm nodules in the deep dermis or subcutaneous fat most commonly on the fingers in the nail matrix and nail bed. The curative treatment of choice for symptomatic solitary glomus tumors is total surgical excision to minimize the rate of painful recurrence. OBJECTIVE: The main objective of the study is to determine the clinical outcome of patients with Glomus tumor in nail matrix and nail bed admitted in Allied and DHQ Hospital, Faisalabad, excised with transungual approach from January 2012 to June 2014. METHODOLOGY: Eight patients with glomus tumor at finger tips, whose diagnosis was confirmed with biopsy results, from January 2012 to June 2014 were included in the study. Variables included their location in the nail i.e either nail matrix or the nail bed. RESULTS: Out of eight, 5 (62.5%) patients had tumors located in the nail matrix and 3 (37.5%) had in the nail bed. Three of the five (60%) patients with nail matrix tumor had prolonged pain sensation, whereas none of the three (zero percentage) patients with nail bed lesion had prolonged pain sensation. CONCLUSIONS: In our study after excision using transangual approach , it was seen that there was no recurrence but anatomic location of the subungual glomus tumor at initial presentation can predict postoperative prolonged pain. MeSH: Glomus tumor, Nail Bed, Nail Matrix, 1. Kim JH, Yim HW, Yoon CS, et al. Glomus tumor in subcutaneous layer of forearm: a case report. J Korean SocSurg Hand. 2009;14:92–94.

Abstract no.: 46461

INFRAPECTINEAL PLATING IN ACETABULAR FRACTURE

Sang Eun PARK[1], Kugjin CHOI[2]
[1]Dongguk University International Hospital, Seoul (SOUTH KOREA),
[2]Dongguk University Inaternational Hospital, Seoul (SOUTH KOREA)

Introduction The ilioinguinal approach was the predominant approach for anterior acetabular fixation. However, modifications of the original abdominal approach described by Stoppa have made another option available for reduction and fixation of pelvic and acetabular fractures. Also infrapectineal plating is a good option for osteoporotic and comminuted acetabular fractures. In this study we will evaluate our results in patients with acetabulum fractures with infrapectineal plating via the modified Stoppa approach. Methods and Results Between December 2013 and June 2016, 6 patients with acetabulum fractures were treated operatively using modified Stoppa approach. In cases with posterior displacement, an additional approach was utilized to address a posterior wall fracture. Follow up included radiographs (pelvis inlet, pelvis out let view and pelvis CT) and Harris score for functional outcomes. Average follow-up was 1 year with a minimum of 3 months. Mean age for patients was 58 years. Fracture pattern, operative time, blood loss during the operation, quality of reduction and postoperative complications were assessed by retrospectively analyzing the medical records and the radiographic examinations. The mean postoperative Harris score was 63. Postoperative radiological evaluation revealed anatomical reduction. On pelvic CT coronal, sagittal and axial gap reduction was observed post operatively. Conclusion The results of infrapectineal plating with modified Stoppa approach for acetabular fractures, showed good functional out comes with minimal complications. This less invasive technique can be efficient while minimizing patient’s morbidity.

Abstract no.: 46462

ARTHROSCOPIC LABRAL REPAIR IN BORDERLINE HIPDYSPLASIA

Sang Eun PARK, Kugjin CHOI
Dongguk University International Hospital, Seoul (SOUTH KOREA)

Purpose: The purpose of this study was to demonstrate postoperative improvement and satisfaction rates after a surgical approach that includes arthroscopic labral repair only, in patients with borderline dysplasia, without instability. Methods: Between September 2009 and December 2011, patients less than 50 years old who underwent hip arthroscopy for symptomatic intra-articular hip disorders, with a lateral center-edge (CE) angle between 20 and 25, were included in this study. Patients with Tönnis grade 2 or greater, hip joint space narrowing, severe hip dysplasia (CE 〈20), hip joint instability and Legg-Calve-Perthes disease were excluded. Patient-reported outcome scores, including the modified Harris Hip Score (mHHS), Western Ontario and McMaster Universities Arthritis index (WOMAC), and visual analog scale (VAS) for pain were obtained in all patients preoperatively and at 1, 2, and 3 years postoperatively. Results: A total of 36 patients met the criteria to be included in the study. Of these, 32 (88.8%) patients were available for follow-up. There was a significant improvement in mHHS from 67.19 ± 7.66 to 82.69 ± 6.95 ($P<0.05$), WOMAC score from 58.90 ± 5.77 to 77.90 ± 6.38 ($P<0.05$), and VAS scores from 5.8 ± 0.88 to 2.9 ± 0.62 ($P<0.05$). There was a also improvement in range of motion, flexion from 108.44 ± 7.77 to 115.31 ± 6.08 ($P<0.05$) and external rotation from 29.06 ± 5.74 to 33.13 ± 4.88 ($P<0.05$). Conclusions: The current study demonstrates favorable results in borderline dysplasia hip without instability at minimum 3-year follow-up for an arthroscopic approach that includes labral repair.

Abstract no.: 46468

NON-SIMULTANEOUS BILATERAL FRAGILITY HIP FRACTURES IN AN ELDERLY SINGAPORE POPULATION

Bing Howe LEE, Ernest KWEK
Tan Tock Seng Hospital, Singapore, Singapore (SINGAPORE)

With a rapidly ageing population, there is an increasing incidence of fragility hip fractures. This study describes the characteristics of non-simultaneous bilateral hip fractures in a tertiary orthogeriatric hip fracture center. This was a single centre retrospective study of 538 patients with fragility hip fractures (intertrochanteric-IT and neck of femur-NOF) within a one-year period. Patients with previous contralateral hip fracture were studied. 39 patients (7 males;32 females) had bilateral non-simultaneous hip fractures (cumulative incidence:7.25%; 95%CI: 5-10%). Mean age of 1st and 2nd fracture occurrence was 77.0 years (range:60-96) and 82.8 years (range:65-98) respectively. Mean time between the two fractures was 70.3 months (range:1-357). Moderate correlation between the increase in Charlson Comorbidity Index and shorter time between fractures was noted (spearman's rho=-0.355, p-value=0.039), i.e. patients with more comorbidities at 1st fracture onset will suffer from a 2nd fracture at a shorter interval. 1st and 2nd fractures were of the same morphology in 28 cases (71.8%) [15 IT,13 NOF]. Of these cases, 15 (53.8%) [7 IT,8 NOF] were treated similarly for both fractures. Prior to the 2nd fracture, only 13 patients (33.3%) were on osteoporosis treatment. At 12 months follow-up, 23 patients (62.2%) returned to their premorbid status. At 2.5 years follow-up, 12 patients were deceased (30.77%) [mean age:85.25 years; range:72-96]. Average time between 2nd fracture and death was 22.3 months (range:0-38). Bilateral non-simultaneous hip fractures in the elderly have a relatively high incidence and mortality rate. This highlights the need for active prevention and treatment of osteoporosis and secondary hip fractures.

Abstract no.: 46474

ADVANTAGE OF LOCKING KNEE MEGAPROTHESIS

Abdelhalim OULDROUIS[1], Morad HAMIDANI[2]
[1]medical university BLIDA, blida (ALGERIA), [2]medical university BLIDA, palaisseau (ALGERIA)

Introduction: For avoid belated the unseal of megaprothesis,it must be locking her, and improve the rotation stability immediately after bone resection; Methods: Either distal femur and proximal tibial, we use the locking system for the knee reconstruction after resection; results: The five patients are males, their age are between 17 and 38 old, three lefts and twoo rights, all osteosarcoma resections, three proximal tibia and twoo distal femur. Discussion: our aim is obtain a twin stability after locking and boring, the locking allow a statique montage, avoid the telesscopic move and rotation of the stem. Earlier the most of our prothesis (80%) unseal after 4 years follow up, requirement a renewal surgery. the locking offer the twin stability axial and rotational

Abstract no.: 46481

DOES MEDIAL MENISCAL ALLOGRAFT TRANSPLANTATION WITH THE BONE-PLUG TECHNIQUE RESTORE THE ANATOMIC LOCATION OF THE NATIVE MEDIAL MENISCUS?

Sung Mok OH[1], Seong-Il BIN[2], Jae Young KIM[1]
[1]Orthopaedic Surgery, Asan medical center,, seoul (SOUTH KOREA),
[2]Orthopaedic Surgery, Asan medical center,, Seoul (SOUTH KOREA)

Purpose: The purpose of this study was to compare the anatomic positions of the anterior horn(AH) and posterior horn(PH) between the preoperative medial meniscus(MM) and the postoperative meniscal allograft after medial meniscal allograft transplantation(MMAT) with the bone-plug technique. Methods: Between December 1999 and December 2013, 59 patients (49 male, 10 female) underwent MMAT by use of the bone-plug technique. The anatomic positions of both horns in the native MM and in the meniscal allograft were measured via MRI. The percentage reference method was used to measure the locations of both horns. Results: On coronal MRI, the mean absolute distance of the PH from the lateral border of the tibial plateau changed from 45.2±3.3 to 48.1±4.2 mm (P<.05). On sagittal MRI, the mean absolute distance of the PH from the anterior reference point changed from 40.3±3.0 to 42.0±3.5 mm (P<.05). On coronal MRI, the mean absolute distance of the AH from the lateral border of the tibial plateau changed from 41.3±4.2 to 48.5±5.6 mm (P<.05. On sagittal MRI, the mean absolute distance of the AH from the anterior reference point changed from 5.5±1.0 to 9.9±2.9 mm (P<.05). Conclusion: Anatomic locations of both horns were shifted posteromedially compared with those of the native MM. There were significant differences. However, the PH showed a location change of <5 mm, on average, in both the coronal and sagittal planes, whereas the AH showed a location change of <5 mm in the coronal plane but <5 mm in the sagittal plane.

Abstract no.: 46482

CHANGE IN CARTILAGE VOLUME AFTER MENISCAL ALLOGRAFT TRANSPLANTATION : A 1-YEAR MRI STUDY BASED ON SEMI-AUTOMATED GRAPH-CUT ALGORITHM METHOD

Seong-Il BIN[1], Sung Mok OH[2], Jae Young KIM[2], Sungwook CHOI[3]
[1]Orthopaedic Surgery, Asan medical center,, Seoul (SOUTH KOREA),
[2]Orthopaedic Surgery, Asan medical center,, seoul (SOUTH KOREA), [3]The scripps Research, Jeju national university, Jeju (SOUTH KOREA)

Purpose: Meniscal allograft transplantation (MAT) has been accepted as an effective treatment modality in symptomatic patients with meniscal deficiency. However, further studies are needed to evaluate the chondroprotective effect of MAT. The purpose of this study is to investigate the one-year change of cartilage volume following meniscal allograft transplantation. Method: Between January 2008 and March 2013, 315 patients underwent MAT in our institute. Among these patients, 24 patients were enrolled in the study by inclusion criteria and followed up using a 3.0 T MR scanner at baseline (preoperative day), 3, 6, 12 months after MAT. Cartilage segmentation and volumetric measurement was performed by using a semi-automated graph-cut algorithm. We divided cartilage volume into medial and lateral compartment to compare the difference of cartilage volume change between them. Additionally, we measured cartilage volume of femur and tibia in defined regions of interest (ROIs) in order to get rid of segmentation errors at the periphery of cartilage and exclude uninterested area. Result: Cartilage volume in ROIs showed no significant difference between before and 1-year after MAT. Cartilage volume of femur and tibia in ROIs decreased until 3 months after MAT and recovered to an approximate figure of preoperative value by 1-year after MAT. Conclusion: After MAT, cartilage volume displayed immediate postoperative decrease and gradual recovery approximately equal to preoperative value. Long term follow-up is needed for investigation of further change of cartilage volume.

Abstract no.: 46483

TOTAL HIP ARTHROPLASTY IN PROXIMAL FEMUR NON-UNIONS.

Valeriy Y. MURYLEV[1], Yaroslav RUKIN[2]
[1]I.M.Sechenov First Moscow state medical university, MOSCOW (RUSSIA),
[2]I.M.Sechenov First Moscow state medical university, Moscow (RUSSIA)

Background: Total hip arthroplasty after failed surgical or conservative treatment of intertrochanteric hip fractures can be technically challenging leading to higher complication rates. Failure of intertrochanteric fracture fixation often occurs in patients who have poor bone quality, severe osteoporosis, or unstable fracture patterns. Methods: 23 patients with intertrochanteric non-unions were included. Failed ORIF - 15 patients, without ORIF – 8 patients. Time to THA from fracture or ORIF was from 6 to 28 months. We identified 4 groups between these patients: intertrochanteric region with intact grater trochanter (GT)- 3, intertrochanteric region without major and minor trochanters – 5, intertrochanteric non-union – 10, subtrochanteric non-union (with femur proximal part or without)- 5. THA with primary femur components were in 8patients (34,8%). THA with revision femur components in 15 patients (65,2%). Bearing surface diameter: 32 mm - 8 patients, 32 mm + constraint –2 patients, 36 mm –9 patients, 40 mm –4 patients. Follow up was from 3 to 65 months (mean 38). Results: Hematomas were in 9 (39%) patients, treated by several aspirations, dislocation were in 5 patients (3 – 32 мм, 2 – 40 мм). The revision surgery with dual-mobility components due to recurrent dislocation were in 2 (8,7%) cases. The top HHS was 84. Conclusion: we proposed the THA algorithm in such patients. In case with proximal femur destruction better to use revision stems with GT fixation possibility. Large diameter head can prevent dislocation. Dual-mobility in GT absence, fixation impossibility or revision cases can prevent recurrent dislocation.

Abstract no.: 46484

SHORT TERM ANALYSIS OF FUNCTIONAL AND RADIOLOGICAL OUTCOME OF TOTAL KNEE ARTHROPLASTY USING MINIMALLY CONSTRAINED POLYETHYLENE FOR SUBSTITUTING POSTERIOR CRUCIATE LIGAMENT

Saktthi SAKTTHI SELLAYEE S[1], Mohan Kumar M[2]
[1]Sri Ramachnadra University & Research Institute, Chennai (INDIA), [2]Sri Ramachnadra University & research institute, Chennai (INDIA)

Resecting or preserving the posterior cruciate ligament (PCL) in Total Knee Replacement is still a matter of debate. Both have its own advantages and pitfalls. When PCL is resected should it be substituted with post-cam or deep dished polyethylene insert ?. Our study reviews the short term results of total knee arthroplasties (TKA) using a dished polyethylene insert with resected PCL. A two year prospective and retrospective study of 41 knees in 40 patients with arthroplasties using a deep dished polyethylene insert, all with PCL resected and non-patella resurfaced. Smith and nephew genesis II system was used for all the cases. Pain and function were analyzed using knee society scoring during the follow up periods. At the mean follow up period of 1.7 years (Range 6-24 months), ROM has improved from preoperative mean of 70 degrees to 115 degrees ($P<0.03$). Knee society pain and function scores increased from means of 38 (Range 3-60) to 40.0 (Range 5-65) to 90 (Range 51 – 100) and 70.5 (Range 30 – 100) respectively (both $P<0.001$). Results were good or excellent in 94%. One patient reported fair. The use of a dished polyethylene insert in a primary total knee arthroplasty provides good to excellent short – term results. Our experience also shows that deep dish implant also obviates the need for resecting inter condylar bone thus maximizing bone volume for future revision and decreasing the risk of potential fracture. Increased jump factor also increases the stability of the joint and better kinematics.

Abstract no.: 46501

THE IMPACT OF ACUTE COMPARTMENT SYNDROME ON THE OUTCOME OF TIBIA PLATEAU FRACTURE

Amr ABDELGAWAD[1], Ahmed THABET-HAGAG[2], Adam ADLER[2], Joshua SIMSON[2], Chris GERZINA[2]

[1]Texas Tech University Health Sciences Center, el paso (UNITED STATES),
[2]Texas Tech University Health Sciences Center, El Paso (UNITED STATES)

Background: Acute compartment syndrome (ACS) is often associated with tibial plateau fractures and is a limb-threatening injury. This study reports the rate of infection, delayed union, and nonunion in patients with this injury pattern. Methods: It surveyed patient radiographs, clinical notes, and operating room reports from a level I trauma center spanning between 2010 through 2016. Results: The results demonstrated that 23 out of 221 consecutive patients with ACS of the lower extremity presented with tibial plateau fracture over a 65-month period. Of these 23 patients, four were lost to follow-up or died, and 19 patient charts were surveyed, 63% male (12/19) and 37% female (7/19); of the remaining 19, only one patient developed infection and delayed union of the tibial plateau (5.3%), and one (5.3%) experienced nonunion, which eventually healed to union without intervention at 48 weeks. The mean time to union was 14 weeks. Schatzker type V/VI fractures were the most prevalent type of fractures seen among patients. Conclusions: The infection rate found in this chart review is lower than in other recently published studies. The incidence of delayed union and/or nonunion of the fracture was also lower than in other publications in the literature. Early decompression through double or single-incision fasciotomy does not increase the risk for infection or nonunion of the fracture. The delayed union rates found in this study are lower than those in previous studies. Slower healing is possible following this injury and treatment pattern.

Abstract no.: 46504

CLINICAL OUTCOME OF OPEN FRACTURES IN PEDIATRIC PATIENTS TREATED WITH EXTERNAL FIXATOR

Vishwajeet SINGH[1], Binoti A SHETH[2]
[1]Lokmanya Tilak Municipal Medical College & Hospital, New delhi (INDIA),
[2]Lokmanya Tilak Municipal Medical College & Hospital, Mumbai (INDIA)

Introduction: Open fractures in children poses unique challenge for management which vary from their adult counterparts. This study aims at assessing the outcome of patients treated with external fixator & propose external fixator as a definitive means of treatment option in selected patients. Materials & Methods: Injury was graded by Gustilo & Anderson classification and patients with Grade 2 & 3 open fractures were included. A total of 30 patients were included out of which 12 were with Grade 2 injury, 10 with Grade 3A & 8 with Grade 3B tibia injury. Patients were followed-up for 18 months. Discussion: Patients were studied for time to fracture union, soft tissue healing, various complications & return to pre-injury state. Bone healing was achieved in 25(83.3%) patients at the end of 3rd month and in 28(93%) patients at 6th month follow up. 5 Patients developed limb length discrepancy, none of them was more than 1cm. There were 10 pin track infections and 4 pin loosening. Pin track infections were more in the Grade 3 fracture group. 3(10%) patients had delayed union and 2(6.6%) had non-union. Conclusion: Bone healing was excellent in the children with minimal complication rates. Although few cases had delayed healing, these were the cases with significant soft tissue damage. Pin track complications could be successfully treated with wound care. 28(93%) patients started full weight bearing with meaningful functional recovery. External fixator can be safely used as a definitive treatment option with minimum complication and excellent outcome.

Abstract no.: 46505

PRIMARY TREATMENT OF INJURED CHILDREN USING 'HUMANE SURGICAL POSITIONING' IN MEDICALLY DEVELOPING COUNTRIES.

Kapil BAKSHI
Right Medical Centre Sharjah & Zulekha Hospital, Sharjah, Khorfakkan (UNITED ARAB EMIRATES)

Children comprise approximately 25 percent of all visits in any Emergency Room ER setting demanding quick handling of minor injuries to prevent a pile-up of patients and its ramifications. In developing countries with upcoming medical infrastructure supervised anesthetic/sedation cannot be administered to every injured child in pain.The concepts from (Bakshi's) 'Humane Surgical Positioning During Minor Limb Surgeries Under Local Anesthesia in Young Children ' published in JOT, are used effectively to impart Tender Loving Care TLC to injured children. They are in pain, scared, anxious and intimidated by the ER environment and parents often compound this anxiety by their own fears. A child held in the “humane position” by the parent is helpful, positioned on the parent’s lap clinging to them, so that the affected extremity is drawn out and placed on the side of the parent. The surgeon and instruments are positioned behind the parent’s back out of the child’s and parent’s field of vision especially a bleeding wound. Physical intimacy with the parent is 'captured' and capitalized upon; this makes the child feel secure, comfortable, relaxed, and reassured during the procedure. This position eliminates undue force bordering on cruelty to the child, as is commonly seen, where a child is transfixed to the table. It saves time, avoids admitting procedures, general anesthesia and costs but may have limited acceptance in some western countries due to medico-legal fears. “Humane Surgical Position” is a logical pain management option for relief of pain and stress in a state of injury.

Abstract no.: 46510

ARTHROSCOPIC LATARJET WITH DOUBLE BUTTON FIXATION: LEARNING CURVE ANALYSIS AND SHORT-TERM COMPLICATIONS

Nicolas BONNEVIALLE[1], Charles THELU[2], Jérome VOGEL[3], Yves BOUJU[4]
[1]Riquet Hospital-University of Toulouse, Toulouse (FRANCE), [2]North Shoulder Clinic, Marcq-en-Bareul (FRANCE), [3]Clinic of Villeurbanne, Villeurbanne (FRANCE), [4]hand Institute, Nantes (FRANCE)

Introduction: Arthroscopic Latarjet procedure indicated for anterior shoulder instability is currently an innovative surgery. The aim of this study was to analyse learning curve and short term complications after arthroscopic guided Latarjet procedure with double button fixation. Materials and Methods: Eighty-eight patients were included in a prospective study. Operative time, intraoperative and postoperative complications were recorded. Clinical evaluation was performed at 3,6 and 12 months. Radiographic assessment was based on immediate and 3 months postoperative CT-scan analysis. Results: The mean operative time of 107 min (62-192) significantly decrease with surgical experience ($P<0.0001$; r : -0.8426 IC à 95%[-0.9074 ; -0.7384]). The rate of unexpected events or intra operative complications was 3.3%: 1 conversion to open surgery, 1 coracoid fracture and 1 instrumentation problem. The rate of post-operative complication was 6.8%: 4 early migrations of coracoid transfer and 2 subluxations. These complications occurred before the tenth case. The coracoid was flush to the glenoid rim in 81% of cases. The rate of healing at 3 months significantly improved from 43% for the first 10 cases to 90% above 20 cases ($P=0.01$). At mean follow-up of 9.6 months (3-24), the mean Walch-Duplay and Rowe score were 80 and 81 points respectively. Conclusion: After this first experience, the rate of complication of arthroscopic Latarjet with double button fixation remained low (occurring during the 10 first cases) and short term clinical outcomes were promising. Operative time, position of the bone block and the rate of healing improved with surgical experience.

Abstract no.: 46518

TRANEXAMIC ACID FOR ALL TOTAL KNEE ARTHROPLASTIES – BEST MANAGEMENT FOR BLOOD LOSS

Stefan CRISTEA[1], Stefan CUCULICI[2], Florin GROSEANU[2], Vlad PREDESCU[2]

[1]Emergency Hospital St Pantelimon – Orthopedic Department –Bucuresti, Romania, BUCHAREST (ROMANIA), [2]Emergency Hospital St Pantelimon – Orthopedic Department –Bucuresti, Romania, BUCURESTI (ROMANIA)

Introduction: The purpose of this study is to evaluate the benefit of tranexamic acid TXA administration for all primary total knee arthroplasties TKA. Methods: The study includes a total of 740 cases divided into three groups. First group identified by “A” consists of 180 patients performing TKA between 06. 2009- 05.2011 who did not receive TXA. Second group “B” made out of 380 patients operated between 06. 2011- 06.2015 received TXA during surgery. Of these 380 patients, 300 received intravenous TXA, and the other 80 that had contraindications, received TXA only locally. The last group, “C” is made out of 180 patients operated between 07.2015-12.2016. All 180 “C” group received TXA locally, but 120 cases who did not have cardiac contraindications, also received 2g intravenously during surgery. Decrease of blood transfusion was the main factor analyzed. The costs of blood donation, TXA administration and transfusion were used to conduct a cost-benefit-assessment. Results: We reduced transfusion risk. 75% of patients who did not receive TXA at all were transfused at least once. 40.8% of patients receiving TXA either locally or intravenously (380 patients from group B and 60 patients from group C) were transfused at least once. From those who received TXA both locally and intravenously (120 cases from group C) only 39 were transfused, meaning a percent of 32.5%. Conclusions: Administration of TXA during the total knee arthroplasty procedure reduces the need for blood transfusion in patients and can be considered an economic practice for the National Health System.

Abstract no.: 46523

MANAGEMENT OF INFECTED NON-UNIONS OF LONG BONES USING LIMB RECONSTRUCTION SYSTEM (LRS) FIXATOR

Satya Ranjan PATRA, Dasarath KISAN, Divya MADHARIA, Naresh Kumar PANIGRAHI, Saswat SAMANT, Anmol SHIV
Hi-Tech Medical College, Bhubaneswar, Odisha, Bhubaneswar (INDIA)

Due to increasing number of high-energy traumatic events, the incidence of complex and compound fractures are also in the rise. Such fractures are often exposed to various environmental contaminants, inadequate debridement and sometimes erroneous decision making leading to cases of infected nonunions. Eradication of infection in such cases and achieving union may sometimes pose serious challenge to orthopaedic surgeons. Presence of comminution, bone gap or deformity can seriously complicate the situation. No definite surgical technique has been found to be full proof in dealing with these infected nonunion cases. In this scenario the limb reconstruction system (LRS) fixator is emerging as a useful option for infected nonunions with deformity or gap nonunion. Twenty seven cases of infected nonunions involving tibia (n=19), femur (n=7) and humerus (n=1) were treated by LRS fixators after debridement of the infected nonunion site. Flap cover procedure was done as per necessity. Bone gaps and limb length discrepancies were dealt with bone transport or limb lengthening by the LRS instrument. Weight-bearing and removal of fixator was decided according to the radiological evidence of healing. All the nonunions and the regeneration sites healed uneventfully, although the union time was varied (range, 21-52 weeks). Commonest complication was pin-tract infection and pain. The mean lower extremity functional score (LEFS) was 60.3 out of 80. LRS fixator is an excellent tool for management of infected nonunions which is easy to apply, comfortable for the patient with minimum complications and predictable as well as reproducible outcomes.

Abstract no.: 46524

OPERATIVE OUTCOME OF HIGH ENERGY PILON FRACTURES: A RETROSPECTIVE COMPARISON BETWEEN INTERNAL FIXATION AND ILIZAROV EXTERNAL FIXATION

Naresh Kumar PANIGRAHI, Satya Ranjan PATRA, Dasarath KISAN, Dibya Singha DAS, Saswat SAMANT, Medini MANOJ, Anmol SHIV
Hi-Tech Medical College, Bhubaneswar, Odisha, Bhubaneswar (INDIA)

Pilon fractures are serious injuries with many devastating soft-tissue complications associated with them. Deciding a definite treatment plan has always proved a challenge. Comparative studies between the various surgical techniques used for pilon fractures are uncommon and consensus is yet to be reached regarding the best surgical option. Purpose of this study is to retrospectively compare the operative results (complications, functional and radiographic outcomes) of pilon fractures treated either with internal fixation or Ilizarov ring fixators. Forty-six patients with pilon fractures were retrospectively studied; twenty-one of them had minimal invasive fixation by ankle spanning Ilizarov fixators and 25 patients had internal fixations by either minimal invasive plate osteosynthesis (MIPO) or by open reduction. The patients were followed-up for a mean of 34 months (range, 24-51 months). The internal fixation group had a higher incidence of soft-tissue complications and deep infections. In comparison the Ilizarov group had only superficial pin-tract infections but no other soft-tissue complications. Although the Ilizarov group had a higher incidence of malreduction and malunion in their series compared to the internal fixation group, there was no significant difference in the AOFAS ankle function score (p-value 0.2922) between the two groups after a follow-up of 2-4 years. The moderately long term functional outcome appears to be similar in both internal fixation and Ilizarov groups. But the Ilizarov technique is less likely to cause any serious peri-operative soft-tissue complications or deep infection. Familiarity of the surgeon with a particular technique should also be considered during surgical decision making.

Abstract no.: 46528

SCHWANNOMA OF THE TIBIAL NERVE (A CASE REPORT)

Kamel ACHOUR[1], Abdel Halim OULD ROUIS[2], Mourad OUBIRA[2], Reda HARRAR[2], Soumia KERTOUS[2], Mourad HAMIDANI[2]
[1]CHU Frantz Fannon Blida, Alger (ALGERIA), [2]CHU Frantz Fannon Blida, Blida (ALGERIA)

Schwannomas are benign neoplasms derived from Schwann cells. Usually encapsulated, which rarely undergo malignant transformation. Represents 5% of soft tissue tumors, most commonly found between the fourth to sixth decades of life. The tumor has a predilection for the head, neck and flexor surfaces of the upper and lower extremities but tibial nerve schwannoma remains a rare localization.We report a case of a 43-year-old male presented to our center with a 2-year history of pain in right leg. At examination we found a palpable and painful mass in popliteal fossa with a positive Tinel's sign. Ultrasonography and MRI of the knee were performed, and the diagnosis of schwannoma of the tibial nerve was made, based on clinical and radiological findings.Excision of the tumor was easily performed by a posterior approach without neural lesioning. Histopathological examination revealed the tumor to be a schwannoma. No neurologic deficit was noted postoperatively which confirms the good prognosis of this tumor.Schwannomas can be excised en mass, as they arise within the nerve sheath and are surrounded by a true capsule comprised of epineurium, enabling a complete enucleation without damage to the parent nerve. Schwannomas have a good prognosis and a low incidence of recurrence or malignant transformation, unlike neurofibromatosis. Nonetheless, expertise in peripheral nerve surgery is necessary to reduce the risk of neurological deficit.

Abstract no.: 46533

WHICH IS BETTER IN LABOURERS? A COMPARISON BETWEEN OPEN AND MICRO ENDOSCOPIC DISCECTOMY

Hitesh MODI[1], Shakti GOEL[1], Tushar KUNDER[2], Rameez MUSA[2], Neel BHAVSAR[2], Pankaj PATEL[2]

[1]Zydus Hospitals and Healthcare Research Private Limited, Ahmedabad (INDIA), [2]NHL Municipal Medical College, Ahmedabad (INDIA)

Introduction:None of the existing studies have compared the results of open and Micro-Endoscopic-Discectomy (MED) surgeries in labourers.The aim of this study was to compare the clinical and social impact of open versus MED surgery in labourers.Methods:Retrospective review analysis was performed in 70 labourers(40 males and 30 females)who underwent open (n=40)versus MED(n=30) surgeries. All patients were operated at a single institute for single/double level lumbar-disc herniations.The clinical results were evaluated with Oswestry-Disability-Index(ODI),Visual-Analogue-Score(VAS) and duration of return back to work.Results:The average age of the study group was 40.4±12.1 years.The entire study group comprised of heavy labour workers with an average income of US $53.6 ±14.6 per month. The patients belonged to low socioeconomic status as per modified Kuppuswamy scale. The post-operative VAS scores were significantly reduced in both MED(2.2 versus 7.1, $p<0.05$) and open-discectomies(2.1 versus 7.12, $p<0.05$). ODI scores also showed similar trends for MED(23.16 versus 55.6, $p<0.05$) and for open discectomies (20.9 versus 55.12, $p<0.05$).Average duration to return to work was significantly less in MED group in comparison to open discectomy group(17.1±3.6 versus 25.4±7.27 days, $p<0.05$). The post-operative hospital stay duration in MED patients (3.1±0.8 days) was also significantly low as compared to open discectomies(7.5±2.1days,$P<0.05$).There were no complications encountered such as wound infection, dural tear or nerve root injuries.Conclusion:Although clinical improvement after discectomy surgery were similar, MED is a promising alternative to open discectomy group in labourers with respect to early return to work.Such studies may further throw light in differential management of labourer population with MEDs versus open discectomies.

Abstract no.: 46536

COMPLICATIONS ENCOUNTERED IN SURGICAL MANAGEMENT OF ADULT SPINAL DEFORMITIES- PREVENTION AND MANAGEMENT- A RETROSPECTIVE STUDY IN 193 PATIENTS.

Hitesh MODI[1], Shakti GOEL[1], Bharat DAVE[2], Yatin DESAI[1]
[1]Zydus Hospitals and Healthcare Research Private Limited, Ahmedabad (INDIA), [2]Stavya Spine Hospital and Research Institute, Ahmedabad (INDIA)

Purpose: Adult spinal deformity surgery is often associated with increased number of postoperative complications. Purpose of study was to elaborate encountered complications and possible ways to prevent and avoid such complications during surgery. Methods: This was a retrospective analytical study in 193 patients with adult spinal deformity operated between 2010 and 2014 with decompression and multilevel pedicle screw fixation. Average age of patients was 64.5 years with minimum follow-up of 12 months. Clinical results were evaluated by excellent-good, fair and poor results on regular follow-up. Complications were elaborated in detail with possible causes and ways to prevent or avoid such complications to occur in future. Results: There were 133 (69%) patients with excellent or good results while 35 (18%) patients with fair and 25 (13%) patients with poor results. There was 24.8% (n=48 out of 193) complication rate found in the study. There were 20, 10, 6, 5, 3, 2, 1 and1 patients with persistent symptoms, respiratory difficulty, proximal junction kyphosis, dural puncture, deaths, wound infection, foot drop and renal failure respectively. Reasons for such complications were discussed in detail and precautions were implemented in future surgeries. Conclusion: There are higher postoperative complication rate noted in adult spinal deformity surgeries. Most common complications were proximal junctional kyphosis, respiratory difficulty and persistent symptoms postoperatively. Proper preoperative preparation and precautions to avoid such complications are necessary before surgical decision.

Abstract no.: 46538

" THE DAY I WALKED…." TKA AND THA IN ANKYLOSED JOINTS IN GROSS FLEXION : A SURGICAL CHALLENGE (CASE REPORT)

Arun Kumar PANDEY[1], Sumit ANAND[2], C.S YADAV[2]
[1]ALL INDIA INSTITUTE OF MEDICAL SCIENCES (AIIMS), new Delhi (INDIA), [2]ALL INDIA INSTITUTE OF MEDICAL SCIENCES (AIIMS), delhi (INDIA)

INRODUCTION: Earlier, joint replacement surgery was seen as a salvage procedure and was offered to old and crippled patients. We are presenting the case of 32 yrs female with JRA who was crippled due to severe deformity of her hip and knee joints and had her life improved tremendously after the surgery. Both the hips were fixed in around 90 degrees of flexion and external rotation with right hip fixed in adduction and left hip in abduction., knees were fixed in 110 degrees of flexion with no movement possible. She come to us with expectations of having painless, mobile joints and able to walk again. As multiple joints were ankylosed in unacceptable position, no options left. SURGICAL CHALLENGES: We faces the challenges in Positioning,Proper placement of incision, exposure,Osteotomy of neck ,Acetabulum preparation, Deformities correction & soft tissue balancing,Difficult/Tight reduction for hips.In knees Medial parapatellar approach was used, patella was found fused to the underlying femur condyles.Synovectomy was done, lateral and medial gutters were cleared and quadriceps was mobilized too, but patella could not be everted. DISCUSSION: A young patient with deformed major joints of the body does not suffer just physically but mentally as well. Our case is unique because we replaced 4 joints fixed in gross flexion, successfully within a span of 2weeks and the patient was able to walk within 4weeks after being bedridden for 25 years. CONCLUSION: The functional outcome after THA for hip ankylosis and after TKA for knee ankylosis has been reported to be encouraging.

Abstract no.: 46543

OLD UNREDUCED TOTAL HIP ARTHROPLASTY, TREATMENT AND RESULTS

Dariush GOURAN SAVADKOOHI[1], Babak SIAVASHI[2]
[1]tehran university of medical sciences, sina hospital, TEHERAN (IRAN),
[2]tehran university of medical sciences, sina hospitl, joint reconstruction research center, tehran (IRAN)

In developed countries, there is easy access to health care services but in developing countries some times it is very difficult for patient to get advanced medical care. It is possible to see some unreduced total hip arthroplasties in these countries. It can be happened because of the future of patients or difficulty in getting access to high quality specialists.From 2005 to 2017 there are 16 cases of total hip arthrpolaties which after dislocation had not been reduced and are neglected by patients and their families. They are treated by revision surgery after recognition of the potential cause of dislocation. In 3 cases both components were revised and in 2 cases only stem was revised and in 11 cases, acetabular components were revised. 10 cases were managed with constrained liner and one with dual mobility cup and in remaining 5 cases , usual cups were used. In all cases Harris Hip Score and leg length discrepancy were improved dramatically.

Abstract no.: 46546

EFFECT OF SMALL INTERFERING RNA-MEDIATED SUPPRESSION OF FAS ON APOPTOSIS AND PROLIFERATION OF RAT INTERVERTEBRAL DISC CELLS

Jong-Beom PARK
The Catholic University of Korea, Kyunggi-do (SOUTH KOREA)

Intorudciton: We investigated the effect of small interfering RNA (siRNA) on Fas expression, apoptosis, and proliferation in rat disc cells treated with serum deprivation. Methods: Rat disc cells were isolated, cultured, and placed in either 10% (normal control) or 0% (apoptosis-promoting condition) fetal bovine serum (FBS) for 48 hours. The expression of Fas, apoptosis, and proliferation of the cells were determined. To suppress Fas expression, siRNA against Fas (Fas siRNA) was synthesized and transfected into the cells using oligonucleotides. The suppression of Fas expression was investigated by reverse transcription-polymerase chain reaction. The degree of Fas suppression was semiquantitatively analyzed using densitometry. The effect of Fas siRNA on apoptosis and proliferation of the cells was determined. Negative siRNA and MOCK (transfection agent alone) were used as control. Results: Serum deprivation increased apoptosis by 40.3% and decreased proliferation by 45.3% in disc cells (both, $p < 0.001$), and upregulated Fas expression. Fas siRNA suppressed Fas expression in 0% FBS. The rate of suppression by Fas siRNA was 68.5% at the mRNA level ($p < 0.001$). Suppression of Fas expression by siRNA significantly inhibited apoptosis by 9.3% and increased proliferation by 21% in 0% FBS (both, $p < 0.05$). Conclusions: This dual positive effect of Fas siRNA might be a powerful therapeutic approach for disc degeneration by suppression of harmful gene expression.

Abstract no.: 46550

AN ATYPICAL CASE OF COMBINED RUPTURE OF PATELLAR TENDON, ANTERIOR CRUCIATE LIGAMENT, MEDIAL COLLATERAL LIGAMENT AND LATERAL MENISCUS MANAGED OPERATIVELY

Jagandeep VIRK[1], Naveen MITTAL[1], Ankush JINDAL[2]
[1]GMCH SECTOR 32 CHANDIGARH, MOHALI (INDIA), [2]global hospital, bathinda, punjab (INDIA)

Simultaneous rupture of the patellar tendon (PT), anterior cruciate ligament (ACL), (medial collateral ligament) MCL and lateral meniscus (LM) is a relatively rare injury. In such combined injuries, there is a strong possibility of misdiagnosis of one of the lesions. In addition, because of their rare occurrence, a definite treatment protocol has not yet been established. We present a case of a 60 year old male with a road side accident presenting with simultaneous PT, ACL, MCL and LM injury. We managed the patient by repairing the patellar tendon with ethibond no.5 sutures by krackow suture technique, protected with stainless steel wire and the medial collateral ligament was also repaired with ethibond no.5 sutures. The anterior cruciate ligament was not repaired as the limited literature has shown high incidence of arthrofibrosis. We were able to achieve full extension at 3 months. In conclusion we want to highlight the rarity of such injuries favouring the immediate repair of patellar tendon and delayed repair of anterior cruciate ligament for achieving optimal results.

Abstract no.: 46552

ISOLATED OSTEOMYELITIS OF FIBULA IN A CHILD: A CASE REPORT AND REVIEW OF LITERATURE

Jagandeep VIRK[1], Jagdeep SINGH[2], Anoop KALIA[2], Kavin KHATRI[2]
[1]GMCH SECTOR 32 CHANDIGARH, MOHALI (INDIA), [2]GGSMC, Faridkot (INDIA)

Osteomyelitis is one of the oldest diseases known to mankind. Hematogenous osteomyelitis is common in the metaphysis of long bones like tibia and femur. Isolated osteomyelitis of fibula is uncommon and has rarely been reported. We present a case of an eight years old male child who came to our institute with a discharging sinus and granulation tissue over the lateral aspect of distal part of his leg. He had a history of trauma 8 months back and had an open wound at the site of injury. We offered the child sequestrectomy along with debridement and excision of the sinus tract followed by a course of intravenous and oral antibiotics. At 12 months follow-up, the patient was completely symptom-free and ambulating with full weight- bearing on the affected leg. After an extensive search of the literature, we found that only 2 such cases have been reported and that too from the Indian subcontinent itself. Our case report describes a third such rare case of isolated osteomyelitis of fibula in a child which occurred secondary to trauma and highlights the importance of a multi-disciplinary approach to deal with osteomyelitis in such cases.

Abstract no.: 46554

TOTAL KNEE REPLACEMENT WITH TIBIAL TUBERCLE OSTEOTOMY

Wael A. M. NASSAR[1], Ahmed Salem EID[2]
[1]Ainshams university, Cairo (EGYPT), [2]Ainshams university, cairo (EGYPT)

Total knee arthroplasty (TKA) is a well-proven modality that can provide pain relief and restore mobility for rheumatoid arthritis (RA) patients with advanced joint destruction. Patellar ligament avulsion, especially in presence of poor bone quality and knee stiffness, is one of the special considerations that must be addressed in this unique population of patients. This study aimed to determine the functional results in a series of rheumatoid patients with stiff knee and end-stage joint destruction who underwent tibial tubercle osteotomy during TKA. Methods Twenty-three knees in 20 patients (16 women; four men) at a mean age of 54 years with end-stage arthritis and knee stiffness due to RA were operated upon for TKA using tibial tubercle osteotomy as a step during the operation. Patients were reviewed clinically and radiographically with a minimum follow-up of two years. Complications were noted. Hospital for Special Surgery (HSS) score was recorded preoperatively and at six and 12 months postoperatively. Results Union occurred at the osteotomy site in 21 of 23 cases. There was no infection or periprosthetic fracture, and at last followup, no patient required revision. HSS score improved from 46 (15–60) pre-operatively to 85 (71–96) post-operatively. Conclusion Tibial tubercle osteotomy during TKA in patients with RA and stiff knee is technically demanding yet proved to be effective in improving post-operative range of movement and minimising the complication of patellar ligament avulsion.

Abstract no.: 46561

RADIOLOGICAL OUTCOMES OF A 2HOLED DHS IN INTRACAPSULAR FRACTURE NECK OF FEMUR

Syed Suhaib JAMEEL[1], Subodh SRIVASTAVA[2], Kalana RATHNAYAKE[2], Martinique VELLA BALDACCHINO[2]

[1]DUMFRIES &gALLWOAY ROYAL INFIRMARY, DUMFRIES (UNITED KINGDOM), [2]DUMFRIES AND GALLOWAY ROYAL INFIRMARY, DUMFRIES (UNITED KINGDOM)

Title: Radiological Outcomes of a 2holed DHS in Intracapsular fracture neck of femur Introduction: Fractures of the hip have been described as an orthopaedic epidemic.The debate for Hemiarthoplasty versus internal fixation still continues. The femoral head has a precarious blood supply and the lack of periosteal layer plus the anticoagulation effect of the synovial fluid within the joint predisposes it to non union and its associated complications. Aim: To asses radiological outcomes of 2 holed DHS in intracapsular fracture neck of femur at the end of 18 month follow up to assess how many had complications or were converted to arthroplasty. Materials and Methods: We evaluated 30 patients in our study between 2013- 2016 who had intracapsular fracture neck of femur and were fixed with a 2 holed DHS. Patients were divided as per the Gardens classification into stable and unstable fractures. This is further sub classified into age patients who were 65 or more. Radiological analysis was done at 6 months, 1 year and 18 months follow up. Results: At the end of 18 month follow up we had 1 patient with a cut out and another patient died due to other co-morbidities. Results: Our methodology was compliant with the S.I.G.N. and N.I.C.E. guidelines and overall we had a 5 % complication rate. The 2 holed DHS could be considered for an intracapsular fracture of the hip as it would salvage the natural head and the arthroplasty could always be a last bail out option.

Abstract no.: 46565

REFRACTORY PERIPROSTHETIC HIP ARTHROPLASTY INFECTION , RISK FACTOR EVALUATION AND TREATMENT WITH DIRECT LOCAL ANTIBIOTIC INJECTION, AN EXPERIMENTAL STUDY

Dariush GOURAN SAVADKOOHI[1], Babak SIAVASHI[2], Ehsan PENDAR[3], Arash AALIREZAEI[3]

[1]tehran university of medical sciences, sina hospital, TEHERAN (IRAN), [2]tehran university of medical sciences, sina hospitl, joint reconstruction research center, tehran (IRAN), [3]tehran university of medical sciences, sina hospital, tehran (IRAN)

In some cases of periprosthetic joint infection, despite debridement and prosthesis removal and insertion of antibiotic impregnated cement spacer, infection does not resolves in the first stage .In this study, we try to eradicate infection in these refractory cases with local injection of antibiotics besides intravenous antibiotic therapy after second debridement and spacer removal.Inclusion criteria were 1- late periprosthetic hip arthroplasty infection(after 6 weeks of first hip arthroplasty) candidate for two stage treatment of PJI 2- clinically stable patients who can tolerate operations In these cases, the second procedure was changed. After complete debridement and implant removal new cement impragnated spacer was not inserted. Instead, a large drain pipe was inserted deep in the wound . Intravenous antibiotics were started in usual manner but extra antibiotics (half of the intravenous dose)were injected through drain directly in the depth of wound. Duration of antibiotic therapy was 6 weeks. If infection had been resolved (clinically and paraclinically) , the second stage (re implantation of prosthesis) was done. Follow up visits were continued monthly for 6 months and then every year. From 2005 to 2014 , 2446 hip arthroplasties had been performed in our Hospital. Infected cases were studied . There were 46 cases of infection considered to be appropriate for two stage total hip arthroplasty. There were 14 cases (30%) which were refractory to first stage of treatment.

Abstract no.: 46566

CEMENTED LINER IN CEMENTLESS CUP, INDICATIONS AND RESULTS

Dariush GOURAN SAVADKOOHI[1], Babak SIAVASHI[2]
[1]tehran university of medical sciences, sina hospital, TEHERAN (IRAN),
[2]tehran university of medical sciences, sina hospitl, joint reconstruction research center, tehran (IRAN)

In some situations, an orthopedic surgeon may be forced to use unusual combinations of liners and metal shells. .Materials and methods:Results:14 of 82 cases (16.5%) of revision total hip arthroplasties had cemented polyethylene liner in cementless shell. The most common cause of revision was osteolysis (64%). The most common cause of using this combination was impaired locking mechanism (65%). There were few complications (one osteolysis and one infection). In five cases (36%) constrained liner were used and in ten cases(72%) allograft were needed. The final Harris Hip scores were mostly good or excellent (78%). Only one dislocation was seen.Discussion: If we decide to remove the well fixed cup, this may cause iatrogenic bone loss 13,19 of acetabulum and make further reconstruction more difficult. Also, if older liners which were not highly cross linked 20 and cause severe and early osteolysis behind cup but either locking mechanism is not re usable 16,21 or the older cementless cup design has no highly cross linked polyethylene liner , in this situation also ,for preserving acetabular bone stock and retaining the well fixed cup, cemented polyethylene liner can be used with cement in the metal shell.Conclusion:It seems that if it is necessary to use this non ordinary combination of cemented cup in cementless shell, there is no significant problems and complications. It means it is not necessary to remove well fixed acetabular metal shell and make new bone loss because of lack of proper size of constrained liner or damage to locking mechanism.

Abstract no.: 46567

FEMORAL ISCHAEMIA AFTER PERCUTANEOUS CERCLAGE

Matthieu EHLINGER[1], Lucas NIGLIS[2], Henri FAVREAU[3], Adrien D'AMBROSIO[3], Philippe ADAM[3], Francois BONNOMET[3]
[1]CHU strasbourg, strasbourg (FRANCE), [2]CHU Strasbourg, strasbourg (FRANCE), [3]chu strasbourg, strasbourg (FRANCE)

Introduction : The cerclage wire is an efficient osteosynthesis technic. Its mechanical role is counterbalanced by a ischaemia effect on the periosteum. In case of a periprosthetic fracture, femoral stem filling can be avoided by using a cerclage wire. Through this technique, the stability of the osteosynthesis increases. As all the surgery, the cerclage wire technic evolves in a percutaneously. Case report : we reported the case of a femoral ischaemia after percutaneous cerclage wire in a femoral periprosthetic fracture. The fracture was a type B1 according to the Vancouver classification. Three days after the admission a osteosynthesis with a locking plate and five cerclages wires in minimal invasive surgery was carried out. Immediately after surgery, the patient presented an ischaemia of the operated lower limb requiring vascular surgery after a CT-angio confirmation. There was a deviation of the superficial femoral artery with a flow stop, but the artery wasn't strangled by the cerclage wire. The tissue was pulled by the cerclage against the femur, thus causing the kinking of the artery due to the loss of elasticity secondary to atheriosclerosis. Then, the patient presented a multi-visceral failure and died two days after surgery. Conclusion : The minimal-invasive surgery is useful but has risks. The presence of an important atheriosclerosis calls for prudence, due to loss of elasticity of the different soft tissue. Prevention relies on bone preparation and care during installation on the traction table, avoiding forced adduction. Finally, alternative techniques to cerclage wire should be considered.

Abstract no.: 46575

ENDOSCOPIC RELEASE OF GLUTEAL MUSCLE CONTRACTURE (GMC) WITH F & C CONTRACTURE RELEASE METHOD.

Saroj RAI[1], Hong WANG[1], Chunqing MENG[1], Shengyang JIN[1], Xianzhe LIU[1], Xiaohong WANG[1], Shuhua YANG[1], Nira TAMANG[2], Wei HUANG[1], Zengwu SHAO[1]

[1]Department of Orthopedics, Union Hospital of Tongji Medical College, Huazhong University of Science and Technology, Wuhan (CHINA), [2]School of Nursing, Tongji Medical College, Huazhong University of Science and Technology, Wuhan (CHINA)

Objective: To introduce endoscopic F and C release technique of GMC and evaluate its effectiveness. Methods: From June 2012 to May 2014, total of 102 (M44, F58) GMC cases treated endoscopically. Mean age was 15.3 years. 91 had bilateral GMC. Zhao classification of GMC showed 26 mild; 63 moderate; and 13 severe cases. Technique: Anatomical landmarks were marked. 2 or 3 portals technique was applied in lateral position. Division of contracture using a plasma knife was then performed using F and C shape. Initially, division of the ITB was started from the centre of GT and continued superiorly up to about 10 cm longitudinally. Then, plasma knife was faced anteriorly to divide contractures of TFL, and continued up to ASIS. Gluteus maximus contractures were then divided transversely from 1 cm below superior pole of GT until silvery white bands of contractures were visible, which completed the F shaped release of GMC. The instruments were then advanced deeper to visualize contractures of deeper structures, and were divided around the GT in C shape. Eventually, complete division of contracture was assessed meticulously. Results: In mean 2.8 years follow-up, 99 had excellent and 2 had good outcome. 1 patient with severe disease recurred, but refused second surgery as he could perform all ADL. 3 had post-operative hematomas, 2 had positive trendelenburg gait but relieved within 6 months. None other complications occurred. Conclusion: Endoscopic release of contracture band with ‘F’ and ‘C’ release is safe and effective with negligible amount of known complications.

Abstract no.: 46580

PREEMPTIVE ETORICOXIB SUPERIORITY IN TREATING PAIN AFTER TOTAL HIP REPLACEMENT

Sergejs ZADOROZNIJS[1], Deniss VALTERS[2], Iveta GOLUBOVSKA[1]
[1]Hospital of Traumatology and Orthopaedics / University of Latvia, Riga (LATVIA), [2]University of Latvia, Riga (LATVIA)

Pain after total hip replacement (THR) is acute and nociceptive. Etoricoxib selectively inhibits the COX2, which results in reduced formation of prostaglandins from arachidonic acid. Thus the stimulation of nociceptors is decreased, leading to a reduced sense of pain. Our aim was to prove the superiority of preemptive versus postoperative Etoricoxib in the treatment of pain after THR. Prospective randomized study was conducted in our institution. Patients aged 18-80 years with the diagnosis of hip osteoarthritis, coming for the elective THR, were included. Patients were divided in two groups: AP group received Etoricoxib 90 mg two hours before THR, PA – one hour after. Pain in both groups was controlled by Paracetamol, Etoricoxib and Morphine as rescue analgesic. Pain NRS at rest and on walking, quality of sleep and satisfaction with pain relief were assessed before and after THR. In total 25 patients in each group were enrolled. Mean age – 59.7 years (range 33-79). Pain at rest was less in AP group in the first postoperative day ($p=0.018$). Pain at walk appeared to be less in AP group in the 3rd and 4th postoperative days ($p<0.05$). Mean morphine consumption in AP group was 13.6 mg versus 20.9 mg in PA group ($p=0.016$). Satisfaction with pain relief and sleep quality was better in AP group. Preemptive etoricoxib better reduces pain and morphine consumption after THR. Patient satisfaction with pain relief and quality of sleep are better when receiving etoricoxib before surgery.

Abstract no.: 46583

TIBIAL TUBEROSITY AVULSION FRACTURES WITH INTRA-ARTICULAR EXTENSION (TYPE III) – AN UNUSUAL ADOLESCENT INJURY

Syed Suhaib JAMEEL[1], Sandeep SHEWALE[2], Kalana RATHNAYAKE[1]
[1]DUMFRIES AND GALLOWAY ROYAL INFIRMARY, DUMFRIES (UNITED KINGDOM), [2]DUMFRIES AND GALLOWAY ROYAL INFRIMARY, DUMFRIES (UNITED KINGDOM)

Introduction: Avulsion fracture of the tibial tubercle is a relatively uncommon injury, literature reports an occurrence of approximately 0.4% to 2.7%. Adolescent males approaching skeletal maturity and active in sports are more susceptible. The well developed quadriceps musculature contributes to the enormous force that can lead to an avulsion fracture. Materials & Methods: We present a 14 year old boy who visited the A&E after sustaining a twisting injury to his left knee while playing football. There was no history of direct trauma. Clinical examination revealed extensive bruising around the knee and lack of straight leg despite eliminating gravity. An urgent MRI was done which showed a tibial tuberosity avulsion fracture with extension into the tibial plateau. He underwent an open reduction and internal fixation next day and immobilized in a cylindrical cast for 4 weeks. Rehab was progressed form to touch weight bearing to full weight over a period of 6 weeks. Conclusion: Adolescent tibial tuberosity fractures are not very common, a strong index of clinical suspicion and higher imaging in the form of MRI would certainly aid in such diagnoses, especially of fractures that extend into the joint, which can normally be missed. An early diagnosis, timely intervention and rehab of such fractures extending into the joint can improve the long term outcomes in the adolescent group.

Abstract no.: 46585

OUR PROPHYLAXIS STRATEGY (INCLUDING CONVENTIONAL-SCRUB AND WATERLESS SURGICAL-HAND-ANTISEPSIS METHODS) ACHIEVED 0% EARLY PROSTHETIC JOINT INFECTION AFTER TOTAL HIP ARTHROPLASTY - A RETROSPECTIVE COHORT STUDY -

Hideo ONISHI[1], Manabu TSUKAMOTO[2], Toshiharu MORI[2], Daisuke IKEI[3], Daishi HAMADA[3], Satoshi OKABE[4], Fumitaka HIRANO[1], Teppei MURAI[1], Masahisa HATAKEYAMA[1], Michiharu HARA[1], Shuichi KAMEGAWA[1]
[1]Moji Medical Center, Kitakyushu (JAPAN), [2]University of Occupational and Environmental Health, Kitakyushu (JAPAN), [3]Kitakyushu Municipal Yahata Hospital, Kitakyushu (JAPAN), [4]Niigata Rosai Hospital, Joetsu (JAPAN)

Purpose: The purpose of this study was to compare two different hand-antisepsis methods, namely conventional-scrub versus waterless, regarding our prophylactic system for prosthetic joint infection (PJI) after cementless total hip arthroplasty (THA). Methods: We evaluated 506 THAs using identical perioperative prophylactic system, except hand-antisepsis, by one surgeon in two institutes; 293 THAs (20 revisions) performed with conventional-scrub between Oct. 2007 and Mar. 2013 in one hospital, and 213 THAs (20 revisions) performed with waterless between Apr. 2013 and Dec. 2016 in the other hospital. Our prophylaxis strategy is as follows. The patient takes a shower just before entering operating room. Wipe surgical site leg twice with gauze impregnated by 0.5% chlorhexidine alchohol just before disinfecting surgeon's hands. Medicate cefcapene pivoxil orally the day before surgery. Administer antibiotics (CEZ) starting 30 minutes before surgery and every 3 hours after incision for prolonged surgical time (>3 hours). Utilize pulse-washer (mean 5000ml). After surgery, CEZ was administered 8-hour interval on the day of surgery and 12-hour interval for the following 48 hours. Waterless method is as follows: first, we wash from hand to middle part of upper arm using non-antibacterial soap and tap water, and dry hands and arms using non-sterile paper towel; second, we rub from hand to forearm using 0.5% chlorhexidine 80% alcohol and let it dry completely. Results: Both groups demonstrated 0% PJI incidence in early period. Conclusion: Our prophylaxis system revealed its outstanding effectiveness for PJI regardless of conventional-scrub or waterless surgical-hand-antisepsis method.

Abstract no.: 46588

MANAGING DYSPLASIA IN DEVELOPMENTAL HIP DYSPLASIA ,NEGLECTED TRAUMA AND SEQUELAE SEPTIC ARTHRITIS

Mrinal SHARMA
BLK superspeciality hospital,New Delhi, Noida (INDIA)

Hip Dysplasia resulting from development,neglected trauma or sequelae septic arthritis hip may lead to extreme morbidity and painful hips in adolescence. Surgical difficulties mainly are acetabular dysplasia, high hip centre, decreased neck shaft angle with increasing dysplasia, excessive femoral neck anteversion , a short femoral neck, narrow femoral canals, a high riding trochanter, soft tissue contractures and bony deformities of the femur, either due to previous surgery or disease sequelae. 22 patients (age 17-46 years,mean 29 years) having painful or unstable hips were operated between 2014-2016 in our centre.females(n=17) male(n=5). Development dysplasia (n=11),Neglected childhood trauma to hip (n=6) and sequelae of old septic arthritis to the hip (n=5) was the cause of painful arthritis . Hartofilakidis classification to assess the dysplasia as low(n=4),high(n=2) and dysplastic(n=16). average follow-up was yrs(range 2-) yrs. Harris hip scores improved from 47.5 to 92 points. There was hip dislocations (n=1), heterotrophic ossification(n=0), sciatic nerve palsy(n=1), infection(n=1),aseptic revisions(n=0) . Acetabular cup was placed at a high hip center in three cases. Average femoral shortening needed was 3.2 cm (range 2-4.5cm) . Average leg length discrepancy was 4.5cm(2.5-6cm) pre-operatively & av 1.2 cm (0.5cm -3cm) post-operatively.Good results can be achieved with Hip arthroplasty using standard implants in dysplasia but high dislocations may require special implants, femoral osteotomy and shortening. The risk of complications can be negated using meticulous technique,proper planning and implant choice.

Abstract no.: 46591

THE DIFFERENCES BETWEEN DHS WITH TROCHANTERIC STABILIZING PLATE AND PROXIMAL FEMORAL NAILING IN UNSTABLE TROCHANTERIC FRACTURES

Alaa El-Din EL-ZOHEIRY
Seuz Canal University, CAIRO (EGYPT)

Background:The rationale of intramedullary as opposed to extramedullary fixation, causes of failure concerning reduction and placement of implant, goal of treatment, role of lesser trochanter must be clear. Intracapsular types determined by Biology (osteonecrosis, nonunion, arthritis). Extracapsular determined by Mechanics (varus deformation, malunion, medialization). Low energy injury in elderly patients, high energy injury in younger patients. AO Classification types: (31A.1) Stable, but types (31A.2, 31 A.3) unstable. Patients and Methods: This prospective study was treated in Seuz Canal University Hospitals from January 2013 to January 2016 on fifty patients with unstable Trochanteric fractures aged 55 to 80 years old, the implants used for operative treatment : 25 patients treated by DHS with Trochanrteric Stabilizing Plate (DHS alone in unstable types will lead to varus deformation, rotation, medialization of the shaft) and 25 patients by Proximal Femoral Nail. In a “stable” fracture (31-A1) any (dynamic) device, extramedullary or intramedullary will serve well. Results: Complete union in all cases with no infections or other complications. Extramedullary fixation lead to nearly anatomical reconstruction but less strong implant , Semi-open procedure and partial weight bearing post operatively. Intramedullary lead to nonanatomical reconstruction but more strong implant , semi-closed procedure (biological) and direct full weight bearing . Conclusion: Proximal femoral nailing versus DHS with Trochanrteric Stabilizing Plate in tratment of unstable Trochanteric fractures has no difference in the reasult .Type 31-A1 (stable) fracture use any sliding device. Types 31-A2 and 31-A3 (unstable) fractures use Intramedullary device or sliding hip screw with a lateral support device.

Abstract no.: 46599

RANDOMISED CONTROLL TRAIL COMPARING THE RADIOLOGICAL AND FUNCTIONAL OUTCOMES IN KNEES IMPLANTED WITH PS150 VS ATTUNE.

Mrinal SHARMA
BLK superspeciality hospital,New Delhi, Noida (INDIA)

A RCT was conducted comparing the radiological and functional outcome after TKA using PS 150 and Attune implants at min 2 years follow-up.30 TKA(20 patients) were randomised and matched for age, deformity and implanted using PS150 and Attune implants.20 males and 10 females.Standard medial parapatellar approach, same surgeon under CSE. Patients were followed for a minimum of 2 years(range 2-3.5). The radiographs were evaluated for alignment,offset,placement and loosening. The patients were evaluated for range ,KSS clinical and functional scores and Patient assisted questionnaire. The alignment was within the 3 degree range in all except one case. no aseptic loosening seen at 2 years in any group. ROM was better in patients with PS150 implants with a mean of 140 degrees(range 120-148) as compared to attune mean 128 degree(range 110-136 degree).Patellofemoral crepitation was more in the PS 150 group(rotating platform) 22% as compared to that in attune(fixed bearing)12%.Incidence of painful crepitation was comparable in both groups(3% in PS150 vs 4% in Attune).The clinical scores improved from 47.5 to 92(PS150) as compared to 52 to 90(Attune).The functional score improved from 37 to 88(PS150) vs 40-94 postoperatively(Attune).The patients were more satisfied in the attune group.Both groups improved significantly,the incidence of painless crepitation was more in the PS150 group. The range of motion was more in the PS150 group but the functional scores and patient satisfaction was better in the attune group .Both implants had demonstrated clinical longevity but attune clearly has an edge over PS150 in terms of functional outcome.

Abstract no.: 46600

OSTEOID OSTEOMA OF FEMUR !! A MISLEADING RADIOLOGICAL PICTURE

Syed Suhaib JAMEEL[1], Shiva KUMAR[2]
[1]DUMFRIES AND GALLOWAY ROYAL INFIRMARY, DUMFRIES (UNITED KINGDOM), [2]MANIPAL HOSPITAL, BANGALORE (INDIA)

Introduction: Osteoid osteomas are benign bone tumours that are commonly seen in the long bones. They are known to cause pain and discomfort, particularly at night and respond well to salicylates. They are local and rarely aggressive. They have a male prelidiction and are normally seen in adolescents and young adults. Materials & Methods: We present a case of a 32 year old lady with history of pain and tightness in the right thigh for 3 months. There was no history of recent trauma in the past. The pain was present at all times and not responding to analgesia. Initial imaging done revealed a picture similar to an osteosarcoma with a classical sunburst appearance and Codmans triangle. Scanning showed increased uptake in all the phases. An MRI was done which revealed an osteolytic lesion with an appearance similar to a central nidus. Patient was taken up for an open biopsy and intra-operatively the bone was scalloped at the site of lesion and had a classical 2cm bone defect with a blood tinged gel like material in the centre. The lesion was thoroughly curetted and H.P.E was fortunately revealed an osteoid osteoma. Conclusion:Osteoid osteoma can present with typical night pains and can cause grief to the patient. Initial picture may not necessarily reveal the typical nidus. This should warrant various other differential diagnoses like Brodies abcess, osteoclastoma , cortical desmoid, stress fracture and lastly osteosarcoma. Ultimate diagnosis would be a biopsy which would lay down the further plan of management.

Abstract no.: 46601

OPTIMAL PLACEMENT OF FIXED ANGLED BASEPLATE SCREWS IN REVERSE SHOULDER ARTHROPLASTY: THE ANALYSIS OF TWENTY – TWO CADAVERIC SHOULDERS

Joonyub KIM
Myongji Hospital Seonam University College of Medicine, Goyang-Si, Gyeonggi-do (SOUTH KOREA)

Background: The fixed angled baseplate might have disadvantage to get maximal length of screws, but it seemed to be more easy to use in any surgeon compared to variable angled baseplate. The aim of this study was to evaluate the optimal rotation of fixed angled baseplate to acquire the maximal length of screw without suprascapular nerve(SSN) injury. Methods: Twenty two cadaveric shoulders were dissected in this study. Twenty six mm sized baseplate (RSP®, DJO) was positioned at the center of glenoid. After the making holes by a drillbit at each location of hour hand, the maximum vertical depths and depth to injure the SSN were measured. We postulated three different positions of the baseplate for screw fixation which were position with 1-4-7-10 o'clock position (Position A), 2-5-8-11 o'clock position (Position B) and 3-6-9-12 o'clock position (Position C, the traditional position) and compared the total length of screws. We also identified the location of the SSN injury and distance to SSN. Results: The position B was superior to the position A with the difference of mean 2.7 mm of total screw length (p=0.007), however no statistical difference was existed between the position C and others . The SSN was be in contact to the drillbit from the 7 to 11 o'clock locations. The shortest distance to SSN was measured at 9 o'clock location (mean 15.8mm (SD 3.1), p=0.503). Conclusion: We recommend position B during the fixed angled baseplate fixation during reverse shoulder arthroplasty considering the total screw length and SSN injury.

Abstract no.: 46602

ISOLATED NEUROFIBROMA OF ULNAR NERVE

Syed Suhaib JAMEEL[1], Sandeep GOUD[2], Hemant KALYAN[3]
[1]DUMFRIES AND GALLOWAY ROYAL INFIRMARY, DUMFRIES (UNITED KINGDOM), [2]MGM UNIVERSITY, BAHAMAS (BAHAMAS), [3]MANIPAL HOSPITAL, BANGALORE (INDIA)

Introduction: Neurofibromatosis type 1 (NF1) is a commonly inherited disorder that affects roughly about 1 in 2500 to 1 in 3000 people worldwide. Such individuals are prone to develop benign and malignant tumours of the central and peripheral nervous system. Neurofibromas diffusely expand the involved nerve and encircle the surrounding axons. Materials & Methods: We present a case report of a 23 year old lady who had initial symptoms of numbness and altered sensation along the inner side of her left forearm and hand. On clinical examination she had mild hypothenar atrophy and decreased power in the interossie function and power grip. Tinnels sign was positive at the elbow. An initial diagnosis of cubital tunnel was made. NCV and ENMG showed decreased impulse velocity at the level of Elbow. MRI revealed a 2x3 cm nodular growth over the ulnar nerve at the level of elbow. Patient was taken up for surgery and the ulnar nerve as first isolated. Intra-operatively the growth was found to be sessile and extra neural. The tumour was excise enbloc under microscopic vision. No nerve fascicular discontinuity was seen. The epineurium was carefully repaired and the excised tumour sent for HPE was consistent with a neurofibroma. Conclusion: Neurofibromas once diagnosed could be a challenge to excise, especially when it arises from the interfascicular bundle. Sural nerve graft could be considered if the nerve defect is big after the tumor excisionn, as a last bail out option.

Abstract no.: 46603

TOTAL KNEE ARTHROPLASTY IN A LOW-INCOME COUNTRY

Simon GRAHAM[1], Nicholas HOWARD[2], Nicholas LUBEGA[3], Nyengo MKANDAWIRE[4], William J HARRISON[5]

[1]Groote Schuur Hospital, Cape Town, South Africa, - (SOUTH AFRICA), [2]Royal University Liverpool Hospital, Liverpool (UNITED KINGDOM), [3]BEIT CURE International Hospital, Blantyre, Malawi, Blantyre (MALAWI), [4]Queen Elizabeth Hospital, Blantyre Malawi, Blantyre (MALAWI), [5]Countess of Chester Hospital, Liverpool (UNITED KINGDOM)

Aim: We describe our experience of undertaking total knee arthroplasty (TKA) in a low-income country, Malawi, over a 10-year period. Patients and Methods: A total of 127 patients underwent 154 TKAs at BEIT CURE International Hospital, Malawi, with a mean length of follow up of 4 years and 3 months years. There were 98 female and 29 male patients, with a mean age of 65.31 years (24-84 years) Results: The primary indication for surgery was osteoarthritis (124) and the mean post-operative Oxford Knee Score (OKS) was 45.61 (29 to 48). There was one early periprosthetic joint infection (PJI), one aseptic loosening and two late PJIs, giving a revision rate of 2.2%. There were no perioperative deaths. Of the 9 HIV positive patients, none of the patients had any early (< 6 weeks) or late (> 6 weeks) complications and had a mean OKS of 47 (42-48). Conclusion: This study demonstrates good medium-term results for 154 primary TKAs performed in a low-income country. Take home message: Our 10-year experience and medium term outcome of primary TKA in a low-income setting are positive. This study sets a benchmark for what can be achieved in this context. We encourage other countries in our region to establish Joint Registries. Such Registries will support quality control enabling identification and support for outlying units, and by pooling data, conclusions about long-term outcomes may be derived earlier.

Abstract no.: 46606

MAGNETIC RESONANCE IMAGING AND ELECTRODIAGNOSTIC STUDIES IN CHRONIC LOW BACKACHE PATIENTS: A CORRELATION STUDY

Roop SINGH
Pt. B.D. Sharma PGIMS, ROHTAK-124001, INDIA, - (INDIA)

Introduction: Magnetic resonance imaging (MRI) and electrodiagnostic (EDX) studies are used to analyse the causes of low back pain (LBP). The aim of the present study was to correlate the electrophysiological and MRI findings in chronic low backache patients. Methods: Fifty patients (26 males & 24 females) with mean age 33.54±8.33 years with a history of low back pain (LBP) of minimum 3 consecutive months were evaluated with MRI and EDX [bilateral nerve conduction study of three nerves (tibial, peroneal and sural nerve) and bilateral EMG of three muscles (paraspinal, tibialis anterior, vastus medialis)] studies. Results: Twenty-seven patients showed disc involvement on MRI and 23 MRI were normal. Mean conduction velocity was mildly decreased in tibial and sural nerves in all the patients, either with normal MRI or disc involvement on MRI. In disc involvement conduction velocity decrease was more as compared to normal MRI. 39% patients with normal MRI and 78% patients with disc involvement showed abnormal EMG. This data represented statistically significant association of electrodiagnostic study with MRI ($p<0.05$). Conclusions: In patients with LBP, EDX studies are significantly more correlated with clinical data than MRI. Therefore, electromyography may be a useful diagnostic tool to establish management protocols and prevent unnecessary interventions. EDX gives a better representation of physiological status of nerve and muscle, a supra added benefit which MRI lacks. However, MRI gives better visualization of anatomic parameters and structural details which may or may not be associated with chronic LBP.

Abstract no.: 46607

IS FLUOROSCOPY RELIABLE IN PERCUTANEOUS MIS FIXATION TECHNIQUE? EVALUATION OF PERFORATION INDICES OF 100 PERCUTANEOUS PEDICLE SCREWS

Ankit PATEL, Vishal KUNDNANI
Bombay Hospital & Medical Research Centre, Mumbai (INDIA)

Study Design:Retrospective Aim:To evaluate the radiographic accuracy of fluoroscopy guided percutaneous technique for pedicle screw placement in MIS TLIF for lumbar spine. Methods:25 consecutive patients undergoing MIS-TLIF, with Fluoroscopy guided percutaneous inserted pedicle screws, were analysed with post-operative CT scan to assess accuracy of screw placement. 3D assessment was done to evaluate Grade of perforation (Gertzbein grading), Critical vs. Non critical Nature, Location, Neurological implications. Demographic, Clinical Parameters, Intra-operative events and outcome scores were assessed. Risk factors of perforation were evaluated. Results:Overall rate of screw perforation was 5%. 100 percutaneous screws in 25 consecutive patients formed the study cohort. 5% of the screws had perforation (M=2, L=3, I=0, S=0). (Gr1=5 Gr 2=0 Gr 3=0 Gr 4 =0) No critical perforation was noted. None of the patients with perforation developed any neurological implications. Surgical time = 145 mins, Blood loss mean =110 ml. Significant improvement was noted in Clinical (VAS 8/3), Functional (ODI = 58/28) parameters at final follow up. Lateral perforation and Non critical perforations (Gr 1) were more common. Risk factors, though not statistically significant, include Obese Patients with high BMI and Poor C arm Co-ordinates preoperatively. Conclusion: Fluoroscopy guided percutaneous insertion of cannulated pedicle screws in the lumbar spine with MIS is an acceptable and accurate procedure. While most Perforations are non-critical and lateral however Grade 2 and medial perforations are not uncommon. Fluoroscopy is a reliable source for percutaneous instrumentation in MIS procedures. Keywords:Critical perforation, Lumbar spine, Pedicle screws, minimally invasive surgery (MIS-TLIF)

Abstract no.: 46609

COMPARISON OF CLINICO-RADIOLOGICAL OUTCOMES OF NAVIGATION GUIDED MIS TLIF VERSUS NON-NAVIGATED FLUOROSCOPY ASSISTED MIS TLIF

Ankit PATEL, Vishal KUNDNANI
Bombay Hospital & Medical Research Centre, Mumbai (INDIA)

Poor reliability of fluoroscopy guided instrumentation and growing concerns about radiation exposure has led to innovation of navigation guided instrumentation techniques. Methods:58 patients underwent MIS-TLIF for symptomatic Lumbar spondylolisthesis. Navigation guided MIS-TLIF was done in 18 patients (L4-5/L5-S1=6/12) while conventional Fluoroscopy guided MIS-TLIF in 40 (L4-5/L5-S1=17/23). Demographics, Clinical parameters, intraoperative parameters, radiation exposure (Sec/mGy/Gy.cm2) were recorded. 15 patients each from Navigated and non-navigated group were randomly selected for CT scan at 6 months post-operative to assess the accuracy of screw placement, perforation incidence, location, and grade, neurological implications and fusion status. Resolution of symptoms was assessed by Odom's criteria. Results:Use of navigation resulted in reduced fluoroscopy usage [Dose area product-0.47 Gy.cm2 vs 2.93 Gy.cm2, Cumulative radiation exposure- 1.68mGy vs 10.97 mGy, Fluoroscopy time- 46.5 sec vs 119.08 sec] with p value<0.001. 15 patients of navigation group experienced less than half of the breach rate of the non-navigated group (3.33% vs 8.33%, P = 0.104). All grade I with 1 medial and 1 lateral in navigated group vs 4 grade I and 1 grade II; 3 lateral and 2 medial in non navigated group. None of the breaches resulted in a corresponding neurological deficit. All patient reported outcomes significantly improved after surgery and there were no significant differences in average postoperative VAS scores, Odom's grading and fusion status between treatment groups. Conclusion:Navigation-guided Pedicle screw insertion technique has added advantage of improved precision, better accuracy in intra-osseous placement with significantly reduced radiation exposure in MIS-TLIF. Keywords: MIS-TLIF, Navigation, Fluoroscopy, Radiation exposure

Abstract no.: 46611

MIGRATION OF BROKEN K-WIRE INTO POPLITEAL FOSSA: A CASE REPORT

Anubhav MALHOTRA[1], Archit LATAWA[2], Bhardwaj SUSHMA[2]
[1]Government Medical College Hospital, Chandigarh, Ludhiana (INDIA),
[2]Government Medical College Hospital, Chandigarh, Chandigarh (INDIA)

K wires are commonly used in orthopedics. Although considered a relatively safer implant, k wire breakage can occasionally occur. Migration of k wires to places distant from their primary site of use has been reported in literature. We report a case of patella fracture treated with tension band wiring (TBW), where after fracture healing, a broken k-wire migrated posteriorly into the popliteal fossa, causing restricted range of motion of knee joint. Surgery was done to remove all the hardware and intra-operatively, broken k wire was found to lie in close proximity to the popliteal vessels. The patient was fortunate to avoid any neurovascular insult because of the migrated wire. Retrospective analysis of patient's previous serial x-rays showed gradual backing out of k wire, suggesting loosening. Hence, any patient with a migrated wire, even if symptomless, should be counseled about the urgency of wire removal, especially in the vicinity of neurovascular bundle. AO principles should be routinely followed while insertion of k-wires to prevent such a complication.

Abstract no.: 46612

ISOLATED ANTERIOR DISLOCATION OF RADIAL HEAD IN AN ADULT WITH ATYPICAL PRESENTATION: A CASE REPORT

Anubhav MALHOTRA
Government Medical College Hospital, Chandigarh, Ludhiana (INDIA)

Isolated dislocation of radial head in an adult is an uncommon injury, hence can be easily missed. There are just over 20 cases reported in world literature with post-traumatic isolated radial head dislocation. Most of the cases reported earlier suffered from posterior dislocation of radial head. Only 5 cases of anterior radial head dislocation have been reported, with patients presenting to the hospital with restricted supination-pronation movements of forearm and maintained flexion-extension at the elbow joint. Closed reduction has been shown to be successful in most of the cases. We report a case of isolated anterior dislocation of radial head in an adult with atypical presentation, in the form of maintained supination-pronation movements but restricted flexion-extension at elbow joint. No such case has been reported earlier. Closed reduction was attempted but failed, due to presence of intra-capsular button-holing of the radial head. Hence, open reduction was performed. However, reduction was found to be unstable due to rupture of annular ligament. Hence, repair of the annular ligament was performed. A radio-ulnar k wire was passed to maintain reduction of proximal radio-ulnar joint, thus keeping the annular ligament stress-free and hence, facilitating its healing. At 12 months follow up, patient's range of motion was: 0-140 degrees of flexion-extension arc and 70 degrees of pronation and 85 degrees of supination. Patient has no limitation in performing daily activities and has returned to pre-injury Tegner's level of sports activity.

Abstract no.: 46615

OSTEOCLASTOMA (GIANT CELL TUMOR) OF DISTAL ULNA, A COMBINED APPROACH OF BONE SUBSTITUTES + GRAFT

Syed Suhaib JAMEEL[1], Kalyan HEMANT[2]
[1]DUMFRIES AND GALLOWAY ROYAL INFIRMARY, DUMFRIES (UNITED KINGDOM), [2]Manipal Hospital, Bangalore (INDIA)

Introduction:The term Osteoclastoma was first used by Stewart in the year 1922 in Great Britain. It usually presents itself after the fusion of epiphysis and is seen mostly < 35 years. It can be locally aggressive, but malignant transformation have been reported.Materials & Methods: We report a 30 year old female who was right hand dominant, presented c/o pain and swelling in her right wrist since 12 months. There was no history of trauma in the recent past. Swelling had progressively increased over the last 3 months. Imaging with both xrays/MRI, revealed an osteolytic lesion of the distal ulna which gave a soap bubble appearance with typical septae. There was no cortical breach and the lesion was extending from distal 1/3rd ulna till the styloid process. Patient underwent thorough curettage and complete removal of the tumour tissue without excising the distal ulna. Hollow defect was packed with autogenous iliac cortico-cancellous bone graft and bone graft substitute (Beta-Tricalcium Phosphate – chronOS® DePuySynthes). Histology was consistent with a Giant cell tumor. Patient returned to routine in 6 weeks and showed progressive radiological healing and no signs of reccurence over a 2 year follow up. Conclusion: Giant Cell tumors can have a vague presentation with typical radiological findings. A careful excision of the tumor and filling the gap defect with a mix of autogenous bone graft + bone substitutes could give promising results.

Abstract no.: 46617

CERCLAGE WIRING FIXATION WITH LOCKING PLATES FOR DISTAL FEMORAL FRACTURE: IS IT APPROPRIATE?

Suchyun KWEON[1], Sunghyun LEE[2], Sunghyun NO[3], Jinsung PARK[3]
[1]Wonkwang Universtity Hospital, Iksan (SOUTH KOREA), [2]wonkwang university hospital, Iksan (SOUTH KOREA), [3]wonkwang universtity hospital, Iksan (SOUTH KOREA)

Background: We aimed to evaluate the clinical and radiological results between distal femoral fractures using locking plates with or without cerclage wiring.Methods: Eighty-one patients who received open reduction and plate fixation for distal femoral fractures. The average age was 63.6 ± 16.7 (15-91) years. Thirty-six patients (Group A) received cerclage wiring and 45 patients (Group B) did not. Each group was retrospectively analyzed through evaluation of demographic, clinical, and radiologic factors. We assessed joint range of motion (ROM), Lysholm knee score, visual analogue scale (VAS) score, and complications. We also evaluated the duration of bone union. Results: There were no demographic differences between the two groups. In Group A, the mean joint ROM was 109.3 ± 14.4°, Lysholm knee score 84.6 ± 7.2, VAS score 1.7 ± 0.3, 17 cases (47%) had a homograft during surgery, and the average time of bone union was 4.7 ± 3.0 months, with four cases of delayed union, two of malunion, and one of nonunion. In Group B, the mean joint ROM was 102.2 ± 18.5°, Lysholm knee score 82.4 ± 6.9, VAS score 1.5 ± 0.2, 14 cases (31%) had a homograft during surgery, and the average time of bone union was 5.1 ± 2.3 months, with one case of delayed union and two of nonunion. There were no statistically significant differences between the groups. Conclusions: Locking plates with additional cerclage wiring fixation is a useful method for the reduction of complicated distal femoral fractures, without increased complications such as nonunion.

Abstract no.: 46618

RADIOLOGIC ASSESSMENT OF POSTOPERATIVE STABILITY IN UNSTABLE INTERTROCHANTERIC FRACTURE USING LATERAL RADIOGRAPH

Suchyun KWEON, Sunghyun NOH, Sunghyun LEE, Sangsu HAN, Jinsung PARK

wonkwang university hospital, Iksan (SOUTH KOREA)

Purpose: The purpose of this study was to compare the sliding distance of lag screw in patients with unstable femoral intertrochanteric fractures treated using a cephalomedullary nail with a fixed angle between the neck and shaft of the femur in relation to reduction type by lateral radiographs. Materials and methods: Between January 2009 to October 2013, 86 cases (86 patients) with unstable femoral intertrochanteric fractures were treated with cephalomedullary nail and followed for at least 6 months. We used AO/OTA classification. Twenty cases were 31-A22, 54 cases were 31-A23, and 12 cases were 31-A3. There were 30 men and 56 women. Average patient age was 73.7 years (range, 47-97 years). We classified reduction types into three groups as postoperative lateral radiologic findings. Group 1 showed no displacement, group 2 showed anterior displacement of the femur neck, and group 3 showed posterior displacement of the femur neck. The radiologic assessment compared the sliding distance of the lag screw between postoperative X-ray and last follow-up X-ray. Results: Forty-two cases were in group 1, 22 cases were in group 2, and the other 22 case were in group 3. There was no significant difference in the patient characteristics of each group. The sliding distaqnce of the lag screw were 4.9±3.2mm, 4.6±3.6mm, and 8.5±4.9mm, respectively, and group 3 showed a significant result ($p<0.0001$, $p=0.024$). Conclusion: In cases treated with cephalomedullary nail with a fixed neck-shaft angle, appropriate reduction with a lateral radiograph before screw fixation is needed to prevent excessive lag screw sliding.

Abstract no.: 46619

OSTEOINTEGRATION OF CUSTOMIZED IMPLANTS IN TUBULAR BONE IN ILIZAROV EXTERNAL FIXATION (EXPERIMENTAL STUDY)

Alexander GUBIN, Artem REZNIK, Elena GORBACH, Andrey EMANOV, Viktor KUZNETSOV, Dmitry BORZUNOV
Russian Ilizarov Scientific Center "Restorative Traumatology and Orthopaedics", Kurgan (RUSSIA)

Introduction: new technology of osteointegration using customized implants manufactured by the method of additive technologies was developed. One of the essential problems of osteointegration is provision of stability of the implant in the medullary canal in the first post-operative period. We proposed to use an external fixator in order to solve this problem. The purpose of the study is to evaluate primary signs of osteointegration of customized implants made of heat-bonded powder Ti6Al4V in experimental study in rabbits. Material and methods: we operated 6 rabbits chinchilla at the age of 6-8 months. Based on the computer 3D model of the tibial stump by the method of laser melting we made a customized implant. All the animals under general anesthesia underwent amputation of the tibia in the upper part and the implant was installed. Then abutment was attached to the implant; the biomechanical system “bone – abutment” was fixed with the Ilizarov external fixator. Permission of the Ethics Committee for conducting the experimental study was received. We used clinical, radiographic and morphological methods of study. Results: support function of the limb recovered on the 4-5th day after surgery and was present throughout the experiment. The study showed presence on the surface and around the implanted device new bone tissue, which was a part of a unified implantation-tissue block. Received experimental data proves primary stability of the implant. We continue studying further processes of mineralization and bone tissue remodeling in order to receive long-term data.

Abstract no.: 46626

VIDEOGRAPHIC ASSESSMENT OF THE MECHANISM OF SUPRACONDYLAR FRACTURE HUMERUS IN CHILDREN

Mohamed Amr HEMIDA, Khaled EMARA, Mohamed ASHRY, Mahmoud EL SHOUBAKY
Ain Shams University, Cairo (EGYPT)

Background: Supracondylar Fracture Humerus in Children is one of the most common pediatric fractures. The purpose of this study was to assess videographic events of pediatric supracondylar fractures and to analyze the upper extremity position and the deforming forces and during the trauma. We sought to correlate previous biomechanical studies with in vivo observations. Methods: We included 20 videos from YouTube.com search engine, with a clear videographic view of a Supracondylar fracture humerus in children. Three senior pediatric orthopedic surgeons independently evaluated arm and forearm position at the time of fracture, along with the suspected deforming forces at the elbow based on these positions. Results: Of the 20 visualized Supracondylar fracture events, the vast majority (90%) fractured at or near full extension. The most common limb positions were forearm pronation (70%) with shoulder abduction (95%) and forward flexion (65%). The most elbow deforming forces were an axial load (90%). Conclusions: Supracondylar Fracture in vivo occur in relative extension irrespective of forearm position. The most common mechanism appears to involve an axial load to an extended elbow, which suggests a requisite disruption of anterior humeral cortex first under tension force followed by failure of posterior cortex under compression force due to locking of elbow joint in hyperextension by olecranon process as a fulcrum. This information could lead to improved understanding of the sequence of structural failure according to forces around the elbow.

Abstract no.: 46628

SONOGRAPHY AS A TOOLS FOR VALIDATION OF PIRANI SCORE USING PONSETI TECHNIQUE: A CORRELATION STUDY

Arun Kumar PANDEY[1], Saurabh AGRAWAL[2]
[1]ALL INDIA INSTITUTE OF MEDICAL SCIENCES (AIIMS), new Delhi (INDIA), [2]MLB MEDICAL COLLEGE , JHANSI (UP), JHNSI (INDIA)

Background: Ultrasound (US) has been shown to be a promising technique for assessing deformity and for monitoring of clubfoot treatment. We conducted a study to ultrasonographically evaluate the deformity and to assess the changes in measurements with treatment by Ponseti method and to correlate these ultrasonogrphic variables with Pirani scoring. Material and Methods: Patients with virgin idiopathic clubfoot and age <1 yr at the time of presentation were included. Pirani scoring was used for clinical assessment of clubfoot. All US measurements were made in neutral position. Normal feet data as collected by Aurell et al was taken as control group. Medial malleolar distance (MMN), Calcaneo-cuboid distance (CC Distance), Calcaneocuboid angle (CC Angle) and Talus length (TAL length) were selected as parameters and measured pre-treatment and post-treatment. Results: A total of 26 patients with 39 feet (11males and 15 females) were evaluated which included 13 unilateral and 13 bilateral cases. Significant change was observed in each sonographic parameter and post-treatment measurements correlated well with the control group. Conclusion: US is a widely available procedure that can improve pathomorphological documentation of nonossified Clubfoot. It allows for objective monitoring of the progressive correction of clubfoot. Keywords: Ultrasound, clubfoot, ponseti maneuver, pirani score. References: 1. Aurell Y, Aldercreutz C, Andriesse H, Jonsson K. Repeatability of Sonographic measurements in clubfeet. Acta Radiologica 2004;45:622–7. 2.Bhargava SK, Tandon A, Prakash M, Arora SS, Bhatt S, Bhargava S. Radiography and sonography of clubfoot: a comparative study. Indian Journal of Orthopaedics 2012;46:229–35.

Abstract no.: 46629

FUNCTIONAL RESULTS AFTER TREATMENT OF CENTRAL FRACTURE DISLOCATIONS BY A COMBINATION OF LATERAL AND LONGITUDINAL TRACTION

Arun Kumar PANDEY[1], Saurabh AGRAWAL[2]
[1]ALL INDIA INSTITUTE OF MEDICAL SCIENCES (AIIMS), new Delhi (INDIA), [2]MLB MEDICAL COLLEGE , JHANSI (UP), JHNSI (INDIA)

INTRODUCTION: Central fracture dislocation is a term used to describe fractures of the medial or superior weight bearing dome of acetabulum with subluxation of femoral head. These are one of the most complex fracture dislocations around hip. The complicated anatomy, frequently associated injuries and long term complication all contribute in their management difficulties. The present series of 30 patients aims to evaluate the functional results after non-operative treatment of these dislocations. MATERIAL & METHODS: Undisplaced or minimally displaced fracture dislocations (Type I) were treated by longitudinal traction alone while displaced fracture dislocation (Type II and Type III) needed a combination of lateral and longitudinal traction. RESULTS: Out of the 30, 4 were Grade I and 12 were Grade II and 16 grade III dislocations. In 66% of patients there was good/excellent anatomical results while 87% had good/excellent functional results. Patients were followed for a period of 2.3 years at appropriate intervals and the anatomical and functional results were evaluated and compared. DISCUSSION: There has been a great deal of controversy between the open and closed treatment of central fracture dislocation. There are wide differences of opinion in the two forms of management. Though accurate reduction of a fracture dislocation is important and many authors have advocated but the complicated anatomy and associated trauma with such injuries contribute to the management difficulties. CONCLUSION: Thus non-operative treatment of central fracture dislocation is a simple method. It produces good results and is a more realistic approach.

Abstract no.: 46630

HUGE HEMORRHAGIC CYST DESTROYING INNER TABLE OF ILIAC BONE ACCOMPANYING WITH RAPIDLY PROGRESSIVE PERIPROSTHETIC OSTEOLYSIS AFTER TOTAL HIP ARTHROPLASTY : A CASE REPORT

Daishi HAMADA[1], Toshiharu MORI[2], Manabu TSUKAMOTO[3], Soshi UCHIDA[3], Hideo ONISHI[4], Satoshi OKABE[5], Akinori SAKAI[3]

[1]1. Department of Orthopaedic Surgery, University of Occupational and Environmental Health, Japan, Kawagoe city,Saitama prefecture (JAPAN), [2]Department of Orthopaedic Surgery, University of Occupational and Environmental Health, Japan, Kitakyushu (JAPAN), [3]Department of Orthopaedic Surgery, University of Occupational and Environmental Health, Japan, Kitakyushu (JAPAN), [4]Department of Orthopaedic Surgery, Moji Medical Center, KItakyushu (JAPAN), [5]Department of Orthopaedic Surgery, Niigata Rosai Hospital, Jouetsu (JAPAN)

MATERIALS & METHODS: We present a case of 59 year old female with enormous hemorrhagic cyst 12 years after total hip arthroplasy (THA). She underwent a left THA using the Synergy® cementless system with non cross-linked ultra-high molecular weight polyethylene for osteoarthritis. Left hip joint pain developed at 11 years after surgery, and got worse at 12 years period. Radiograph and Computerized tomography (CT) showed that a giant cystic lesion in the pelvic cavity which destroyed the inner table of the iliac bone in addition to osteolysis surrounding cup. This cystic lesion was diagnosed as subacute hematoma by MRI. Revision surgery of cup (Trabecular metal cup®; Zimmer), metal inner head and polyethylene liner was performed followed by curetting focus and allograft. Pathological diagnosis was hemorrhagic cyst through existence of multinucleated giant cells containing large polyethylene wear debris and hemosiderin deposition. The patient became to walk without aid 2 years after surgery. The value of tartrate-resistant acid phosphatase-5b (TRACP-5b), a bone resorption marker (120-420 mU/dL) was 497 at 4 months before and rapidly increased to the level of 655 just before surgery in spite of oral administration of alendronate for previous 10 years. The value returned to 354 at period of 2 years after revision surgery. CONCLUSION: In case patient complains pain or discomfort of hip after THA, CT examination should be performed with rapidly progressive osteolysis lesion in mind. TRACP-5b could be useful as a marker for detecting rapid advance of osteolysis.

Abstract no.: 46633

THE PATH LESS TRODDEN – ANTEROMEDIAL PLATING OF HUMERAL DIAPHYSEAL FRACTURES

Deepak KAKI
BIRRD [T] Hospital, Tirupati (INDIA)

Introduction: The literature has ample evidence that Plate fixation of diaphyseal fractures of Humerus yields good results . Plating has been done on various surfaces of Humerus – Posterior, Anterolateral and less frequently, the Anteromedial. This prospective study is conducted for evaluating the merits and complications of anteromedial plating of humeral shaft through anterior Brachialis splitting approach and compare with the results of Anterolateral and posterior plating in the literature.Materials and Methods: In this study, 58 cases were enrolled. Through anterior approach, anteromedial plating was done. Outcome measures like clinical union, radiological union, complications and functional outcome using QUICK DASH scoring were evaluated.Results: 58 cases comprised of 38 males and 20 females. Right arm was involved in 35 and left in 23, mean age of study group was 45 years (20-66). All fractures showed radiological union by 6 months (mean of 13.57). One iatrogenic radial nerve injury occured which recovered completely at 3 months.52 (89.65%) of cases showed excellent and good results; fair results were noted in 6 (10.34%)cases. Conclusions : The anteromedial plating through anterior approach requires less soft tissue dissection, has a less chance for iatrogenic Radial nerve palsy, minimizes need for plate contouring on the flat surface, results in high rates of union and is an ideal construct to use for fractures of the shaft of humerus .

Abstract no.: 46634

PROMISING MID-TERM OUTCOME AND FEW COMPLICATIONS AFTER ELBOW HEMIARTHROPLASTY FOR ACUTE DISTAL HUMERAL FRACTURES

Ali AL-HAMDANI[1], Jeppe RASMUSSEN[2], Anne-Kathrine SORENSEN[2], Janne OVESEN[3], Bo OLSEN[2]

[1]Herlev University Hospital, Copenhagen, Denmark, Smorum (DENMARK),
[2]Herlev University Hospital, Copenhagen, Denmark, Herlev (DENMARK),
[3]Aarhus University Hospital, Aarhus, Denmark, Aarhus (DENMARK)

Background: Total elbow arthroplasty (TEA) is a known method for treatment of distal humeral fractures, but the outcome of elbow hemiarthroplasty (EHA) is still limited. The advantage of EHA is avoiding the complication related to the linked articulation and loosening of the ulnar component. Aim: The aim was to report outcome of EHA. Method: From January 2011 to January 2016 thirty-one patients were treated with EHA. Two were converted to TEA, four died and four did not want to participate. Thus, twenty-one patients with complete follow-up were included. Mayo Elbow Performance Score, Oxford Elbow Score, pain severity, and range of motion were used to evaluate the outcome. Plain radiographs were also used. The length of sick-leave was recorded. Results: The mean age was 64 years (47-81), 12 patients were under the age of 65. The mean follow-up was 30 months (12-67). The mean Mayo Elbow Score was 83 and Oxford Elbow Score 38. The mean pain severity was 2 (Scale 0-10). The mean flexion/extension and supination/pronation arcs were 107 and 144 degree respectively. Seven patients were occupationally-active, and six of them returned back to the same occupation. Two patients were re-operated because of stiffness and deep infection. Conclusion: EHA seems to offer a good treatment option of acute unreconstructible distal humeral fractures in general and in young and active patients in particular. This study found promising mid-term outcome and return to occupation. However ulnar wear and component loosening may lead to a less promising outcome in the long term.

Abstract no.: 46641

A COMPARISON OF COMPUTERISED TOMOGRAPHY ARTHROGRAPHY AND MAGNETIC RESONANCE ARTHROGRAPHY IN THE ASSESSMENT OF TRAUMATIC ANTERIOR SHOULDER DISLOCATIONS

Robert JORDAN, Rajiv GOGNA, Peter WALL, Gurdip CHAHAL, Imran AHMED, Tom LAWRENCE, Chetan MODI, Steve DREW
University Hospitals Coventry & Warwickshire, Coventry (UNITED KINGDOM)

Introduction: CTA is thought to be a useful adjunct in the assessment of shoulder instability as it can evaluate both the osseous and soft tissues structures. MRA has been shown to have a high sensitivity and specificity but its accuracy in assessing osseous lesions is a concern. The aim of this study is to establish the sensitivity and specificity of CTA and compare this against the performance of MRA. Methods: A retrospective analysis of consecutive traumatic anterior shoulder dislocations undergoing either CTA or MRA followed by surgical assessment between February 2012 and 2017 was performed. Surgical findings were obtained from electronic surgical notes and these findings were used as a reference for imaging results. The sensitivity, specificity, and predictive values were calculated for the different injuries. Results: 20 patients underwent CTA and 102 patients underwent an MRA before shoulder arthroscopy during the study period. 83% were male and the mean age was 33 years (range 15 to 49). 18% of patients had undergone previous arthroscopic stabilisation, 29% were first-time dislocations and the remainder were recurrent dislocations. The overall sensitivity and specificity of CTA to all associated injuries was 0.88 and 0.78 respectively which was lower than that of MRA 0.90 and 0.85. Although the sensitivity of CTA (89%) for soft tissue Bankart lesions was comparable to MRA (93%), the specificity was lower using CTA (0.38) than MRA (95%). Conclusion: MRA has a higher sensitivity and specificity for identifying associated injuries and therefore CTA cannot be recommended over MRA.

Abstract no.: 46642

USE OF INTRAOPERATIVE TOURNIQUETS IN ORTHOPAEDIC TRAUMA PATIENTS

Thomas PEPPER, Kishan GOKARAJU, Maruthainar NIMALAN, Nicholas GODDARD, Nicholas GARLICK, Arthur GALEA, Philips AHRENS, Haroon MANN, Muhammad ZAHID SAEED
Royal Free Hospital, London (UNITED KINGDOM)

Introduction: Tourniquet-related nerve injury is related to the pressure and duration of ischaemia, and it is therefore desirable to minimise both of these. Published standards for tourniquet use include utilising a tourniquet pressure of 250 mmHg on the arm and 300 mmHg on the thigh, with a maximum of 2 hours before deflation (Odinsson and Finsen, 2006). Methods: We performed a retrospective analysis of patients from our trauma database undergoing upper and lower limb surgery with use of a tourniquet from April to September 2016. Data regarding tourniquet use and complications were collected for 6 weeks post-operatively. In the presence of nerve injury, operative notes were used to exclude a surgical cause. Results: 70 operations on 68 patients (30 female, 38 male) were included. The mean patient age was 47 years. Maximum tourniquet time was 120 minutes (mean = 62 minutes); in 4 operations time was not recorded. Tourniquet pressure was 250 mmHg in 23/26 upper limb operations, and 300 mmHg in 43/44 lower limb operations; in 3 operations pressure was not recorded. Inflation pressures were a mean of 148 mmHg above the patient's highest recorded intraoperative systolic blood pressure. 2/68 (3%) patients developed features consistent with tourniquet-related nerve injury. Conclusion: We met the recommended standards for tourniquet time and pressure in 63/70 operations (90%). In patients with complications, there was no clear common associated risk factor. Adoption of a lower standard for tourniquet pressure (e.g. 50-100 mmHg over preoperative systolic blood pressure) may reduce associated complications.

Abstract no.: 46643

A RETROSPECTIVE COMPARISON OF TOTAL HIP REPLACEMENT AND CEMENTED HEMIARTHROPLASTY IN THE MANAGEMENT OF ELDERLY PATIENTS WITH INTRACAPSULAR HIP FRACTURES

Robert JORDAN[1], Gurdip CHAHAL[1], Peter WALL[1], Nicholas SMITH[1], Shahbaz MALIK[2], Jayne WARD[1], Jonathan YOUNG[1]
[1]University Hospitals Coventry & Warwickshire, Coventry (UNITED KINGDOM), [2]Royal Orthopaedic Hospital, Coventry (UNITED KINGDOM)

Introduction: Hip fractures are common, with 65,000 cases each year in the UK. NICE guidelines state that displaced intracapsular fractures should be managed with either a hemiarthroplasty or total hip replacement (THR). THRs should be offered if the patient is independently mobile outdoors, has normal cognition and is medically fit. This study aimed to compare the length of stay, complications, mobility and discharge destination between the two treatments. Methods: All patients undergoing an arthroplasty for a neck of femur fracture between April 2011 and December 2016 were identified from the National Hip Fracture Database. The database and hospital electronic system were used to identify patient demographics, length of stay, mobility, discharge destination and any reoperations. Results: During the study period 1224 patients underwent an arthroplasty; 1023 cemented hemiarthroplasties and 201 THRs. The THR group were younger (mean age 72 vs 85 years) and had a higher cognition (AMT 9.8 vs 6.7). The mean length of stay was 6 days shorter following THRs and a higher proportion of patients were discharged to their premorbid accommodation (88.6% vs 72.1%). However, the complication rate was higher following THR (5% vs 3.1%). Conclusion: In our series THR was associated with a shorter hospital stay, improved post-operative mobility and return to pre-morbid accommodation. However, there was a higher requirement for reoperation.

Abstract no.: 46650

TRANSFORAMINAL PERCUTANEOUS ENDOSCOPIC DISCECTOMY IN LUMBAR DISC HERNIATIONS

Tarun KUKREJA
Dr DY Patil Medical College, Pune (INDIA)

Introduction: Lumbar disc herniation (LDH) is a common cause of low back pain and sciatica. For patients with LDH who do not achieve satisfactory recovery following conservative management, surgical intervention is required. Endoscopic techniques are evolving and allows for true minimally invasive percutaneous transforaminal decompression. This study was taken up as not many studies have been done with respect to the transforaminal percutaneous approach to the lumbar disc pathology. Aims: To study the efficacy of transforaminal percutaneous endoscopic lumbar discectomy in lumbar disc herniations. To study the morbidity and complications associated with the procedure. Methods: Patients included in this study were those who had a single level herniated disc with neurological signs including radiculopathy, sensory changes, motor weakness or reflex changes with nerve root compression seen on MRI, unsuccessful conservative treatment including nerve root blocks and analgesics for at least 4 weeks. The steps of the procedure were needle insertion under local anesthesia followed by discography, instrument placement and discectomy. Results: Patient ranged from 30 to 54 years of age. Out of 30 patients, 10 were females and 20 were males. 80% of the patients were found to have lumbar disc herniation at L4-L5 level. 42.9% cases showed excellent result in Macnab scoring system at 6 months follow up whereas 43% showed good results. The overall successful outcome of the endoscopic discectomy in our study was evaluated after 6 months of follow up on the basis of VAS improvement percentage (65.1%), MSS Scoring Percentage (75%) and Macnab Scoring percentage (85%).

Abstract no.: 46657

PREOPERATIVE MECHANICAL PROPHYLAXIS IN ELDERLY PATIENTS WITH HIP FRACTURE: ADDITIONAL EFFECTIVENESS IN PREVENTING POSTOPERATIVE VENOUS THROMBOEMBOLISM

Je-Hyun YOO[1], Kwang-Jun OH[2], Ji-Hyo HWANG[3]
[1]Hallym University Sacred Heart Hospital, Anyang (SOUTH KOREA), [2]Kunkuk University Hospital, Seoul (SOUTH KOREA), [3]Gangnam Sacred Heart Hospital, Hallym University School of Medicine, Seoul (SOUTH KOREA)

Purpose This case-control study was conducted to evaluate the additional effectiveness of preoperative mechanical thromboprophylaxis on the prevention of VTE (venous thromboembolism) following HFS (hip fracture surgery) in elderly patients. Methods Five hundred thirty nine consecutive patients aged 70 years or older undergoing HFS were enrolled. Of the 539 patients, 404 (control group) did not receive preoperative mechanical thromboprophylaxis while 135 (study group) received mechanical thromboprophylaxis using an intermittent pneumatic compression device and graduated compression stockings from the time of admission until surgery. All patients received combined postoperative mechanical and chemical thromboprophylaxis following HFS in accordance with the same protocol. Results American Society of Anesthesiologists grade was higher (p=0.016) in the study group and more patients in this group had concomitant cardiovascular and neurologic diseases (p=0.005 and p=0.009, respectively). Meanwhile, more patients in the study group had received anticoagulant medication preinjury owing to comorbidities (39% vs 28%, p=0.025). The others showed no significant differences between the two groups. The overall incidences of symptomatic deep vein thrombosis (DVT) and pulmonary embolism (PE) were 7.4% and 3.7% in the control group and 2.2% and 1.5% in the study group, respectively. On multiple logistic regression, symptomatic DVT significantly reduced in the study group (OR 0.28, p=0.042), meanwhile there was no significant difference in the incidence of symptomatic PE between the two groups (p=0.223). Conclusions Preoperative mechanical thromboprophylaxis significantly reduced the incidence of symptomatic DVT within one month after HFS in a high-risk group of elderly patients aged over 70 years.

Abstract no.: 46659

FUNCTIONAL OUTCOME OF NERVE EXPLORATION AND EARLY TENDON TRANSFER IN INJECTION NERVE PALSY

Anil DHAL, Purushotham LINGAIAH, Kameshwaran JAIKUMAR
Maulana Azad Medical College, New Delhi (INDIA)

Introduction: Injection nerve palsy is still prevalent in developing countries due to wrong site injections by unqualified health care providers. Majority of these cases present late to definitive care centres. Early tendon transfers have been infrequently used in cases of injection palsies. The purpose of this study was nerve exploration to look for the gross pathology and decipher conducting and non-conducting lesions and studying the effect of neurolysis on nerve recovery. In addition, early tendon transfer was done to quickly restore function pending re-innervation. Methods: We enrolled seven patients with injection palsy of either sciatic or radial nerve palsy. The initial evaluation included clinical history and examination. The level of injury and recovery pattern was evaluated by electro diagnostic studies both pre- and post-operatively. The functional status was evaluated by MRC grading and range of motion measurements. Nerve exploration and neurolysis was performed in all cases. Early tendon transfer was performed in selected cases. Results: The nerve was found to be thickened and in continuity at exploration in all cases. Neurolysis resulted in functional recovery in 6 patients. Tendon transfer was performed in three patients, one with radial nerve palsy and other two with sciatic nerve palsy. Six of seven patients showed fair to good recovery in their motor functions based on MRC grading. Conclusion: Neurolysis when combined with early tendon transfer results in early restoration of function in injection nerve palsies even when presenting late.

Abstract no.: 46667

A STUDY OF NORMAL FOOT ABDUCTION ACROSS VARIOUS AGE GROUPS IN CHILDREN

Naveen MITTAL[1], Parmanand GUPTA[2], Nipun JINDAL[2], Preeti VERMA[2], Mrinalini SHARMA[2]

[1]government medical college hospital, Chandigarh (INDIA), [2]government medical college hospital, chandigarh (INDIA)

Introduction:The relapse rate after Ponseti method of correction has reduced in the recent years which are attributable to the better appreciation of the need for achieving correct degree of abduction. Ponseti recommended clinical 'overcorrection' of the foot to 70 degree of abduction. However, no scientific basis for this figure was found in literature. As the indications of Ponseti method are extending to older children, it is imperative to know the normal abduction at foot across various age groups to have a rational management. This stems the need for present study. Methodology: The normal foot of 197 children up to 8 years of age was considered for study. The measurements included foot–bimalleolar angle in neutral and maximum possible abduction, thigh foot angle and leg foot angle. Results:The foot bimalleolar angle in neutral had a mean of 82.620 and in maximum abduction a mean of 99.050. The mean leg foot angle was 66.380 and the mean thigh foot angle was 60.480. The Pearson correlation coefficient amongst all the variables and age was not significant. Conclusion:The abduction to be achieved at the time of bracing in all children till age 8 years with clubfeet treated with Ponseti technique should be 60-700 keeping the leg foot angle or the thigh foot angle as a guideline. This is against the common perception of keeping the abduction at 700 for infants and reducing the abduction to 30 to 400 for older children. Both the leg foot angle and thigh foot angles are reliable indicators of correction.

Abstract no.: 46669

ARTERIAL CALCIFICATION ON PREOPERATIVE KNEE RADIOGRAPHS AS A PREDICTOR OF POSTOPERATIVE CARDIOVASCULAR EVENTS FOLLOWING PRIMARY TOTAL KNEE ARTHROPLASTY

David CANTU-MORALES[1], Justin DE BEER[2], Danielle PETRUCCELLI[2], Conrad KABALI[3], Mitchell WINEMAKER[4]

[1]Hospital Angeles Puebla, Puebla (MEXICO), [2]Hamilton Arthroplasty Group/McMaster University, Hamilton (CANADA), [3]Department of Clinical Epidemiology and Biostatistics/McMaster University,, Hamilton (CANADA), [4]Hamilton Arthroplasty Group/McMaster University, HAMILTON (CANADA)

Introduction: The most common cause of death after an elective total joint replacement (TJR) is an acute myocardial infarction (MI). Lower-extremity artery calcification (LEAC) has been shown to correlate with the presence of coronary artery disease (CAD). Methods: A cross-sectional study of TKA patients at one academic arthroplasty centre over one year was conducted. Preoperative TKA radiographs were reviewed by two surgeon observers. Regression modeling was used to examine association of radiographic presence of LEAC and perioperative CVE, 30-day CVE readmit, and 30-day and 1-year mortality. Adjusted odds ratio (OR) and 95% confidence interval (CI) were reported. Results: The sample included 900 TKA patients. LEAC was identified in 21.1% (190/900) of patients. Of LEAC cases 1.6% had an acute MI vs. 0.1% of non-LEAC cases (p=0.031). Perioperative CVE rate was 5.8% for LEAC vs. 1.5% for non-LEAC cases (0.002). The odds of LEAC cases having an acute MI was 11.37 (95% CI 0.09-597.93) however due to large random errors this finding must be interpreted with caution. The OR associated with 1-year mortality was 1.88 (95% CI 0.17-13.20) but random errors were also large. Conclusion: Our study shows that LEAC around the knee is associated with an increased risk of having a perioperative CVE (OR 2.83, 95% CI 1.09-7.35). It is our contention that crude detection of LEAC has the potential to improve risk stratification by informing the surgeon of the need for further preoperative cardiac workup.

Abstract no.: 46670

MECHANICAL ADVANTAGE OF HAMSTRING TIBIAL INSERTION PRESERVATION IN ACL RECONSTRUCTION USING A HAMSTRING GRAFT.CADAVERIC STUDY.

Matthieu EHLINGER[1], David BAHLAU[1], Philippe ADAM[1], Sebastien LUSTIG[2], Francois BONNOMET[1], Philippe CLAVERT[1]
[1]chu, strasbourg (FRANCE), [2]chu, lyon (FRANCE)

Introduction: Tibial fixation of a tendon graft is a weak point due to biomechanical and anatomical reasons. Preserving the tibial insertion of a hamstring graft (HG) could have a mechanical advantage. The purpose of this work was to study the maximal load to failure of the tibial graft fixation (pedicular HG fixed with an interference screw, free graft fixed with an interference screw, pedicular graft without interference). Our hypothesis was that preservation of hamstrings tibial insertion would increase tibial graft's fixation maximal load to failure. Methods: Five pairs of matched knees from fresh-frozen human cadavers were used. HG was harvested maintaining their tibial insertion to perform a 4-strand graft. 3 matched groups were compared. Group 1: tibial pedicular graft without tibial interference screw. Group 2: pedicular graft fixed with a tibial interference screw. Group 3: made of knees from group 1 with free graft fixed with a tibial interference screw. The endpoint was the maximal load to failure, which conducted on an Instrom 8500. Comparison was made with Wilcoxon test. Results: Average of maximal load to failure was 25% higher in group 2 than group 1 (p=0.058), 65% higher in group 2 than group 3 (p=0.059) and 33% higher in group 1 than group 3 (p=0.059). Conclusion: Our hypothesis is confirmed. This seems to have a mechanical interest in ACL reconstruction using a HG. The results were at the limit of significance, which suggests that a larger group might have revealed a statistically significant difference.

Abstract no.: 46673

POST-OPERATIVE NONSTEROIDAL ANTI-INFLAMMATORY DRUGS DOES NOT AFFECT CLINICAL OUTCOMES OR REVISION RATES OF MINI-OPEN ROTATOR CUFF REPAIR

Wei-An Joel LIM, Ming Han Lincoln LIOW, Andrew Hwee Chye TAN
Singapore General Hospital, Singapore (SINGAPORE)

Introduction: Nonsteroidal Anti-Inflammatory Drugs (NSAIDs) are prescribed to post-operative patients undergoing rotator cuff repair, despite their possible adverse effects on bone healing. We hypothesize that the use of post-operative NSAIDs will not affect the clinical outcomes of mini-open rotator cuff repair. Methods: 36 patients aged > 40 years with degenerative rotator cuff tears underwent mini-open rotator cuff repair with a minimum of 2 years follow up. Patients were divided into 3 groups based on their postoperative analgesia requirements. Functional outcomes were assessed preoperatively and postoperatively using the Simple Shoulder Test (SST) and University of California, Los Angeles shoulder rating scale (UCLA). Results: 23 patients had short course (<2 weeks) of NSAIDs, 6 patients had long course (>2 weeks) of NSAIDs and 7 patients did not receive NSAIDs post-operatively. The mean duration of follow-up was 4.4 years. There was significant improvement in SST and UCLA scores for all patients ($p < 0.001$) with no significant differences in clinical outcome scores between the groups postoperatively ($p > 0.05$). All patients met the minimal clinically important difference (MCID) for SST. There were 2 cases of rotator cuff retears with no revision surgeries performed. There was a weak correlation between post-operative NSAID use and rotator cuff retear rate, however statistically significant ($R=-0.31$, $p =0.07$). Conclusion: The use of NSAIDs after rotator cuff repair had no significant influence on midterm clinical outcome scores and cuff repair survival. Perioperative NSAID use did not adversely affect clinical outcomes or retear rates of mini-open rotator cuff repairs.

Abstract no.: 46674

ANTEROMEDIALLY DISPLACED ACETABULAR FRACTURES TREATED WITH A COLLINEAR REDUCTION CLAMP THROUGH THE MODIFIED ILIOINGUINAL APPROACH

Je-Hyun YOO[1], Ji-Hyo HWANG[2]
[1]Hallym University Sacred Heart Hospital, Anyang (SOUTH KOREA),
[2]Gangnam Sacred Heart Hospital, Hallym University School of Medicine, Seoul (SOUTH KOREA)

Purpose The current study was conducted to report on surgical outcomes of anteromedially displaced acetabular fractures treated with a collinear reduction clamp through the modified ilioinguinal approach and to evaluate the availability of this approach and device for the treatment of this fracture type. Materials and methods A retrospective study of consecutive 15 patients (mean age 47 years [22-65]) who underwent surgical treatments including indirect reduction using a collinear reduction clamp through the modified ilioinguinal approach for anteromedially displaced acetabular fractures, was conducted. Surgical outcomes were clinically assessed using the Merle d'Aubigné (PMA) score visual analogue scale (VAS) at final follow-up, and radiologically evaluated on plain radiographs and computed tomography (CT) postoperatively and at final follow-up. Results The fractures included 10 both columns and 5 anterior columns with posterior hemitransverse. Follow-up was greater than 12 months in all patients with an average of 30.6 months (12-75). Anatomical reduction was achieved in 12 (80%) patients and imperfect reduction in 3 (20%). On postoperative CT, mean gap deformity was 1.8 mm (range, 0.52-4.30 mm) and mean step deformity was 0.9 mm (range, 0-1.83 mm). At final follow-up, radiographic grades were excellent (86%, 13/15) or good (14%, 2/15) in all patients. The mean PMA score and VAS were 17 (range, 15-19) and the mean VAS score was 0.9 (range, 0-3), respectively. Conclusion The modified ilioinguinal approach and indirect reduction using a collinear reduction clamp would be an available option to achieve satisfactory surgical outcomes in anteromedially displaced acetabular fractures.

Abstract no.: 46675

DYNAMIC LIGAMENT BALANCINGR – AN INNOVATIVE APPROACH IN BALANCING TKA

Thomas PASZICSNYEK[1], Christoph NEPEL[2], Alexander KROIS[3]
[1]Privatklinik Ragnitz, Kapfenberg (AUSTRIA), [2]Privatklinik Ragnitz, Graz (AUSTRIA), [3]Meduni Graz, Graz (AUSTRIA)

Introduction Ligament balancing in performing TKA is an upcoming topic to improve the results in TKA. A well balanced knee is working more proper together with the muscular stabilizing structures. Dynamic ligament balancing (DLB)R should give us the opportunity to check the balance of the ligaments at the beginning and the end of the surgery before implanting the definitive prosthesis. Materials and Methods DLBR consists of 10 different sizes of baseplates . Together with a transducerbox and a tablet all datas can be stored. During the surgery after calibration the tibial cut is performed, which should be 90° to the longitudinal axis respecting the right slope. Measurement before femoral cuts are performed and gives an information about the joint angle according to the anatomical and load axis. Mounting a pin positioning tool the femoral cut can be performed with the original cutting block of every set in extension and flexion. After positioning the femoral trial, testing is repeated and should show a balanced situation over all the ROM. The overall period datas were stored and compared to the subjective feeling of the patients. Results The first 20 patients show a better balanced situation. Especially young and active patients demonstrate a huge benefit in coming earlier back to work and sport, elder patients reach independence earlier. No extension of the surgical time was seen, respecting the learning curve is a valueable benefit in higher accuracy and precision in TKA. All PROMs shows good and excellent results.

Abstract no.: 46678

RADIOLOGICAL ASSESSMENT OF ACCURACY OF UNICONDYLAR KNEE REPLACEMENT USING OXFORD RADIOLOGICAL CRITERIA

Tanvi SURYAWANSHI[1], Mohan DESAI[2]
[1]K.E.M. Hospital and Seth G. S. Medical College, Mumbai, sangli (INDIA),
[2]K.E.M. Hospital and Seth G. S. Medical College, Mumbai, Mumbai (INDIA)

introduction: long term survival of uka depends largely on overall alignment. patient specific jigs has been devised to improve alignment. uka is not so popular in india because of various reasons and thereby long term survival of these were debated and compared with tkr. introduction of oxford microplasty instrumentation has significantly improved the alignment and need for ukr would be almost 20-30% of the overall knee volume. we have performed 26 ukr using oxford instrumentation in past 2 years. materials and methods: in this study we included 26 oxford ukrs, post op x-rays were analyzed using oxford radiological criteria. we analyzed varus / valgus alignment of femoral and tibial component, flexion/extension of femoral component, posteroinferior tilt of tibial component using screen scale software on mac computer. besides, tibial component overhang (medial & lateral) and femoral component fit (anterior & posterior) were also analyzed. acceptability criteria of oxford was followed and were assessed on short film with specific radiological view. results: (1)mean valgus and varus angulation for femoral component were 3.490 and 4.410, for tibial component were 3.350 and 2.770. (2) mean flexion/extension of femoral component was 3.500 and 0.450. (3) mean posteroinferior tilt for tibial component is 1.970. conclusion: the alignment significantly improved due to oxford microplasty instrumentation. there were hardly any outliers using the jig. though it’s a radiological analysis it can be translated into long term clinical survivorship due to overall alignment. keywords : ukr, alignment, oxford criteria

Abstract no.: 46679

CLINICAL STUDY OF LIGAMENTOTAXIS USING JOSHI'S EXTERNAL FIXATOR SYSTEM, MODIFIED FRAME IN THE MANAGEMENT OF NEGLECTED, RELAPSED, RESISTANT ELDERLY CTEV CHILD.

Tanvi SURYAWANSHI[1], Raviraj SHINDE[2], Ajit SHINDE[3]
[1]K.E.M. Hospital and Seth G. S. Medical College, Mumbai, sangli (INDIA), [2]Sir J. J. Group of Hospitals and Grant Medical College, Mumbai, Mumbai (INDIA), [3]Shree Annasaheb Shinde Mhaishalkar Charitable Trust, Sangli (INDIA)

introduction: in elderly relapsed, recurrent, resistant ctev and child with previous surgical scar, soft tissue release alone is often not sufficient for full correction, particularly above two years of age. here controlled, fractional differential distraction with joshi's external stabilization system is a useful option to correct all the deformities. it is well established modality but complication rate 30%, mainly related to pin loosening, infection leading to instability of frame. we also aimed to study to increase stability of frame to reduce incidence of pin loosening, infection and to evaluate clinical and functional outcome of modality along with modification. methods: 117 children underwent joshi's external stabilization system procedure. the principle of correction applied in this study was fractional distraction . patients are evaluated by catteral and simons criteria. results: excellent results were obtained in 68.50% of cases, good results in 23.90%, & poor results in 7.60% of the cases. complication rate reduced to 3% pin tract infections, which eventually healed with outpatient treatment. conclusion: fractional distraction method by using joshi's external stabilization system is an easy, simple, less invasive method, which corrects all the deformities in resistant, neglected and relapsed cases of ctev and modification of the frame we used proved to be beneficial. teaching and awareness of parents regarding distraction schedule, stability of frame post operative importance of wearing of corrected foot ware for long period is important. key words : neglected, relapsed, resistant, clubfoot, modified jess.

Abstract no.: 46680

MECHANICAL COMPARATIVE ANALYSIS OF THREE DIFFERENT IM NAILS FOR FIXATION OF BASAL NECK FRACTURE-TYPE TROCHANTERIC FRACTURES

Je-Hyun YOO[1], Ji-Hyo HWANG[2], Sang-Min KIM[3], Seung-Beom HAN[4]
[1]Hallym University Sacred Heart Hospital, Anyang (SOUTH KOREA), [2]Gangnam Sacred Heart Hospital, Seoul (SOUTH KOREA), [3]Seoul Medical Center, Seoul (SOUTH KOREA), [4]Korea University Anam Hospital, Seoul (SOUTH KOREA)

Purpose: The aim of this study is to compare the stability of the proximal fragment and their mechanical characteristics in proximal femur models (Synbone) of basal neck fracture-type trochanteric fractures fixed with three different IM nails. Methods: 31-A1.1 basal neck fracture-type trochanteric fracture (stable fracture) was reproduced in 12 proximal femur models fixed with 6 Gamma nail and 6 Gamma U-blade nail (Gamma-U nail). 31-A2.2 basal neck frature-type unstable fracture (unstable fracture) was also reproduced 20 proximal femur models fixed with 6 Gamma nails, 6 Gamma-U nails, and 8 proximal femoral nails-antirotation (PFNAs). Results: In a stable fracture type, only the degree of rotation of the proximal fragment was significantly less in Gamma-U nail than in Gamma. Meanwhile, in an unstable fracture type, the degree of rotation of the proximal fragment was less in Gamma-U nail and PFNA than in Gamma nail. Gamma-U nail showed lower load to failure than PFNA, but less rotation of proximal fragment and less cranial and axial migration within the femoral head. PFNA showed less rotation of proximal fragement and higher load to failure, but significantly more cranial and axial migration. Conclusion: Gamma-U nail would be effective to minimize the rotation of proximal fragment in basal neck fracture-type trochanteric fractures, which has been known as a risk factor of fixation failure after IM nailing in this fracture type. PFNA is superior to Gamma nail and Gamma-U in terms of structural stiffness, but more caution would be needed for the risk of cut-through or cut-out.

Abstract no.: 46682

FUNCTIONAL OUTCOMES AFTER ARTHROSCOPIC SINGLE-ROW VERSUS DOUBLE-ROW TECHNIQUES FOR REPAIRING DIFFERENT SIZES OF ROTATOR CUFF TEAR

Chenhao CHIANG[1], Weihsing CHIH[2], Minglong YEH[3], Chihkai HONG[4], Weiren SU[5]

[1]Chiayi Christian Hospital, Department of Orthopaedics, Chiayi City (TAIWAN), [2]Chiayi Christian Hospital, Department of Orthopaedics, Chiayi (TAIWAN), [3]National Cheng Kung University, Department of Biomedical Engineering, Tainan (TAIWAN), [4]National Cheng Kung University Hospital, Department of Orthopaedics, Tainan (TAIWAN), [5]National Cheng Kung University hospital, Department of Orthopaedics, Tainan (TAIWAN)

Introduction: Rotator cuff tears are one of the most common disorders of the shoulder. Arthroscopic repair is the current concept of rotator cuff repair. Though double-row techniques (DR) are better than single-row techniques (SR) in biomechanics, there is still debated in clinics. Here, we are trying to evaluate the functional outcomes of arthroscopic repair of rotator cuff tear in Taiwan population. Methods: From 2014.8 to 2016.3, there were 72 shoulders underwent arthroscopic rotator cuff repair by a single surgeon (CH Chiang).38 shoulders were repaired by SR, and 34 shoulders were repaired by DR. The functional outcomes were evaluated at preoperation, and postoperative 6, 12, 24 months. ASES and UCLA scale systems were evaluated. Results: Overall, there were no differences in age, gender, affecting side, and the recovery time between two groups. The differences were found in the tear size: SR(1.47±0.98 cm) versus DR(3.06±1.36 cm) [p<.001] and the operative time: SR(77.7±17.0 minutes) versus DR(93.3±15.4 minutes) [p=.007]. For the functional outcomes, ASES and UCLA scores were markedly improved after operation in both groups, but the groups differences were not significantly changed in preoperation, and postoperative 6, 12, 24 months. For greater than 2 cm full-thickness tear, 8 shoulders were repaired by SR and 22 shoulders were repaired by DR. All functional outcomes were still no significant differences. Conclusion: Arthroscopic repair is a good procedure for rotator cuff tear with minimal complications whether SR or DR techniques.

Abstract no.: 46684

ASIATIC ACID SUPPRESSES OSTEONCROSIS OF FEMORAL HEAD AND ABROGATES OSTEOCLAST FORMATION VIA RANKL-INDUCED PATHWAYS THROUGH NF-KB AND NFAT

Guoju HONG[1], Wei HE[2], Xiaobo CHEN[3], Xiaorui HAN[3], Haibin WANG[3]
[1]the University of Western Australia, Perth (AUSTRALIA), [2]Guangzhou University of Chinese Medicine, Guangzhou (CHINA), [3]the first affiliated hospital of Guangzhou University of Chinese Medicine, Guangzhou (CHINA)

Introduction: Osteonecrosis of femoral head (ONFH) involves excessive resorption of bone matrix by activated osteoclasts. Effect and molecular mechanism of Asiatic acid, one novel natural compound, action on osteoclastogenesis and bone resorption remains unclear. Identification of Asiatic acid for inhibiting osteoclast formation is essential for the treatment of ONFH. Methods: In present study, we set up ONFH rat model that used to investigate the therapeutic effects of Asiatic acid on osteonecrosis by using Micro-CT and histopathological examination. Further, osteoclast culture was used to examine the inhibitory effect of Asiatic acid on osteoclasts inhibition. RT-PCR was employed to evaluate the effect of Asiatic acid on the expression of osteoclast marker genes. The activities of transcriptional factors NF-kB and NFATc1 were evaluated using a luciferase reporter assay, and the proteins level in RANKL signaling pathways was analyzed by Western blot. Results: Asiatic acid dose-dependently inhibited RANKL induced osteoclast formation and bone resorption from 5M, and reached half maximal inhibitory effects (IC50) at 20M without toxicity. Osteoclast specific marker genes including Ctsk, NFATc1, TRAcP, V-ATPase d2, and MMP2 was inhibited by Asiatic acid treatment. Luciferase reportor showed that Asiatic acid could significantly reduce the expression and transcriptional activity of NFAT as well as NF-kB activation. Further, Asiatic acid was found to decrease the RANKL induced phosphorylation of ERK, IkB-a, NFAT, and V-ATPase d2. In vivo study, we revealed that Asiatic acid abrogated steriod-induced ONFH. Taken together, this study revealed Asiatic acid could attenuate osteoclast formation and bone resorption by mediating RANKL signaling pathways.

Abstract no.: 46687

TO STUDY THE OUTCOMES OF A LOW COST NEGATIVE PRESSURE WOUND THERAPY(NPWT) IN 37 PATIENTS OF CHRONIC OSTEOMYELITIS , INFECTED NON UNIONS AND NON HEALING LARGE TRAUMATIC WOUNDS

Yash WAGH[1], Sushil MANKAR[2]

[1]N.K.P. Salve institute of medical sciences and lata mangeshkar hospital, mumbai (INDIA), [2]N.K.P. Salve institute of medical sciences and lata mangeshkar hospital, Nagpur (INDIA)

BACK GROUND: To Study the outcomes of a low cost negative pressure wound therapy(NPWT) in 37 patients of chronic osteomyelitis , infected non unions and non healing large traumatic wounds.STUDY DESIGN :A prospective , randomized and interventional study was undertaken at a teriary care hospital. The patients included in the study were between 18 to 76 years. Only infections of the extremities were included in the study. Necrotic tissue was debrided before the initiation of therapy. The dressings were applied for a period of 5-7 days, an average of 2.3 cycles were used for each patient. The results of NPWT were compared to results of standard therapy (a control group of 37 patient)wherein daily debridement and dressings were done. In every patient, pus culture and sensitivity was undertaken and appropriate antibiotic coverage initiated. MATERIALS USED: Polyurethane-ether foam pore size 400-600µm,air tight canister, Ryles tube, adhesive tape for skin coverage and vacuum pump. The average cost of equipment was approximately Rs 500(USD 7.47)per cycle. The results of treatment in the study group compared to the standard wound therapy revealed that whereas the average reduction in wound size in the control group (standard therapy) was approximately 5mm(along greatest diameter)The NPWT patents (study group) recorded an average reduction of 15 mm (5 to 25mm).CONCLUSION:A low cost method of NPWT improved patient compliance, reduced the need for secondary soft tissue coverage, shortened healing time hospital stay and better results compared to standard wound management and fracture union.

Abstract no.: 46688

HYDATID DISEASE OF PUBIC RAMI WITH DAUGHTER CYSTS IN ABDOMEN AND THIGH :A RARE CASE REPORT

Yash WAGH[1], Devashish BARICK[2], Ankit MADHARIA[2]
[1]N.K.P. Salve institute of medical sciences and lata mangeshkar hospital, mumbai (INDIA), [2]N.K.P. Salve institute of medical sciences and lata mangeshkar hospital, Nagpur (INDIA)

Background :Hydatid disease is a zoonosis caused by larvae of Echinococcus. Man is an intermediate and accidental host to the disease. In humans, hydatid most commonly affects liver and lungs.Bony hydatid disease is relatively uncommon, and cases of extra-spinal hydatid are encountered even less frequently. We present a rare case of osseous hydatid of pubic rami with daughter cysts in abdomen and left thigh at presentation. Our case: We present a case of a 55 years male who came with complaint of gradually progressive swelling in the lower part of abdomen and left thigh since 4 years. Patient had difficulty to walk, squat and sit crossed legged and chronic low grade pain.Per-rectal examination revealed a soft, fluctuant lobulated mass along the anterior wall. USG and MRI was suggestive of hydatid cysts in the pubic rami with daughter cysts in abdomen and thigh. Patient underwent radical surgery for removal of hydatid cysts from the pubic rami, abdomen and the left thigh.During the course of surgery we faced great difficulties like preventing an intrapelvic rupture and to prevent vascular damage to surrounding vessels and organs.The Patient was post operatively treated with oral albendazole for 6 months. Results:Patient was screened by USG for recurrence of hydatid disease, and was found to be cured at 1 year post operatively with no signs of recurrence. Keywords:Hydatid disease, Echinococcus granulosus.

Abstract no.: 46689

RETROSPECTIVE COMPARISON BETWEEN SURGICAL OUTCOME OF INTERNAL FIXATION FOR FEMORAL SHAFT FRACTURES - EXPANDABLE NAILS VS. INTERLOCKING NAILS

Satya Ranjan PATRA, Naresh Kumar PANIGRAHI, Dibya Singha DAS, Saswat SAMANT, Anmol SHIV
Hi-Tech Medical College, Bhubaneswar, Odisha, Bhubaneswar (INDIA)

Interlocking nails have been the implant of choice for femoral shaft fractures since many decades. But this implant has also been criticised for its prolonged surgical time, high fluoroscopy exposure, requirement of extensive reaming, per-operative bleeding, difficulty in nail insertion and placement of locking bolts. Attempts are on to overcome all these problems associated with interlocking nails. Flexible expandable nails have emerged as a viable alternative which have shown some promise to deal with the above difficulties. But comparative studies are essential to establish any significant advantages or disadvantages. Forty six patients of femur fractures operated with interlocking nails and 39 patients treated with expandable femoral nails were compared retrospectively from the medical records of a tertiary care hospital in India. Factors like duration of surgery, radiation exposure, blood loss, need for reaming, post-operative rehabilitation, time for union, weight bearing and functional outcomes were compared. Lower limb functional scale (LEFS) score was used to assess functional outcome after minimum of one year follow-up. Duration of surgery, radiation exposure, blood loss and need for reaming were significantly less in the expandable nailing group. But there was no significant difference in time for union, weight bearing and functional outcome. The most important limiting factor for the expandable nail was the cost of the implant which was significantly higher than the standard interlocking nail. The expandable nail was very useful to minimize the per-operative complications and problems, but there was no difference in the long term outcome compared to interlocking nails.

Abstract no.: 46691

IN VITRO DATA SUGGEST REVERSIBILITY OF MOM WEAR INDUCED DECREASE IN OSTEOGENIC CAPACITY OF MESENCHYMAL STROMAL CELLS

Anastasia RAKOW[1], Georg DUDA[2], Carsten PERKA[1], Janosch SCHOON[2]
[1]Charité - Universitaetsmedizin Berlin, Berlin (GERMANY), [2]Julius Wolff Institute, Berlin (GERMANY)

Bone marrow residing mesenchymal stromal cells (MSCs) have been shown to be impaired in their osteogenic capacity after exposure to metal-on-metal (MoM) wear products, thus promoting periprosthetic osteolysis. We hypothesized that such impairment may potentially be reversible if further exposure to MoM wear products was avoided. Methods MSCs were isolated from bone marrow of MoM-naive patients. 4.8 x 103 cells from passage two were seeded on 24-well tissue culture plates and exposed to 10 mg/L Cr(III), Co(II) or Cr(III) plus Co(II) respectively.Results The exposure to clinically relevant amounts of Cr(III) did not lead to decreased MSCs' ALP activity during the exposure period and after suspending Cr(III) exposure. In contrast, after exposure to clinically relevant amounts of Co(II) and after combined Co(II) and Cr(III) exposure, we found ALP activity to be significantly diminished. This decline of ALP activity was already observed after an exposure duration of 24 hours and was found to be persistent over a period of 28 days after initial exposure. Beyond 35 days after initial exposure we did no longer observe a significant decrease of the MSCs' ALP activity.Conclusion MSCs are decreased in their ALP activity by exposure to Co(II) in clinically relevant concentrations.Our in vitro data indicate that the impairment of the ALP's activity is reversible if further exposure to MoM wear products is avoided thoroughly. Thus, careful debridement eliminating all potential depots of MoM wear may potentially enhance bone quality and thus improve outcome of revision surgery following MoM implant failure.

Abstract no.: 46695

LATERAL LOCKED PLATING FOR DISTAL FEMUR FRACTURES FROM LOW-ENERGY TRAUMA: WHAT MAKES A DIFFERENCE IN HEALING?

Sang-Min KIM[1], Seung-Beom HAN[2], Kwang-Jun OH[3], Ji-Hyo HWANG[4], Kyu-Tae HWANG[5], Hyung-Keun SONG[6], Je-Hyun YOO[7]

[1]Department of Orthopaedic Surgery, Seoul Medical Center, Seoul (SOUTH KOREA), [2]Department of Orthopaedic Surgery, College of Medicine, Anam Hospital, Korea University, Seoul (SOUTH KOREA), [3]Department of Orthopaedic Surgery, Konkuk University Hospital, Konkuk University School of Medicine, Seoul (SOUTH KOREA), [4]Department of Orthopaedic Surgery, Kangnam Sacred Heart Hospital, Hallym University College of Medicine, Seoul (SOUTH KOREA), [5]Department of Orthopedic Surgery, Hanyang University Hospital, Seoul (SOUTH KOREA), [6]Department of Orthopaedic Surgery, Ajou University School of Medicine, Suwon (SOUTH KOREA), [7]Department of Orthopaedic Surgery, Hallym University Sacred Heart Hospital, Hallym University College of Medicine, Anyang (SOUTH KOREA)

The objective of this study is to investigate predictable factors to be associated with problematic healing in lateral locked plating for distal femur fractures, especially caused by low-energy trauma. Seventy-five patients (75 fractures) with distal femur fractures (AO/OTA type 33) only caused by lower-energy trauma were retrospectively recruited. The mean age of patients were 69.8 years (range, 43 – 87) with female ratio of 80.0%. All fractures were stabilized by less invasive plate osteosynthesis with Zimmer Periarticular Locking System without supplemental bone grafting. Patients were followed up for mean 17.3 months (6 – 44). Of 75 cases, only 52 (69.3%) cases showed bony union within 6 months after index surgery and were assigned to the successful healing group. The remaining 23 (30.7%) cases which showed delayed union or nonunion, were assigned to the problematic healing group. There were significant differences between the two groups in the prevalence of smoking, operation time, total filled screws used, and plate-screw density of the fracture site. On multivariate analysis, plate-screw density at the fracture site was found to be an only predictor of the problematic healing, which is surgically controllable. Postoperative complications were identified as non-union in 1 case, metal failure in 2, peri-plate fracture in 2, bursitis due to screw irritation in 3, and superficial wound infection in 2. Reoperation was performed in 8 cases (10.7%). Plate-screw density at the fracture site had a highly significant influence on the risk of the problematic healing in distal femur fractures caused by low-energy trauma.

Abstract no.: 46696

THE EFFICACY OF USING A NEW TENSOR/BALANCER DEVICE IN TOTAL KNEE ARTHROPLASTY

Yuto SONE[1], Kota UEMATSU[1], Yasumasa TOMA[1], Satoshi YAMAMOTO[1], Hiroshi YAJIMA[1], Yasuhito TANAKA[2]

[1]Nara City Hospital, Nara City (JAPAN), [2]Nara Medical University, Kashihara City (JAPAN)

Introduction: Appropriate ligament balance is an important factor of good clinical outcome in total knee arthroplasty (TKA). The aim of this study was to evaluate the intraoperative gap distance and medio-lateral (ML) tilting angles by using a new tensor/balancer device. Methods: We investigated 40 knees who underwent primary TKA by a single surgeon. 20 knees were Stryker Scopio NRG® posterior-stabilised (PS) system and the other 20 knees were Microport Evoution® cruciate-substituting (CS) system. After femoral, tibial and patellar cut were finally performed, load measurements were documented at 0°, 30°, 45°, 60°, 90°, and 120° of flexion with the trial femoral component. Results: In both components, significant difference was found between the gap distance at 0° and 30° flexion. In PS , there was significant difference between the gap distance at 30° and 90° flexion. Discussion: The new tensor/balancer device provided the important information about the joint gap kinematics. Our results showed the gap difference in the midflexion range and this gap difference may induce the midflexion instability. We should indicate that prevention of the midflexion instability is required by designing the appropriate implant model. If this can be done, unnecessary release of ML soft tissue and additional bony resection of proximal medial tibia will be avoided.

Abstract no.: 46697

FACTORS ASSOCIATED WITH INCREASED HEALING TIME IN COMPLETE FEMORAL FRACTURES AFTER LONG-TERM BISPHOSPHONATE THERAPY

Sang-Min KIM[1], Seung-Jae LIM[2], Seung-Beom HAN[3], Kwang-Jun OH[4], Je-Hyun YOO[5]

[1]Department of Orthopaedic Surgery, Seoul Medical Center, Seoul (SOUTH KOREA), [2]Department of Orthopaedic Surgery, Samsung Medical Center, Sungkyunkwan University School of Medicine, Seoul (SOUTH KOREA), [3]Department of Orthopaedic Surgery, College of Medicine, Anam Hospital, Korea University, Seoul (SOUTH KOREA), [4]Department of Orthopaedic Surgery, Konkuk University Hospital, Konkuk University School of Medicine, Seoul (SOUTH KOREA), [5]Department of Orthopaedic Surgery, Hallym University Sacred Heart Hospital, Hallym University College of Medicine, Anyang (SOUTH KOREA)

The purpose of this study is to analyze factors that affect healing time in the operative treatment of complete femoral fractures associated with long-term use of bisphosphonates (BPs). In particular, we sought to determine operatively controllable factors related to fracture healing time. Ninety-nine consecutive patients (109 fractures) who had been operatively treated for a complete atypical femoral fracture were recruited. All patients had a documented history of BP therapy at the time of presentation with an average length of 7.4 ± 3.5 years (range, 3 – 20 years). Of 109 fractures, 76 (69.7%) fractures showed bony union within 6 months after the index surgery and were assigned to the successful healing group. The remaining 33 (30.3%) fractures which showed delayed union or nonunion were assigned to the problematic healing group. Supra-isthmal fracture height, femoral bowing ≥ 10° in the coronal plane, and mediolateral cortical thickness ratio ≥ 0.4 were predictable, but uncontrollable factors of the problematic healing. Iatrogenic cortical breakage around the fracture site, and the ratio of the remaining gap to cortical thickness ≥ 0.2 on the anterior and lateral sides of the fracture site were controllable predictive factors associated with the problematic healing. Higher BMI, longer BP duration and the presence of prodromal symptoms yielded adverse effects on fracture healing. Intramedullary nailing without cortical breakage around the fracture site and decreasing the anterior and lateral fracture gaps as much as possible are recommended to reduce healing time in complete femoral fractures associated with long-term use of BPs.

Abstract no.: 46700

TOTAL HIP ARTHROPLASTY AFTER POOR ACETABULAR FRACTURES TREATMENT OUTCOME

Valeriy Y. MURYLEV[1], Yaroslav RUKIN[2]
[1]I.M.Sechenov First Moscow state medical university, MOSCOW (RUSSIA),
[2]I.M.Sechenov First Moscow state medical university, Moscow (RUSSIA)

Background: acetabular fractures with pelvic ring discontinuity occur from 8% to 23% (J.S.Daurka,2014). Problems in chronic injuries: exclude infections, especially in cases with progressive osteonecrosis and after ORIF, pelvic deformities, pelvic nonunion, severe bone defects, osteonecrosis, plates and screws after ORIF, neurologic injuries. Patients and methods: since 2006 we performed THA in 68 patients with severe acetabular injury. With chronic pelvic discontinuity were 15 patients and 53 without. Mean patients age was 36 years, mean time to THA was 18 months after fracture or ORIF, mean time follow up was 68 months, mean HHS was 48. We divided patient by reconstruction type. 25 (36.8%) patients with femoral head acetabular reconstruction and 43 (66.2%) with tantalum augmentation. Indication for augmentation: impossibility to use own femoral head (avascular necrosis, small head size), insufficient bone quantity and quality from iliac crest. Results: in all patients after ORIF we had to remove metal constructions from acetabular zone, mean HHS 86, 2 (8%) aseptic loosening in femoral head reconstruction group, 3 (4.4%) patients had early dislocations (head diameter was < 32 mm), 3 (4.4%) patients had two stage revisions about deep periprosthetic infections (all infections were in cases after ORIF)! Conclusion: be ready to difficult surgery, always exclude infection before, be prepared to remove metal after ORIF, manage acetabular nonunion as pelvic discontinuity, acetabular components must be high porous, use large diameter ceramic head to prevent dislocation, remember about heterotopic ossification prophylaxis.

Abstract no.: 46701

ULTRA-FAST GENE PROFILING OF DEFA1-IL1B-LTF DISTINGUISHES PERIPROSTHETIC TISSUE INFECTION IN PATIENTS WITH TOTAL JOINT ARTHROPLASTIES

Jiri GALLO[1], Regina FILLEROVA[2], Martin RADVANSKY[3], Veronika KRAICZOVA[2], Milos KUDELKA[3], Eva KRIEGOVA[2]

[1]Department of Orthopaedics, Faculty of Medicine and Dentistry, Palacky University, Teaching Hospital, Olomouc (CZECH REPUBLIC), [2]Department of Immunology, Faculty of Medicine and Dentistry, Palacky University, Olomouc (CZECH REPUBLIC), [3]Dept. of Computer Science, Faculty of Electrical Engineering and Computer Science, VSB-Technical University of Ostrava, Ostrava (CZECH REPUBLIC)

The timely and exact diagnosis of prosthetic joint infection (PJI) is crucial for surgical decision-making. Intra-operatively, delivery of the result within an hour is required. Nowadays, leukocyte-esterase test and alpha-defensin lateral immunoassay of joint fluid are available for the intra-operative exclusion of PJI. Nevertheless, the analysis of periprosthetic tissue may better reflect the current status of infection, but no fast assay is available yet. We therefore investigated the utility of gene expression pattern of 12 candidate genes (TLR1, 2, 4, 6, 10, DEFA1, LTF, IL1B, BPI, CRP, IFNG, and HBD4A), previously associated with infection, for detection of PJI in periprosthetic tissues of patients with total joint arthroplasty (TJA) (n=76) reoperated for PJI (n=38) and aseptic failure (n=38) using ultra-fast quantitative RT-PCR Xxpress (BJS Biotechnologies LTD). Advanced data-mining algorithms were applied for data analysis. In PJI, elevated mRNA expression levels of DEFA1 ($P<0.0001$), IL1B ($P<0.0001$), LTF ($P<0.0001$), BPI ($P=0.019$) and TLR1 ($P=0.010$) were detected comparing to tissues from aseptic cases. Feature-selection algorithm revealed that DEFA1-IL1B-LTF pattern distinguishes PJI in periprosthetic tissues achieving 81% confidence, showing 100% reliability in culture-positive patients. To identify patients with PJI, we created an electronic decision tool and proved it on testing cohort of 10 prospectively reoperated TJA patients with known PJI status. Taken together, combination DEFA1-IL1B-LTF gene expression using ultra-fast qRT-PCR linked to the electronic calculator allowed to detect patients with high probability of PJI within 45 min after sampling. The further testing on a larger cohort of patients is needed. Grant support: VES15-27726A, VES16-31852A

Abstract no.: 46702

NAVIGATED TOTAL KNEE REPLACEMENT IN SEVERE VARUS KNEE DEFORMITIES

Valeriy Y. MURYLEV[1], Yaroslav RUKIN[2], Alexey MUZYCHENKOV[2]
[1]S.P.Botkin City Clinical Hospital and I.M.Sechenov THe First Moscow State Medical University, MOSCOW (RUSSIA), [2]I.M.Sechenov First Moscow state medical university, Moscow (RUSSIA)

Background: Severe varus knee deformity course the grate difficulties during TKA: bony defect medial & osteopenia lateral, strechted lateral & contract medial ligaments, subluxed tibia, flexion contracture, mismatch flexion and extention gaps. Patients and methods: we identified severe varus deformity > 15 ° and decompensated varus deformity > 25 ° or bony defects > 10 mm. Patients with varus were divided in two groups: 62 navigated TKA and 55 standard TKA. In both groups varus deformities shared as from 150 to 250 (type 1): navigated – 34, standard - 29. And >250 (type 2): navigated – 28, standard - 26. Before surgery Oxford scale was similar in both groups. Scale examination was after 6 months and 1 year. In navigated type 1 group constraint components were used in 8 cases in comparison 14 cases in standard. In navigated type 2 group constraint components were used in 15 cases in comparison 19 cases in standard group. Results: Oxford scale results were better in type 1 and 2 navigated groups. In these groups prostheses were less constraint, than in standard group. 92% of navigated TKA had the correct component position and only 78% with convenient TKA. Complications as aseptic loosening, painful knee and periprosthetic infection were more frequent in standard type 2 group in 75%. Conclusion: successful preoperative planning and navigated system allows to achieve better results in severe varus knee deformities, navigation system is the best for the flexor and extensor gaps and slots bone saw line balancing before resections.

Abstract no.: 46703

FUNCTIONAL OUTCOMES AND INCIDENCES OF OSTEOARTHRITIS IN OPERATED CASES OF TIBIA PLATEAU FRACTRUES

Saranjeet Singh JAGDEV, Subodh PATHAK
Shree Krishna Hospital, Anand (INDIA)

Background: In the challenging tibial condyle fractures despite anatomical joint reconstruction, osteoarthritis can occur secondary to the initial articular cartilage and meniscal injury. The aim of the study was to know incidence of osteoarthritis in our operated cases of tibial plateau fracture and to evaluate functional outcome. Methods and Material: Our operated 60 patients of tibial plateau fractures between 2006 to 2013 were evaluated retrospectively. Pre-operative radiographs were classified using Schatzker classification. Patients were followed up clinically and radiologically and were assessed for functional outcome and development of osteoarthritis. Results: The average duration of follow up was 76.32 months(42 to 130 months). The average age was 41.28(20-73) years. According to Schatzker classification type VI accounted for 32.5% and type V for 20 %. Average VAS Score was 1.35 ranging from 0 to 4. According to American knee society scoring system, 47patients had excellent and 8 patients had good knee scores, while 52 patients had excellent , 4 patients had good and 1 patient had poor functional scores. According to Ahlback classification 25 patients had grade I, while 9 patients had grade II, 7 patients had grade III and 3 patients had grade IV osteoarthritis of knee. Conclusions: According to statastical analysis of data incidence of osteoarthritis goes higher with Schatzker's grading. Despite presence of radiological arthritis patients can have good clinical function if the articular reduction and limb alignment are maintained. Treatment goals should include a congruent articular reduction, adequate knee stability, anatomical limb alignment and avoidance of complications

Abstract no.: 46705

DELTOID MUSCLE VOLUME AFFECTS CLINICAL OUTCOME OF REVERSE TOTAL SHOULDER ARTHROPLASTY IN PATIENTS WITH CUFF TEAR ARTHROPATHY OR IRREPARABLE CUFF TEARS

Jung JAE-WOOK[1], Yoon JONG PIL[1], Seo ANNA[2], Kim JEONG JUN[2], Chung SEOK WON[3]

[1]Department of Orthopaedic Surgery, Kyungpook National University Hospital, DaeGu (SOUTH KOREA), [2]Institute of Advanced Congergence Technology, Kyungpook National University, DaeGu (SOUTH KOREA), [3]Department of Orthopaedic Surgery Konkuk University School of Medicine, Seoul (SOUTH KOREA)

We aimed to estimate the interrelation between preoperative deltoid muscle status by measuring the 3-dimensional deltoid muscle volume and postoperative functional outcomes after reverse total shoulder arthroplasty(RTSA). Thirty-five patients who underwent RTSA participated in this study. All patients underwent preoperative magnetic resonance imaging(MRI) as well as pre- and postoperative radiography and various functional outcome evaluations at least 1 year. The primary outcome parameter was set as age- and sex-matched Constant scores. The 3-dimensional deltoid muscle model was generated using a medical image processing software and in-house code, and the deltoid muscle volume was calculated automatically. Various clinical and radiographic factors comprising the deltoid muscle volume adjusted for body mass index(BMI) were analyzed, and their interrelation with the outcome parameters was appraised using a multivariate analysis. As a result, all practical consequences considerably improved following surgery(all $p<0.01$). The deltoid muscle volume adjusted for BMI($p=0.009$), absence of a subscapularis complete tear ($p=0.040$), and greater increase in acromion-deltoid tuberosity distance($p=0.013$) were associated with higher matched Constant scores. Multivariate analysis indicated that the deltoid muscle volume was the single independent prognostic factor for practical consequences($p=0.011$). In conclusion, the preoperative deltoid muscle volume significantly affected the functional outcome following RTSA in patients with cuff tear arthropathy or irreparable cuff tears. Therefore, more attention should be paid to patients with severe atrophied deltoid muscle who are at a high risk for poor practical consequences subsequent to RTSA.

Abstract no.: 46712

INJURY OF THE OBTURATOR NERVE IN THE MODIFIED STOPPA APPROACH FOR ACETABULAR FRACTURES

Ji Wan KIM[1], Jung Jae KIM[2], Oog-Jin SHON[3], Jai Hyung PARK[4]
[1]Haeundae Paik Hospital, - (SOUTH KOREA), [2]Asan Medical Center, University of Ulsan, Seoul (SOUTH KOREA), [3]Yeungnam University Hospital, Yeungnam University, Daegu (SOUTH KOREA), [4]Kangbuk Samsung Hospital, Sungkyunkwan University, Seoul (SOUTH KOREA)

Introduction: The aim of this study was to evaluate the relationship between the degree of medial displacement of the quadrilateral plate and obturator nerve injury. Patients and Methods: We conducted a retrospective cohort study. Twenty-two patients with acetabular fractures that were surgically treated with the modified Stoppa approach were enrolled. The medial displacement of the quadrilateral plate was measured on a three-dimensional reconstruction image with the inlet view. Postoperative electrodiagnostic tests were performed based on clinical suspicion of neurological injury. Nerve injuries were divided into initial trauma or postoperative complication, and recovery of nerve function was evaluated. We identified the incidence of obturator nerve injury and analyzed the relationship between obturator nerve injury and medial displacement of the quadrilateral plate. Results: The incidence of obturator nerve injury was 9.1%, and all injuries resulted from the initial trauma. The average displacement of the quadrilateral plate was 15.9±13.4 mm. Patients were divided into two groups, using a displacement of 24 mm as a cutoff point, identified using a receiver operating characteristic curve analysis. There were 16 patients in group 1 (< 24 mm) and 6 patients in group 2 (≥ 24 mm). The incidence of obturator nerve injury from trauma was 0% in group 1 and 33.3% in group 2 ($p = 0.018$). Conclusions: No cases of postoperative obturator nerve injury were identified. Preoperative obturator nerve injury was more common in patients with a displacement of the quadrilateral plate ≥24 mm.

Abstract no.: 46713

FACTORS AFFECTING FRACTURE LOCATION IN ATYPICAL FEMORAL FRACTURES: A CROSS-SECTIONAL STUDY WITH 147 PATIENTS

Ji Wan KIM[1], Jung Jae KIM[2], Oog-Jin SHON[3], Hyoung Keun OH[4], Ki Chul PARK[5], Chang-Wug OH[6]

[1]Haeundae Paik Hospital, - (SOUTH KOREA), [2]Asan Medical Center, University of Ulsan, Seoul (SOUTH KOREA), [3]Yeungnam University Hospital, Yeungnam University, Daegu (SOUTH KOREA), [4]Ilsan Paik Hospital, Inje University, Ilsan (SOUTH KOREA), [5]Hanyang University Guri Hospital, Guri (SOUTH KOREA), [6]Kyungpook National Hospital, Kyungpook National University, Daegu (SOUTH KOREA)

Aims We hypothesized that diaphyseal AFFs would have characteristics different from those of subtrochanteric AFFs. The aim of this study was to evaluate the clinical features of diaphyseal/subtrochanteric AFFs and determine the factors related to fracture location. Patients and Method One hundred forty-seven patients with AFF were enrolled, 114 patients (78%) had a history of bisphosphonate use. Forty-nine patients (33%) had bilateral lesion, and 35% of patients had thigh pain. Patients were divided into two groups according to fracture location: 52 patients (35.4%) with subtrochanteric AFF and 95 patients (64.6%) with diaphyseal AFF. The patient demographics and fracture characteristics of the two groups were compared. Multivariate logistic regression analysis was used to adjust for variables related to fracture location. Results Our results show that the patients in the diaphyseal AFFs group were older and had lower BMI, lower BMD, and larger lateral and anterior bowing. Multivariate analysis revealed that age greater than 65 years and low BMD were related with diaphyseal location. With greater lateral bowing angle, the AFF location was moved from the subtrochanteric area to the diaphyseal area. Conclusion This study demonstrated that patients with diaphyseal AFFs had different characteristics compared with those with subtrochanteric AFFs.

Abstract no.: 46714

CONGENITAL CLEFT FOOT WITH BILATERAL C.T.E.V.

Syed Suhaib JAMEEL, Amanda HAWKINS
DUMFRIES AND GALLOWAY ROYAL INFIRMARY, DUMFRIES (UNITED KINGDOM)

Introduction: Congenital cleft foot is an uncommon condition. Although it can be associated with CTEV , its occurrence in isolation is rare. There has been no standard classification of this condition and depending on the number of metatarsal bones or the absence of rays; cleft foot has been categorized into different subtypes. Treatment options depend on the degree of malformation and number of associated clefts in the foot. It could range from a simple closure, double pedicle flap to a silicone block insertion. Materials &Methods: We present a case of a 2 year child with a back ground of cerebral palsy. He was undergoing serial casting for congenital CTEV. There was an obvious 1st ray flexible v-y deformity noticed on the right foot which was progressively increasing and the child was having difficulty in wearing regular shoes. He underwent a simple closure of the cleft foot with excision of inter metatarsal fat and partial adductor release. There was no bony procedure. Correction was found to be satisfactory and was checked intra-op with an image intensifier. An above knee cast was applied to both lower limbs for the CTEV correction. At the time of 10 months follow up, inter metatarsal angle was acceptable and there was no obvious cosmetic deformity. Conclusion: Simple excision/closure of the 1st ray deformity in a flexible cleft foot, if caught early can give desired aesthetic and functional results. However long term follow up till skeletal maturity is recommended.

Abstract no.: 46717

AGENESIS OF THE POSTERIOR ARCH OF THE ATLAS WITH CONCOMITANT FUSION TO THE AXIS: A RELOOK INTO THE CURRARINO CLASSIFICATION

Wenxian PNG
Singhealth, Singapore (SINGAPORE)

Objectives To report a unique case of agenesis of the posterior arch of the atlas with concomitant fusion of the posterior tubercle of the atlas to the spinal process of the axis. Materials and Method A 52 year old gentleman with no history of neck trauma or surgery presented with non dermatomal numbness in his entire right hand of one year in duration. There were no motor deficits. All reflexes were normal and plantar reflexes were down going. Plain radiographs revealed bilateral defects in the posterior arch of the atlas with fusion of the posterior tubercle to the spinous process of the axis on a background of cervical spondylosis. Magnetic resonance imaging (MRI) did not reveal any compression of spinal cord at the level of the atlas. Results Congenital absence of the posterior arch of the atlas is an uncommon condition and it occurs only in 0.5%-4% of the general population. A case of agenesis of the posterior arch of the atlas with concomitant fusion of the posterior tubercle of the atlas to the spinal process of the axis has not been described before in literature. The implication of concomitant fusion of the posterior tubercle of the atlas to the spinal process of the axis in a patient with agenesis of the posterior arch of the atlas is unknown but may be of surgical significance. Conclusion In view of this abnormal fusion, we propose future studies to revisit the embryological origins of the atlas and the axis.

Abstract no.: 46718

10 YEARS SURVIVAL ANALYSIS OF ZWEYMULLER ALLOCLASSIC STEM

Mikheil ZIMLITSKI[1], Levan NATCHKEBIA[2], Vaga GAPHRINDASHVILI[2], George LORIA[2], George ZIMLITSKI[2]
[1]MediclubGeorgia, TBILISI (GEORGIA), [2]MediclubGeorgia, Tbilisi (GEORGIA)

Introduction: The Alloclassic Zeymuller stem was introduced to the international market in 1979. Since that period, more than 1 million stems are already implanted worldwide. Since 2005 year, 4457 Zweymuller alloclassic stems were implanted in three orthopedic hospitals of Georgia. Materials and Methods In this paper, we studied survival rate of 427 zweymuller stem on 2, 5 and 10 years. Surgeries were perform in 2005-2006 years. Mean age was 66,5 y. Male -38.2 %, Female- 61,8. Prior the surgery 78% of patients were diagnosed for osteoporosis with DEXA scan. Conclusion: Using surgical, clinical and radiological (X-ray, DEXA) endpoints for the stem we concluded that overall survival of the Zweymuller alloclassic stem was 98,2% and there was no significant difference in group of patients with osteoporosis.

Abstract no.: 46719

THE EFFECTIVENESS OF REHABILITATION AFTER A TOTAL HIP ARTHROPLASTY: A DESIGN STUDY FOR THE COMPARISON OF USUAL CARE IN THE NETHERLANDS VERSUS GERMANY.

Guenter DIETZ[1], Gesine SEEBER[2], Annet WIJNEN[3], Djordje LAZOVIC[4], Sjoerd BULSTRA[5], Christiaan VAN LINGEN[6], Martin STEVENS[5]
[1]Klinik für Orthopaedische und Rheumatologische Rehabilitation Reha-Zentrum am Meer Bad Zwischenahn, Bad Zwischenahn (GERMANY), [2]Universitaetsklinik für Orthopaedie und Unfallchirurgie Pius-Hospital Oldenburg, Oldenburg (GERMANY), [3]1. Universitaetsklinik für Orthopaedie und Unfallchirurgie Pius-Hospital Oldenburg 2. Department of Orthopedics, University of Groningen, University Medical Center Groningen, P.O. Box 30001, 9700 RB Groningen, The Netherlands, Oldenburg, Groningen (GERMANY), [4]Universitaetsklinik fuer Orthopaedie und Unfallchirurgie Pius-Hospital Oldenburg, Oldenburg (GERMANY), [5]Department of Orthopedics, University of Groningen, University Medical Center Groningen, P.O. Box 30001, 9700 RB Groningen, The Netherlands, Groningen (NETHERLANDS), [6]Department of Orthopedics, Ommelander Ziekenhuis Groep, Winschoten (NETHERLANDS)

Background: Total hip arthroplasty(THA) is considered the most effective treatment for end-stage hip osteoarthritis. The number of THAs is expected to increase dramatically in the coming decades. Usual postoperative rehabilitation after primary THA differs significantly between Germany and the Netherlands. In the Netherlands, patients undergo fast-track surgery being discharged into their home environment within a few days receiving no or limited aftercare depending on their health insurance. In Germany, patients stay in the hospital for about 12 days before being transferred to a rehabilitation center for three weeks. The superficially more cost-effective Dutch system is judged critically due to suboptimal rehabilitation outcomes. The aim of this study is to compare the Dutch and German postoperative rehabilitation. Methods: A transnational prospective trial. Medical effectiveness will be assessed at four different time points utilizing patient self-reported questionnaires(HOOS, SF-36, EQ-5D) and functional tests(TUG, 5-TSST). Additionally, economic aspects in both countries will be assessed from a societal perspective, to investigate whether cutting costs for rehabilitation disburdens the healthcare system. Results: Data collection is still ongoing. Preliminary results will be available in October 2017. Discussion: Should this study point out that a more intense post-THA aftercare as handled in Germany is both medically and economically advantageous, this can be an argument for Dutch surgeons to try to change their policy. If the comparison reveals that the Dutch system is more cost-effective while achieving equal or even better functional levels and patient satisfaction, this could be an argument to try to revise the German approach.

Abstract no.: 46720

COMPARISON BETWEEN TWO KINDS OF PATIENT SPECIFIC GUIDE IN TOTAL KNEE ARTHROPLASTY.

Taisei KAWAMOTO[1], Satoshi IIDA[2]
[1]Matsudo city hospital, Tokyo (JAPAN), [2]Matsudo city hospital, Matsudo (JAPAN)

Background: Recently patient specific guide in TKA have been introduced , in which 3-dementional imaging is used to manufacture disposable cutting guide specific to a patient's anatomy. The aim of this study is to evaluate clinical results and quantify the coronal plane alignment between two group of patients using two kinds of patient specific guide. Method: An unselected consecutive series of eighty-one patients undergoing primary TKA were studied. Forty knees was operated using CT-based patient specific guide. (SignatureTM) Subsequently Forty-one knees were received a TKA using CT-based patient specific guide(PMITM). Postoperatively standing AP hip-to-ankle radiographs were obtained, from which the lower extremity mechanical axis were measured. The alignment goals were a neutral mechanical axis defined as a hip-to-ankle angle of 0°. All patients postoperatively was evaluated of clinical results the Japan Orthopedics Association(JOA) Knee scores. Results:The mechanical axis angle in Signature group was 2.2°, while PMI group was -0.6°, there was statistical significance. The number of outliers for mechanical axis angle was Signature group 37.5%, the PMI group 26.8%, between the two groups there was no statistical significance.The operative time in Signature was 114.6 minutes ,the time in PMI was 111.3 minutes , there was no statistical significance. The JOA Knee score of Signature group was 84.7 points, and the score of PMI group was 82.7 points,there was no statistical significance between the two groups .Conclusion: while clinical outcome was comparable between the two patient specific guide group 、 significantly inferior mechanical axis angle was detected in the Signature group.

Abstract no.: 46722

INCIDENCE, CHARACTERISTICS, AND TREATMENT OF AIR LEAK FOLLOWING BLUNT CHEST INJURIES IN POLYTRAUMA PATIENTS.

Gabriel HALAT[1], Lukas NEGRIN[2], Konstantina CHRYSOU[3], Beatrix HOKSCH[3], Ralph SCHMID[3], Gregor KOCHER[3]

[1]Univ. Clinic for Trauma Surgery, Medical University Vienna, Vienna (AUSTRIA), [2]Univ. Clinic for Trauma Surgery, Medical University Vienna, Wien (AUSTRIA), [3]Division of General Thoracic Surgery, University Hospital Bern / Inselspital Bern, Bern (SWITZERLAND)

Background: An adequate therapeutic approach is mandatory in the treatment of air leak in polytrauma patients suffering from blunt chest trauma. The aim of this study was to evaluate the management of air leak in this specific patient collective. Methods: Data from 110 polytrauma patients was collected retrospectively. Fifty-four patients received initial treatment by chest tube placement for pneumothorax. These patients were classified into two groups, one with severe air leak and one with minor air leak. An evaluation of injury pattern, chest wall injuries, duration of air leak, reason for drainage maintenance in place, hospital length of stay, ICU stay, ventilator duration, treatment modality, and the delay to surgical intervention was performed. Results: Four patients suffered from a severe air leak and were scheduled for early surgical intervention, the remaining 50 patients only showed minor air leak. Seven patients with minor air leak suffered from prolonged air leak (>5 days), which spontaneously ceased in all of them after a mean duration of 7.7 days. Absence of a prolonged air leak resulted in a shorter length of stay and a shorter duration of mechanical ventilation, although without statistical significance. Conclusions: Early spontaneous cessation of most minor air leaks as well as early surgical intervention for severe air leak lead to satisfactory patient outcomes with short hospital stays in our patient collective. We advocate early surgery for lacerations of the pulmonary parenchyma resulting in severe air leak, whereas minor air leaks can usually be treated conservatively.

Abstract no.: 46724

INNOVATIVE ANTIMICROBIAL GLOVE TECHNOLOGY REDUCES THE RISK OF MICROBIAL CONTAMINATION FOLLOWING MULTIPLE PERFORATIONS

Johannes LEITGEB, Ojan ASSADIAN
Medical University of Vienna, Vienna (AUSTRIA)

Introduction: Intact surgical gloves create a protective barrier during surgery, however high perforation rates (16%-60%) are reported, and glove perforation may be linked to increased risk of surgical site infections. This study evaluates a model of microbial passage through conventional single layer (A), double-thickness (B) and tri-layer elastomeric (C) surgical gloves with antimicrobial activity. Methods: Bacterial passage was assessed following multiple glove punctures (20 gauge needle), using Staphylococcus aureus (SA) and Brevundimonas (Pseudomonas) diminuta (BD) in a model of gross wound contamination in volunteers in Groups A, B and C. Using microbiological methods bacterial passage was assessed at 5, 10, 30 and 45 minute exposure separately and combined (5/10 and 30/45), expressed as colony forming units per unit time. Six repetitions were made for each glove/time interval. Microbial passage between the three independent test groups was analyzed using the Mann Whitney test. Results: No significant difference were observed in microbial passage between Groups A and B at 10, 30, or 45 minutes, while a significant difference ($p<0.05$-$p<0.005$) was observed in Group C at 5, 30 and 45 minutes compared to A and B for SA and BD. When timed groups were combined (5/10 and 30/45) a significant reduction ($p<0.01$–$p<0.005$) in passage of SA and BD was observed compared to Groups A and B. Conclusion: An antimicrobial surgical glove significantly reduced microbial passage following glove perforation compared to single or double-layer conventional gloves. Further studies are warranted documenting the clinical efficacy of this innovative antimicrobial glove Technology.

Abstract no.: 46726

TIMELY EVALUATION - SURGICAL MANAGEMENT OF NECK OF FEMUR FRACTURES - IN A DISTRICT HOSPITAL IN EAST ENGLAND

Azeem THAHIR, Sunny PARIKH, Christine SCARSBROOK
Colchester Hospital University Foundation Trust, Colchester (UNITED KINGDOM)

Background:All patients with hip fracture who are medically fit should have surgery within 48 hours of admission. The aims of surgery are to control pain and promote early mobilisation; delay from admission to surgery causes distress to the patient and is associated with greater morbidity and mortality. Identifying and treating correctable comorbidities immediately is very important so that surgery is not delayed. Methods:Aim was to identify the Neck of femur patients who had a delay to surgery from time of admission, to identify the cause for delay and to identify the days when more surgeries were performed (weekdays/weekends) Results:There was a total of 86 patients over 2 months. Most of the admissions were on Thursday. More of the surgeries were performed on a Saturday. 29 patients took more than 36 hours to get to theatre, out of which 17 patients waited for optimization, 2 awaiting THR and 10 due to lack of time. Conclusion(s):All delays due to lack of theatre time occurred for patients admitted from Sunday to Thursday. Delays due to optimization included treating medically unfit patients as well as sorting group & save/anticoagulation Implications:SHO on-call to treat all the correctable medical conditions during admission and seek medical registrar input. Stop prescribing blood thinners on the drug chart and to see to that 2 group & save samples are done. To prescribe all the necessary medications during admission. Recommendations to SpR/Consultants/theatre staff: Reduce the lunch break time at theatre? Single surgeon/single anaesthetist to perform the days' trauma list?

Abstract no.: 46727

PRE-REDUCTION X RAYS IN ANKLE FRACTURES WITH DISLOCATION: DOES IT POSE HARM?

Azeem THAHIR, Tim MAHESWARAN, Tim WILLIAMS
Colchester Hospital University Foundation Trust, Colchester (UNITED KINGDOM)

It was commonplace for ankle fracture with dislocations to be reduced with a matter of priority without taking radiographs, even in the absence of neurovascular compromise. However, many accident and emergency departments do now take radiographs and as such we wanted to know what impact this could have on the patient and subsequent management of ankle fracture with dislocations. We carried out a retrospective study on 60 patients that had an ankle fracture with dislocation and looked at the number that had an X-ray prior to reduction, how long it took to get the X-ray and whether this affected the timely management or caused any adverse neurovascular or loss of skin integrity. Results showed that 47 out of the 60 patients had pre-reduction X-rays which had no impact on neurovascular changes or loss of skin integrity. Overall time to manipulation and subsequent management was not significantly different in the two groups. However, number of remanipulations was significantly lower in the group that had a pre-reduction X-ray, 5/47 – $p<0.05$, Chi-Squared test and relative risk was 3.13. In conclusion, pre-reduction X-rays provide useful information and do not adversely affect outcomes in the management of ankle fractures with dislocations, with lower remanipulation rates owing to better patient satisfaction and care.

Abstract no.: 46728

LONG TERM OUTCOMES OF POSTERIOR LUMBAR INTERBODY FUSION USING THREADED CYLINDRICAL CAGES AND PEDICLE SCREWS

Hiromichi MISAWA, Takahiro TSUTSUMIMOTO, Mutsuki YUI, Hidemi KOSAKU, Ryo MUNAKATA, Terue HATAKENAKA, Hiroshi OHTA
Yodakubo hospital, Nagawa town (JAPAN)

To decompress neural elements and stabilize the lumbar spine, threaded cylindrical cages (TCCs) have been used in posterior lumbar interbody fusion (PLIF). We evaluated the long-term outcomes of PLIF with TCCs and pedicle screws. We analyzed 88 patients (mean age 63.3 years) operated on between June 1999 and November 2006 (mean follow-up 8.38 years). Main indications for PLIF were degenerative spondylolisthesis, isthmic spondylolisthesis, and degenerative scoliosis. Clinical outcomes were measured using the visual analog scale (VAS); Oswestry disability index (ODI); Japanese Orthopedic Association score (JOA); and radiological measurements of the fusion rate, L1-S1 Cobb angle, and adjacent level degeneration (ASD) using magnetic resonance imaging. At the final follow-up, the mean VAS score (back pain), ODI, and JOA score were 2.39, 22.1%, and 22.8/29, respectively. The overall fusion rate was 97.7%. ASD on the cranial side was seen in 32 patients (36.8%), and that on the caudal side was observed in 8 (11.0%). The mean L1-S1 Cobb angle of patients with and without cranial ASD was 28.6/39.1 ($p=0.0158$). The final VAS score, ODI, and JOA score were statistically affected by the angle ($p=0.003$, $p=0.0006$, and $p<0.0001$, respectively). Reoperation was performed in patients with ASD (6), scoliosis (1), and kyphosis (1). The fusion rate of PLIF with TCCs and pedicle screws was excellent. It was difficult to obtain appropriate lumbar lordosis in PLIF, because TCCs were disadvantageous in terms of their shape. Insufficient lordosis increased the ASD incidence, and long-term outcomes of PLIF were affected by lumbar lordosis.

Abstract no.: 46729

A CONSTRAINED TRIPOLAR LINER CEMENTED INTO THE TANTALUM REVISION ACETABULAR SHELL: INDICATIONS AND OUTCOMES

Rejith Valsalan MANNAMBETH[1], Neil BERGMAN[2]
[1]The ALFRED Hospital, melbourne (AUSTRALIA), [2]Warringal Private Hospital, Melbourne (AUSTRALIA)

Introduction & Aims: Acetabular bone stock deficiency, abductor deficiency and hip joint instability are among the most challenging issues complicating revision Hip Arthroplasty. There are very few successful strategies described to tackle these issues when they occur together . Method: 21 revision hip replacements utilising a constrained tripolar liner cemented in to a porous tantalum acetabular shell were reviewed to define the indications outcomes and complications of this reconstruction. The cases were followed up for a minimum of 2 years with an average follow up of 4 years. The indications for usage of this construct were either high risk of dislocation post operatively (abductor deficiency or neurological abnormalities) or for joint instability occurring post revision surgery in the absence of impingement. The patients were followed up at 1 month, 6 month and then every year and assessed clinically and radiologically. Results: The average preoperative Harris Hip Score was 36(19-60) and 62 (44-75) at the last review. Failure defined as revision of the implant, radiologic loosening or failure of the liner constraint mechanism, was seen in only one case 4 years post surgery due to deep infection. All cases showed osseointegration of the tantalum shells into the acetabulum. there were no liner breakages, cup loosening or dislocations. Conclusions:Despite the poor history of constrained liners, this tripolar liner cemented into a tantalum revision shell can be helpful in the challenging combination of acetabular bone deficiency and high risk or actual joint instability.

Abstract no.: 46730

JOINT PRESERVATION SURGERY IN OSTEOSARCOMA PATIENTS USING LIQUID NITROGEN TREATED TUMOR-BEARING BONE

Norio YAMAMOTO, Takashi HIGUCHI, Katsuhiro HAYASHI, Akihiko TAKEUCHI, Kensaku ABE, Yuta TANIGUCHI, Hisateru AIBA, Yoshihiro ARAKI, Karem ZEKRY, Gang XU, Hiroyuki TSUCHIYA
Kanazawa University, Kanazawa (JAPAN)

Purpose: The purpose of this study is to evaluate the results of intentional joint preservation surgery using frozen tumor bearing autografts treated with liquid nitrogen in patients with osteosarcoma involving the metaphysis. Patients and methods: Between 2003 and 2014, we have applied this surgical technique for 18 cases of osteosarcoma patients who had achieved good response to neoadjuvant chemotherapy. In all cases, tumors involved the metaphysis with or without diaphysis of long bones (12 distal femurs, 6 proximal tibias). After neoadjuvant chemotherapy, they underwent intentional marginal excision with epiphyseal osteotomy to preserve knee joint. The bony lesions containing tumor were frozen in liquid nitrogen and utilized for reconstruction using intramedullary nail or plates. Functional evaluations were performed using MSTS score. Results: In eighteen patients (9 males, 9 females) with a mean age of 11.6 years, 13 patients were continuous disease-free (CDF), 2 were no evidence of disease (NED), one was alive with disease (AWD) and one was died of disease (DOD). Functional outcomes were assessed as excellent in 15 patients and poor in three with a mean follow-up of 46.1 months. The mean functional score was 90.2%. Nine patients regained normal range of motion on knee joint. Conclusion: Joint-preserving reconstruction using frozen autografts yielded excellent function for patients with osteosarcoma.

Abstract no.: 46734

EPIDEMIOLOGICAL STUDY AND TREATMENT RESULTS OF 556 CASES OF BONES SARCOMAS IN A SINGLE CENTER

Reda HARRAR[1], Kamel ACHOUR[2], Mourad OUBIRA[2], Rachid BELLAHSENE[3], Mourad HAMIDANI[4], Chafiza GRARADJ[2], Amine TOUHAMI[2]
[1]Blida university hospital center, Alger (ALGERIA), [2]Blida university hospital center, ALGIERS (ALGERIA), [3]Blida university hospital center, Cherchell (ALGERIA), [4]Blida university hospital center, Blida (ALGERIA)

Introduction: Various sarcomas of limb bones underwent multidisciplinary limb salvage. This review focuses on oncological results and prognostic factors . Methods: From 2005 to 2015, 556 bones sarcomas of limbs were treated in the university hospital center of Blida . The most commun tumors included 185 osteosarcomas, 113 chondrosarcomas, 108 Ewing's sarcomas, 23 fibrosarcomas, 20 malignant histiocytofibromas and 9 other rarer sarcomas. The mean age was 25,4 yr. The average tumors size was 25,38 cm. According to Enneking's classification there were 20% G. A , 49% G. B and 31% G.III B. En bloc resection was performed in 352 cases. Ewing's sarcomas and osteosarcomas received neo adjuvante and adjuvante chemotherapy according to the protocol of the Gustave-Roussy institute . Results: The mean follow-up was 30 months.At last follow-up 266 patients were disease-free; 81were under treatment and 102 had died. Local recurrences were observed in 106 patients (30,5%). Discussion : Poors prognosis factors was metastasis, proximal location, large tumors size and therapeutic factors (response to chemotherapy in Ewing's sarcoma and osteosarcoma , and surgical resection margins)

Abstract no.: 46735

SURGICAL TREATMENT OF RHIZARTHROSIS BY TRAPEZIECTOMY AND STABILISATION BY THE PALMARIS LONGUS TENDON (ABOUT 15 CASES)

Kamel ACHOUR[1], Amir SERRI[2], Amine TOUHAMI[2], Abdelhalim OULD ROUIS[2], Nacer BOUALI[2], Mourad HAMIDANI[2]

[1]CHU Frantz Fanon Blida, Alger (ALGERIA), [2]CHU Frantz Fanon Blida, Blida (ALGERIA)

Osteoarthritis of the carpometacarpal joint of the thumb (rhizarthrosis) is a common pathology. Several surgical methods exist, including trapeziectomy, arthrodesis, cemented or cementless prosthesis.The purpose of the present study is to report our experience with this procedure reviewing a continuous monocentric series of 15 thumbs. Surgery consisted in a total trapeziectomy and stabilization by the palmaris longus tendon. Fifteen patients of 57.3 years average age underwent this procedure. According to Dell classification there were 7 stage II, 5 stage III, and 3 stage IV. Clinical and radiographic evaluations were available for all the patients. Pollicidigital strength was measured with a dynamometer. At 53 months average follow-up, 85% of the patients had no pain. Functional results ranged from good to excellent in 13 cases. Opposition was satisfactory in 12 cases. Scapho-metacarpal range of motion was 16°. Pinch strength was 4,2 kg and grasp strength was 23 kg. Loss of pinch strength was 1 to 2 kg as compared to our reference group. Such a loss does not impair patients' daily life. Scores do not decrease with time. Radiographic staging seems to be linked with scoring. Reducing the trapezial space does not influence results. We had none of the complications described in other techniques: synovitis, ossifications, loosening and reflex sympathetic dystrophy. This study, as well as literature, confirms that trapeziectomy and stabilization by the palmaris longus tendon gives satisfactory functional results which are stable with time and without complication. For all these reasons, we prefer this technique in degenerative osteoarthritis.

Abstract no.: 46740

“COMPARITIVE STUDY OF EXPERT TIBIAL NAILING AND MINIMALLY INVASIVE PERCUTANEOUS PLATING IN THE TREATMENT OF DISTAL THIRD TIBIAL FRACTURES”

Suraj Verma BUDDHARAJU
jjmmc, Davangere (INDIA)

INTRODUCTION: Distal third tibial fractures are one of the most common fractures. Even though wide variety of treatment modalities are available for these fractures, there is no gold standard surgical treatment and still confusion exists weather nailing is better or plating? in the past both plating and nailing where used but both had their own advantages and disadvantages , plating had disadvantage of wound site infection and disturbing periosteal blood supply and nailing had disadvantage of inadequate fixation and reduction ,so to overcome these problems construction of plating and nailing have been improved as minimally invasive percutaneous plating and expert tibial nailing .In this study, we would like to compare the two modified surgical procedure .AIM OF THE STUDY: To evaluate the functional outcome and complications of treatment of fracture distal third tibia using minimally invasive percutaneous plating and expert tibial nailing. MATERIALS AND METHODS : This was randamised control trial in which 30 patients with distal third tibia fractures presenting to the Department Of Orthopaedics , J.J.M. MEDICAL COLLEGE, DAVANGERE, KARNATAKA, INDIA during the study period June 2014 to January 2016. The patients were randomized using Excel Random Number Generation Technique into two groups. A group treated with minimally invasive percutaneous plating and B group treated with expert tibial nailing. RESULTS AND CONCLUSIONS: It can be concluded from this study that Treatment using expert tibial nailing is more advantageous in terms of postoperative rehabilitation than MIPO in distal tibial fractures. But functional outcome is same with both the techniques.

Abstract no.: 46741

COMPARISON OF MINIPLATE AND K-WIRE IN TREATMENT OF METACARPAL AND PHALANGEAL FRACTURES IN DAVANGERE URBAN POPULATION

Suraj Verma BUDDHARAJU
jjmmc, Davangere (INDIA)

Introduction: metacarpal and phalangeal fractures are one of the most common fractures constituting 10% of all the upper limb fractures. Even though wide variety of treatment modalities are available for these fractures, The most effective method for fixation of metacarpal and phalangeal fractures has not been established. Two commonly used surgical techniques are K-wire and miniplate fixations. We performed a prospective randomized trial to compare these two treatment strategies. Materials and Methods: A total of 100 patients with metacarpal and phalangeal fractures presenting to the Department Of Orthopaedics , J.J.M. MEDICAL COLLEGE, DAVANGERE, KARNATAKA, INDIA during the study period June 2014 to January 2016 were included in the study. The patients were randomized to receive fracture fixation ,Group A where treated with k wire fixation and patients in group B with mini plating .The operative time, pain scale, success of union, time of union, active range of motion (ROM), and complications were assessed. Results: 57 fractures were treated with K-wire fixation and 43 were treated with mini plate fixation. The K-wire group was associated with significantly shorter operative time There were no differences in postoperative pain, rate of union, healing time of the successful case, total active ROM and complications. Conclusion: our results indicate that both procedures are effective in the treatment of displaced metacarpal fractures. However, we believe K-wires represent the gold standard of treatment for displaced fractures of the metacarpal and Phalangeal in Indian urban population. And mini plates are more effective for spiral metacarpal shaft fractures.

Abstract no.: 46742

A COMPARATIVE STUDY OF THE MANAGEMENT OF OLECRANON FRACTURES USING TENSION BAND WIRING TECHNIQUE WITH CANCELLOUS SCREWS AND K WIRES.

Suraj Verma BUDDHARAJU
jjmmc, Davangere (INDIA)

Introduction:Olecranon fractures are one of the most commonly involved injuries in the emergency room.The accepted management of the undisplaced olecranon fractures is short immobilisation followed by increasing the range of motion and for displaced fractures open reduction and tension band wiring with either K wires or Cancellous screws is the option. Objective: To compare the results between tension band wiring with K wires and tension band wiring with Cancellous screws for olecranon fractures. Materials & Methods : 20 adult patients with olecranon fractures treated surgically between June 2013 and June 2015 were included.10 patients were fixed with tension band wiring and k wires.Another 10 patients were treated with tension band wiring and cancellous screws. Results : Among 10 patients operated with tension band wiring and cancellous screws 8 patients had excellent results,1 patient had good and 1 patient had fair results.Among 10 patients tension band wiring and k wires,5 patients had excellent results,3 patients had good and 2 patients had poor results. Conclusion : From this study it concluded that using tension band wiring with cancellous screws gives better clinical results and much less reoperation rate for hardware removal when compared to tension band wiring and k wires and better functional outcomes.

Abstract no.: 46743

TRIPLE ARTHRODESIS FOR SUBTALAR OSTEO-ARTHRITIS

Suraj Verma BUDDHARAJU
jjmmc, Davangere (INDIA)

INTRODUCTION : Triple Arthrodesis consists of surgical fusion of the Talo-Calcaneal(TC), Talo- Navicular(TN) and Calcaneo-Cuboid(CC) joints in the foot. Primary goals of the Triple Arthrodesis are to relieve pain from the arthritic, deformed, or unstable joints. It is a good and reliable technique for the correction of fixed hind foot deformities. Plantar pressure distribution can be reconstructed to a satisfactory extent. AIM OF THE STUDY : Important goals of this study are correction of deformity and creation of stable, balanced plantigrade foot for ambulation.MATERIALS AND METHODS : A prospective study of 20 patients with Subtalar Osteoarthritis were admitted and studied over a time period of july 2014 to july 2016 at Department Of Orthopaedics, J.J.M.M.C attatched to Chigatteri General Hospital, Davangere, and Bapuji Hospital, Davangere. They were clinically and radiologically evaluated during the period of study.RESULTS AND CONCLUSIONS : 20 patients with Subtalar Osteoarthritis were operated by Triple Arthrodesis and studied during the study period of two years. out of 20 patients 18 patients got good result, 1 had fair result and 1 had poor outcome on both clinical and radiological basis.

Abstract no.: 46744

NEW KNEE SCORE : COMPARATIVE EFFICACY AND VALIDATION IN OSTEOARTHRITIS

Prince RAINA[1], Roop Bhushan KALIA[2]
[1]Beas Hospital, JAMMU (INDIA), [2]AIIMS RISHIKESH, Rishikesh (INDIA)

Abstract Introduction: Osteoarthrosis is commonest and unevitable joint disorder. Weight bearing joints appears to have high predisposition rate as compared to other joints. ADVANCES: Osteoarthritis of knee can be primary or secondary and symptoms complex can be quantified using numerous scales like WOMAC, HSS, KOOS, OKS, KSS and radiological criteria of Kellgren and Lawrence. SHORTCOMINGS: The two extremes of all criteria explains the normal and worst conditions. No criteria explains the amount of intervention needed and type of intervention needed for a particular stage of disease. Morever all criterias being nonuniform and diverse and difficult utility.STUDY DESIGN: Literature review was done to analyse the advances made. Present criterias were screened and scrutinized for the modifications needed. It is analysed that dealing osteoarthrosis knee is a four step process directly or indirectly and each being interdependent. The three step involved are patient specific complains, physician examination findings and radiological assessment details. Each factor is interdependent and plays role in deciding the conclusive treatment i.e fourth step. Analysis shows comparing Chi square value (0.469) with the reference value for a degree of freedom of 3, the null hypothesis turned out to be true. Inter-observer aggrement (kappa) was calculated using the same data shows perfect aggrement.CONCLUSION: New simplified knee score combines all the parameters in a simplified manner and guides the intervention method needed. New score can be recognised as a new assessment tool in evaluating a patient for osteoarthrosis knee in future.

Abstract no.: 46745

MANAGEMENT OF OLD NEGLECTED , RECURRENT AND RESISTANT CASES OF CTEV BY JOSHI'S EXTERNAL STABILIZATION SYSTEM (JESS)

Ameen Ahamed CHAMPOKADAVIL
JJM medical college davangere, COCHIN (INDIA)

Background And Objectives:Many Patients Come To Orthopaedic Department With Neglected Ctev, Plaster Of Paris Drop Out Cases Or Failed Surgical Procedures. In An old Patient Soft Tissue Release Alone Is Often Not Sufficient For Full Correction, So Fractional Differential Distraction With Joshi's External Stabilization System Is A Useful Option To Correct The Deformities In Such Patients. We Aimed To Study A Short Term Follow Up Of 16 Patients With 4 Bilateral Cases Treated With Jess At Department Of Orthopaedics, Jjmmc, Davangere Regarding Cosmetic, Functional And Anatomical Outcome. Methods:16 Children Underwent 20 Jess Procedures At Department Of Orthopaedics Jjm Medical College, Davangere And Bapuji Hospital, ,DavangereFrom JULY 2015 To AUGUST 2016, Patients Were Followed Up Regularly. Three Dimensional Correction Was Achieved By Use Of The Distractor Device. Results :Excellent Results Were Obtained In 15 Feet, Good Results In 2 Feet And Fair In 1, Poor In 1. Most Common Complications Encountered Was Pin Tract Infection Which Eventually Healed On An Out Patient Basis Without Any Residual Sequelae. Interpretation And Conclusion : The Joshi's External Stabilization System Frame Is Ideally Suited For Child In Whom Clubfoot Deformities Remain Uncorrected By Plaster Of Paris Cast And Manipulations As Well As Recurrent / Relapse Club Foot. The Parents Learn The Distraction Technique Easily And Were Compliant. Once The Jess Frame Is Removed, Casting Is Done Which Protects Osteopenic Bone And Maintains Correction Achieved And Also Allows Gradual Weight Bearing. The Procedure Is Less Invasive And Results Are Good, Irrespective Of Severity Of Deformity.

Abstract no.: 46747

LOCKING COMPRESSION PLATE VERSUS INTRAMEDULLARY INTERLOCKING NAIL FOR MANAGEMAENT OF ADULT HUMERAL SHAFT FRACTURES

Ameen Ahamed CHAMPOKADAVIL HOUSE , AIMS PONEKKARA P.O , EDAPPALLY ,ERNAKULAM , KERALA , INDIA
jjm medical college davangere, COCHIN (INDIA)

AIM OF THE STUDY : : This randamised control trial has been done to evaluate the outcome of treatment of fracture shaft of humerus using open plating with LCP and closed antegrade interlocking nailing INTRODUCTION : The fractures of the shaft of humerus are one of the commonest fractures found and can be treated by different methods. Operative management of fracture shaft of humerus can be with plate osteosynthesis or with intramedullary nailing. In this study we have tried to analyze the outcome in terms of duration of operating time, amount of blood loss, rate of infection, peroperative radial nerve palsy, pain at the fracture site, time to achieve union, functional outcome (dash score) and complications of surgery of humeral shaft fractures managed with open plating with LCP and closed antegrade interlocking nailing. MATERIALS AND METHODS : This was randamised control trial in which all patients with fractures of shaft of humerus that met the criteria for operative interventions (intramedullary interlocking nailing and locking compression plating) presenting to the Department Of Orthopaedics , J.J.M. MEDICAL COLLEGE, DAVANGERE, KARNATAKA, INDIA during the study period January 2016 to January 2017 RESULTS AND CONCLUSIONS: Locking Compression Plating is better for fracture shaft of humerus. Plate Osteosynthesis remains the gold standard of fixation for humeral shaft fractures

Abstract no.: 46748

THE MANAGEMENT OF SINSHEIMER TYPE IIB AND TYPE IIIA SUBTROCHANTERIC FRACTURES WITH PROXIMAL FEMORAL NAIL (PFN) / LOCKING COMPRESSION PLATE –PROXIMAL FEMUR (LCP-PF)- A COMPARATIVE STUDY

Ameen Ahamed CHAMPOKADAVIL HOUSE , AIMS PONEKKARA P.O , EDAPPALLY ,ERNAKULAM , KERALA , INDIA
jjm medical college davangere, COCHIN (INDIA)

Introduction: Subtrochanteric fractures are devastating injuries that most commonly affect the elderly population. Conservative methods of treatment results in malunion with shortening and limitation of hip movements as well as complications of prolonged immobilization like bed sores, DVT and hypostatic pneumonia. Hence the treatments of these fractures are challenging and the goal is to achieve anatomic reduction with stable fracture fixation to allow early functional rehabilitation. Comparison study was done for these fractures with proximal femoral nailing with locking compression plate for proximal femur. Material and Methods: A prospective comparative study was done in the period of 1 years of 10 cases of subtrochanteric fractures each treated with PFN and LCP-PF randomly, for patient above 50 years. Patient with pathological fracture, type II and type III open fractures, active malignant, medically unfit for surgery were excluded from the study. Results: In this study, 10 cases underwent PFN out of which 9 were Sinsheimer type IIIA and 1 were type IIB with outcome being Good to excellent results in 88% of subtrochanteric fractures. Out of other 10 cases treated with LCP-PF, 8 were Sinsheimer type IIIA and 2 were type IIB fracture with outcome being 60% good results, according to modified harris hip score, with most common complications being implant cut through and implant failure. Conclusion: From the above study it was concluded that Proximal Femoral Nail for subtrochanteric fractures had better results compared to PF-LCP with less failure rates and restoring better hip biomechanics .

Abstract no.: 46750

A COMPARATIVE STUDY OF RETROGRADE INTRAMEDULLARY NAILING AND LOCKING COMPRESION PLATE FOR DISTAL FEMUR FRACTURES

Ameen Ahamed CHAMPOKADAVIL HOUSE , AIMS PONEKKARA P.O , EDAPPALLY ,ERNAKULAM , KERALA , INDIA
jjm medical college davangere, COCHIN (INDIA)

BACKGROUND AND OBJECTIVE:In older population, There has always been a debate about the choice of implant for such injuries and whether one implant has an advantage over other available implants. In this Retrospective study, we evaluated and compared clinical and functional outcome of distal femur fracture stabilization done in our Institute using Retrograde Intramedullary Nailing or Locking Compression Plate . MATERIALS AND METHODS:45 patients with fractures of distal end of femur were studied. 20 were treated with RGN and 25 with LCP. All cases were treated in Chigateri General Hospital or Bapuji Hospital, attached to JJM Medical College, Davangere between the period of July 2015 to August 2016. Neer's score was used since it emphasizes on important patient outcome variables such as Pain,functions as related to daily living activities,range of motion,return to work,gross anatomic alignment,roentgenographic evaluation of union and mechanical alignment RESULTS:Clinical and Radiological evaluation demonstrated osseous healing within 5 months in over 90 % patients.The average Neer's score for LCP group was 86.8 The RGN group had an average Neer score of 80.6. No cases with Non-Union but there were 3 cases of Delayed Union, 1 in RGN group and 2 in LCP group. CONCLUSION:We found minimally better functional outcomes in patients operated with LCP as compared to RGN. Retrograde Nailing provides favourable Intra-medullary stability, promotes formation of stable callus and a good implant for extra-articular type A fractures

Abstract no.: 46752

INTERNAL FIXATION OF PROXIMAL HUMERAL FRACTURES: HOW WE MANAGE THEM

Boris MAXIMOV, Ashot PANDUNTC, Nikolay VEDERNIKOV
Moscow City Hospital #29, Moscow (RUSSIA)

Fractures of the proximal humerus are the most common type of humeral fractures and account for about 5-6% of all fractures in adults with the incidence rising rapidly with age. Although most of these fractures can be effectively treated non-operatively, there has been an increase in the use of surgical protocol for the treatment of proximal humeral fractures over the last decades.We evaluated 136 patients who had been surgically treated at Traumatology Department of Moscow City Hospital #29 between January 2013 and September 2016. 85 patients with proximal humeral fracture were treated with angular stable locking plates using deltopectoral approach and 51 patients were stabilized by IM nails. Fractures were classified according to the Neer classification system as 2-part fractures (n=76), 3-part fractures (n=46) and 4-part fractures (n=14).The mean follow-up period was 9 months (range 6-18 months). Primary union was achieved in all cases. We checked X-rays, ROM and Constant-Murley score.During the follow-up we found 11 cases of varus fracture healing, 4 cases of subacromial impingement, 5 cases of intraarticular screw penetration. There were not any cases of infection, implant failure, avascular necrosis or non-union.The surgical strategy provides favorable results in the treatment of proximal humeral fractures. Modern implants such as IM proximal humeral nails and angular stable plates provide high primary stability with preservation of periosteal blood supply and allow early functional exercises. To prevent potentional complications, meticulous surgical dissection to preserve vascularity of the humeral head and to restore anatomy is necessary.

Abstract no.: 46755

VANCOUVER TYPE B1 PERIPROSTHETIC FRACTURES: IS KEEN ANALYSIS MUST BEFORE PLATING???

Naveen MITTAL[1], Jaswinder Pal Singh WALIA[2], Robin BOHAT[3], Deepak VASHISHT[2]

[1]government medical college hospital, Chandigarh (INDIA), [2]government medical college, patiala (INDIA), [3]government medical college hospital, chandigarh (INDIA)

Introduction: The management of peri-prosthetic fractures based on the Vancouver classification has yielded guarded results particularly for type B1 fractures. These fractures most commonly occur at or just distal to the stem tip in patients with cemented arthroplasty raising dilemma about the stem-cement mantle-bone integrity which is in contrast to uncemented arthroplasty. The literature reports non- union, failure of implants and refracture following the use of locking compression plates based just on the pre-operative radiographs, suggesting additional factors need to be considered for their treatment algorithm. Material and methods: Twelve patients with type B1 fractures after cemented arthroplasty were analysed taking into account pre-operative start up pain (symptom of loosening), velocity of trauma, age and co-morbidities, fracture pattern, osteoporosis, intra-operative testing for loosening under fluoroscopy, suspicion for prosthetic joint infection and then a final decision regarding treatment was taken. Results: 10 out of 12 patients were managed with locking compression plates while 2 patients required long stem revision total hip arthroplasty. All the 10 out 12 fractures united at an average of 6.8 months after surgery. Conclusion: Plating is not the end road for Vancouver type B1 fractures but in the presence of start up pain, low energy trauma causing the fracture, presence of co-morbidities like smoking, diabetes mellitus, highly comminuted fractures, intra-operative loose stems the choice should be made for a long stem revision arthroplasty. If are valuable indicators of infection, a two stage revision should be planned.

Abstract no.: 46756

LARGE HEAD TOTAL HIP ARTHROPLASTY IN DYSPLASTIC HIP DISORDER, SHOT TERM RESULTS

Dariush GOURAN SAVADKOOHI[1], Babak SIAVASHI[2], Ehsan PENDAR[3], Arash AALIREZAEI[3]

[1]tehran university of medical sciences, sina hospital, TEHERAN (IRAN), [2]tehran university of medical sciences, sina hospitl, joint reconstruction research center, tehran (IRAN), [3]tehran university of medical sciences, sina hospital, tehran (IRAN)

Introduction: Traditionally, for total hip arthroplasty in high riding DDH, for inserting cup in true acetabulum because it is small and shallow, it is advised to insert small cup (approximately 40-44 mm) with small head (20 mm).But small head THA is prone to dislocation. This study was planned to show the results of large head THA in dysplastic hips. Materials and methods: This is a case series study.From 2011 to 21017, every THA in dysplastic hip with large head (36 mm) was studied (14 hips , 11 cases). Leg length discrepancy,Harris hip score, percent of coverage of cup with bone, loosening, dislocation were some of variables of study.Results:There was no dislocation of prosthesis. There was 0.9 cm leg length discrepancy (average) . Cup is uncover in all cases (5-15 mm). There was no loosening of cup in follow up period.Discussion: Because of low dislocation rate and low loosening or cup failure, It is advised to use larger head in THA in dysplastic hips even it is uncovered with acetabular bone.

Abstract no.: 46757

SYNOVIAL CHONDROMATOSIS IN THE INFRAPATELLAR FAT PAD ; A RARE CAUSE OF ANTERIOR KNEE PAIN

Evrim SIRIN[1], Nuri AYDIN[2], Baransel SAYGI[3], Baris YILMAZ[3]
[1]Marmara University Istanbul, Istanbul (TURKEY), [2]Istanbul University Cerrahpasa School of Medicine, Istanbul (TURKEY), [3]FSM Research and Teaching Hospital, Istanbul (TURKEY)

Introduction : Tumors and pseudotumoral lesions are not commonly seen in the infrapatellar fat pad, also known as Hoffa's fat pad. Synovial chondromatosis is a rare disorder characterised by developement of hyaline cartilage from metaplasia of synovial membrane .Case Report: A 56 year old female patient presents with right anterior knee pain and limited joint motion . The physical examination reveals that the knee flexion is limited to 90^{o} and the palpation reveals that there is a marked tenderness on the infrapatellar region. A conventional knee x-ray reveals a 3x4 cm radioopaque mass . According to MRI , the lesion is of benign nature .We decided to perform an open excision of the mass. According to pathology report, the removed particle was consistent with hyaine cartilage and the diagnosis is synovial chondromatosis. 3 weeks after surgery the anterior knee pain of the patient subsides .After a proper rehabilition period the knee motion becomes unlimited and she is totaly free of pain. Discussion: Synovial chondromatosis is a rare metaplastic condition that can affect large joints, particularly the knee. It most commonly presents with pain and swelling in the affected joint . There might be effusion in the affected joint and the synovium might thicken.Conclusion: Although pain in the anterior compatement of the knee is a common complaint, underlying conditions in the infrapatellar fat pad (Hoffa's fat) are rare. Synovial chondromatosis is one of this rare causes that can easily be diagnosed by conventional imaging methods.

Abstract no.: 46758

NATURAL HISTORY OF SCOLIOSIS IN CEREBRAL PALSY

Kiyoshi YOSHIDA[1], Kajiura ICHIRO[2]
[1]Osaka Univeristy, Suita, Osaka (JAPAN), [2]Osaka Children's Rehabilitation hospital, Osaka (JAPAN)

Purpose: The frequent occurrence of scoliosis in patients with cerebral palsy is well known. However, there are few studies about the natural history of scoliosis. In this study, we investigated the natural history of scoliosis from childhood to adulthood and search the predicting factor of the progression of scoliosis. Methods: The participants were 90 patients with cerebral palsy and scoliosis. All the patients had a series of radiographs, starting at a mean age of 4.4 years and followed up for an average of 21.5 years. We retrospectively reviewed radiographs and assessed the several factors on progression of scoliosis. Results: The mean Cobb angle at the final examination was 58 degree. The patients with hip dislocation, bedridden, spastic quadriplegia and double curve of scoliosis had statistically significant progression of scoliosis. The patients who had scoliosis before 6 years old had more progression of scoliosis. In the patients who had a spinal curve of more than 30 degree before 10 years old, the Cobb angle at the final examination developed more severely. Conclusions: The risk factors for progression of scoliosis in the patients with cerebral palsy are hip dislocation, bedridden, spastic quadriplegia and double curve of scoliosis, early onset of scoliosis (before 6 years old) and having a spinal curve of 30 degree before 10 years old. These risk factors could be helpful in the treatment decision.

Abstract no.: 46759

THE EFFECT OF STERILIZATION ON ANTIBIOTIC BEADS AFTER 12-MONTH STORAGE: AN EXPERIMENTAL STUDY

Pornpanit DISSANEEWATE
Prince of Songkla University, Songkhla (THAILAND)

Local antibiotic cement has been approved for its efficacy against methicillin resistance Staphylococcus aureus (MRSA) osteomyelitis. However, no commercially local antibiotic cement against MRSA infection are available and long term storage after sterilization may affect the efficacy of the antibiotic. This study aim to determine the efficacy of vancomycin and fosfomycin antibiotic beads using ethylene oxide and gamma irradiation sterilization after 12 months storage. In this study, local antibiotics cement bead was made from the mixture 40 grams of polymethylmetacrylate (PMMA) with 4 grams antibiotic (vancomycin or fosfomycin) with monomer under sterile technique. There were 3 group of antibiotic beads; control, sterilized with gamma radiation and ethylene oxide with 20 beads in each group. All beads were placed in a plastic bag at 37oc for 6 and 12 months, and then test the inhibitive effect using modified disc diffusion technique for 6 weeks. Generalized estimating equations were used to test for each comparator at different time point. The results demonstrated that there were no statistically significant difference of inhibitive effective of both vancomycin and fosfomycin against MRSA between ethylene oxide and gamma irradiation, and without sterilization after 6 and 12 months storage. In conclusion, there is no deteriorating effect from ethylene oxide and gamma irradiation of both vancomycin and fosfomycin antibiotic beads against MRSA after 12-month storage.

Abstract no.: 46761

EFFICACY OF MODIFIED ROBERT JONES BANDAGES ON REDUCING INVISIBLE BLOOD LOSS AFTER TOTAL KNEE ARTHROPLASTY: A RANDOMIZED CONTROLLED TRIAL

Chaturong PORNRATTANAMANEEWONG[1], Rapeepat NARKBUNNAM[1], Keerati CHAREANCHOLVANICH[1], Pakpoom RUANGSOMBOON[1], Vajara WILAIRATANA[2]

[1]Department of Orthopaedic Surgery, Faculty of Medicine, Siriraj Hospital, Mahidol University, Bangkok (THAILAND), [2]Department of Orthopaedic Surgery, Faculty of Medicine, Chulalongkorn University, Bangkok (THAILAND)

Introduction: This study aimed to compare the efficacy and safety of modified Robert Jones bandage (MRJB) and non-compressive dressing (NCD) on reducing invisible blood loss (IBL) after total knee arthroplasty (TKA). Methods: Seventy patients who underwent unilateral TKA were randomly assigned into two groups; MRJB and NCD groups. Pre- and post-operative hematocrit levels, amount of drained blood and transfused blood were measured and used to calculate into IBL. Pain score, range of motion at discharge, blood transfusion rate and complications (blister, ecchymosis, infection, peroneal nerve palsy and venous thromboembolism) were also recorded and compared between both groups. Results: There was no significant difference in the mean IBL between MRJB (221.2 ± 233.3 ml) and NCD groups (158.5 ± 186.7 ml) ($p = 0.219$). Postoperative pain score at rest and during ambulation, range of motion at discharge, blood transfusion rate and complications were also similar between two groups. Conclusion: This study cannot determine the benefit of MRJB over NCD. The use of MRJB may not be necessary after primary TKA.

Abstract no.: 46765

RESULTS OF DISTAL LOCKING PLATE IN DISTAL RADIUS FRACTURES.

Ramchander SIWACH, Karan SIWACH
Pt. B. D. Sharma PGIMS, Rohtak (INDIA)

Background: Management of unstable radius fractures is challenging. We evaluated the radiographic and functional results of volar locking plate fixation of unstable distal radius fractures. Material and Methods: This study included 50 patients, with mean age 37.72 years treated with volar locking plate fixation for unstable distal radius fractures. Forty four (88%) patients had AO type C fractures and six (12%) patients had type B fractures. According to Frykmann classification majority 32 (64%) fractures were of type IV. Mode on injury was fall on outstretched hand in 29 (58%) patient and RTA in 21 (42%) patients. Dorsal and volar angulations were present in 41 (82%) and 9 (18%) patients respectively. Nineteen patients (38%) had disruption of the distal radio-ulnar joint. Autologus iliac bone grafts were used in 12 (24%) patients. Results: All fractures united without any problem with in mean of 6.2 weeks. Functional end results were assessed according to Lidstorm's criteria and Gartland and Werley scoring system. According to Lidstorm criteria 19 (38%) patients had excellent, 20 (40%) had good, 6 (12%) had fair and 5 (10%) had poor results. According to Gartland and Werley 35 (70%) patient had excellent, 8 (16%) had good, and 7 (14%) had fair results. One patient developed superficial infection, eight patients had painful wrist, and three patients developed sudeck's dystrophy, screw pull out in one patient. Conclusion: Volar locking plate is an effective treatment in the anatomical and functional restoration of unstable distal radius fractures.

Abstract no.: 46770

PREOPERATIVE EVALUATION OF ACETABULAR BONE DEFECT : A COMPARATIVE STUDY BETWEEN SIMPLE RADIOGRAPH, 2D-CT IMAGES AND 3D RECONSTRUCTED IMAGES

Shin-Yoon KIM
Kyungpook National University Hospital, Daegu (SOUTH KOREA)

Preoperative precise evaluation of acetabular bone defect is required to select proper implants and prepare bone graft. Given the assessment of acetabular bone defect, Paprosky and AAOS classification based on simple radiograph have been widely used. The purpose of this study is to compare the evaluation of acetabular bone defect based on simple radiograph, 2D-CT images, and 3D reconstruction images. We evaluated 71 cases in 71 patients who have undergone acetabular revision THA. Preoperative status before revision surgery included 58 cases of THA including 9 cases of PMMA spacers and 13 cases of bipolar hemiarthroplasty including 6 cases of PMMA spacers. Two fellows and 2 residents categorized acetabular bone defect three times based on simple radiograph, 2D-CT images, and 3D reconstruction images. We evaluated intra-observer and inter-observer reliability for Paprosky and AAOS classification. 3D images were reconstructed using Mimics®. All measurers showed higher correlation coefficient in 3D reconstruction images than simple radiograph. In Paprosky classification, intra-observer reliabilities (r, correlation coefficient) were 0.67, 0.84, and 0.97 on simple radiograph, 2D-CT images, and 3D reconstruction images, respectively. In AAOS classification, those were 0.65, 0.77 and 0.94, respectively. Inter-observer reliabilities (ICC, Intra-Class Coefficient) were 0.47, 0.54 and 0.70 for Paprosky classification and 0.41, 0.44 and 0.51 for AAOS classification. Our study showed that we could evaluate acetabular bone defect clearly and consistently by using 3D reconstruction images. The evaluation of acetabular bone loss with 3D reconstruction images can be one of the best options to design preoperative planning in acetabular revision surgery

Abstract no.: 46772

ROLE OF COXO FEMORAL BYEPASS IN UNSTABLE TROCHANTERIC FRACTURES

Ramchander SIWACH, Karan SIWACH
Pt. B. D. Sharma PGIMS, Rohtak (INDIA)

Introduction: Osteosynthesis is possible in majority of patients of intertrochanteric fractures but it has higher complication rate in patients with unstable and comminuted fractures, patients with associated comorbidity and severe osteoporosis. Primary prosthetic Arthroplasty offers great opportunity to mobilise these patients rapidly thus preventing complications of prolonged recumbence. Material and methods: 190 patients met the inclusion criteria for the study. Depending on the nature of fracture various options are: 1) If calcar intact prosthesis can be inserted directly after femoral canal preparation. 2) If calcar deficient, calcar is reconstructed with a cut autograft from the femoral neck. 3) The calcar autograft is compressed between collar of the femoral stem and medial proximal femur as the stem is fully inserted. If lesser trochanter is fractured, it is reattached in its anatomical position with encirclage wire, if greater trochanter is fractured, another encirclage wire is placed around proximal femur. Results: Evaluation of clinical results was done using Harris Hip Score at mean 5 years follow up Excellent : 130 patients (68.42%), Fair: 32 patients (16.84%), Poor : 18 patients (9.47%). 5 patients (2.63%) expired in postoperative period probably due to embolism who had poor cardiopulmonary reserve and cement was used. 5 patients (2.63%) died due to natural death. Conclusion: Arthroplasty in elderly and comminuted trochanteric fractures with osteoporosis is good option as this allows early mobilization and have less complications. Authors are in opinion that arthroplasty is a real advantage in difficult situation in properly selected patients of trochanteric fractures.

Abstract no.: 46778

POSTOPERATIVE PAIN MANAGEMENT IN TOTAL KNEE ARTHROPLASTY : A RANDOMIZED TRIAL COMPARING ADDUCTOR CANAL BLOCK AND PERIARTICULAR MULTIMODAL DRUG INJECTION.

Thanasak YAKUMPOR, Krittin KITTIKORNCHAICHAN, Vimana PUKDEETANAKUL, Adithep SUNTICHOTIWONG
Burapha University, Chonburi (THAILAND)

Background The postoperative pain control had a significant impact on the outcomes of total knee arthroplasty. The best technique to control pain is still controversial. Periarticular multimodal drug injection or adductor canal block are both the alternative techniques that may provide analgesia after total knee arthroplasty, but it is unclear whether one or the other provides better pain control. Objectives We asked whether periarticular multimodal drug injection or adductor canal block provides better pain control with fewer daily opioid consumption. Study Design & Methods The prospective, double-blinded, randomized controlled trial was investigated. Sixty patients scheduled for total knee replacement from November 2015 to October 2016 were randomized either to receive a periarticular multimodal drug injection or adductor canal block. All surgeries were performed by one surgeon. The patients in both groups received patient-controlled analgesia for 48 hours after the surgery. Visual analog scores for pain at rest and the consumption of patient-controlled analgesia at specific postoperative time-points were recorded. Patients and evaluators were blinded. Results There were no significant differences in pain scores or cumulative opioid requirements between the periarticular multimodal drug injection group and the adductor canal block group at any of the time points analyzed. No significant difference was seen in regard to the length of hospital stay between the two groups. Conclusions Within the first 48 hours, a single-shot adductor canal block provides equally effective analgesia when compared with a periarticular multimodal drug injection.

Abstract no.: 46783

RALSTONIA PICKETTII A RARELY BACTERIA INVOLVED IN PROSTHETIC HIP JOINT INFECTION: A CASE REPORT.

Rares Mircea BIRLUTIU[1], Victoria BIRLUTIU[2], Mihai Dan ROMAN[3], Radu FLEACA[4], Razvan Silviu CISMASIU[5], Crina Maria POPA[6], Bianca CHIOREAN[7]

[1]Lucian Blaga University of Sibiu, Faculty of Medicine Sibiu, Romania, Sibiu (ROMANIA), [2]Lucian Blaga University of Sibiu, Faculty of Medicine Sibiu, Academic Emergency Hospital Sibiu – Infection Diseases Department, Romania, Sibiu (ROMANIA), [3]Lucian Blaga University of Sibiu, Faculty of Medicine Sibiu, Academic Emergency Hospital Sibiu – Department of Orthopaedics and Traumatology, Romania, Sibiu (ROMANIA), [4]Lucian Blaga University of Sibiu, Faculty of Medicine Sibiu, Academic Emergency Hospital Sibiu – Department of Orthopaedics and Traumatology, Sibiu (ROMANIA), [5]U.M.F. "Carol Davila" Bucharest, Clinical Hospital of Orthopedics and Traumatology "Foișor" Bucharest, Romania, Bucharest (ROMANIA), [6]Spitalul European Polisano Sibiu, Romania, Sibiu (ROMANIA), [7]Academic Emergency Hospital Sibiu – Department of Orthopaedics and Traumatology, Romania, Sibiu (ROMANIA)

Ralstonia pickettii is a Gram-negative bacteria, that has also been identified in biofilms especially in patients with cystic fibrosis. It remains an extremely rare cause of PJI. We present the case of an 83-years-old Caucasian male patient, known with a right cemented THA. The patient is diagnosed with an early PJI with no isolated microorganism from periprosthetic tissue or fluid. A DAIR is performed. After 30 months from the initial surgery, the patient is readmitted for an elevated serum ESR and C-reactive protein. A two-stage exchange with long interval is adopted, and a preformed spacer loaded with gentamicin implanted. Pseudomonas aeruginosa is isolated from two separate tissue samples obtained during the surgery. Oral cefuroxime is administered for 6 weeks. After 3 months still with elevate proinflammatory serum markers, a change for a three-stage exchange strategy is decided. The spacer is changed. The same strain of P. aeruginosa is isolated from one tissue samples. The retrieved implant is sonicated, with no growth on culture media at 14 days. Oral ciprofloxacin is administered for 6 weeks, after which a hip revision prosthesis is implanted. The retrieved spacer is sonicated, and at 4 days after incubation, Ralstonia pickettii is isolated. A bbFISH kit, was used on the SF and tissue samples as a rapid method of bacteria detection, no bacteria being identified. A long term antibiotic therapy with sulfamethoxazole/trimethoprim being prescribed. Bacteria culture of SF remains the gold standard. Optimal management of PJI caused by Ralstonia pickettii has not been established.

Abstract no.: 46784

AUGMENTATION PLATING FOR ASEPTIC FEMORAL NONUNIONS WITH NAIL IN-SITU

Jagandeep VIRK[1], Sandeep GUPTA[2], Sudhir Kumar GARG[2]
[1]GMCH SECTOR 32 CHANDIGARH, MOHALI (INDIA), [2]GMCH SECTOR 32 CHANDIGARH, CHANDIGARH (INDIA)

Introduction: Treatment of femoral nonunions when primary treatment of femoral shaft fractures has been done with intramedullary nails is a challenge. Exchange nailing, plating with bone grafting after nail removal, external fixators, dynamization or simply bone grafting the nonunion site are some of the options for treating this situation. We present here our experience with augmentation plating while maintaining the intramedullary nail in-situ for treating this problem. Methods: In this retrospective study, we operated upon 23 patients with augmentation plating. Only symptomatic patients in whom minimum 6 months had passed since the primary surgery of intramedullary nailing were included. Infected and gap nonunions were excluded from the study. Patients were assessed for clinical and radiological evidence of union and a planned follow-up was maintained. Results: We were able to achieve union in all our cases in an average period of 5 months. The average duration of surgery was 74 minutes with the average blood loss being 227ml. The average range of motion at the knee joint was 126 degrees at the end of follow-up. No complications were reported. Conclusion: Rotational instability found at the fracture site was found to be the main pathology not allowing union to take place after primary treatment with intramedullary nails. This problem is magnified especially at non isthmic sites due to metaphyseal flare at these locations not allowing a snug fit of intramedullary nails. Augmentation plating counteracts this problem in an elegant and effective way without costing much of surgical time and blood loss.

Abstract no.: 46790

MONOPLEGIA DUE TO BRAIN LESIONS MIMICKING SPINAL OR PERIPHERAL LESIONS

Teruo KITA[1], Kszushi TAKAYAMA[1], Nakamura HIROAKI[2], Fumiaki KANEMATSU[3], Toshiya YASUNAMI[1], Hideki SAKANAKA[1], Yoshiki YAMANO[1]

[1]Dept. of Orthopaedic Surgery, Seikeikai Hospital, Osaka (JAPAN), [2]Dept. of Orthopaedic Surgery, Osaka City University Graduate School of Medicine, Osaka (JAPAN), [3]Dept. of Orthopaedic Surgery, Saiseikai Nakatsu Hospital, Osaka (JAPAN)

Introduction: Monoplegia is caused by peripheral, spinal or brain lesions etc., however brain lesions more often cause hemiplegia. Unless patients have symptoms suggestive of cerebral involvement, physicians may not examine the brain. Purpose of the study: As central causes of monoplegia are rare conditions, there may be a delay in the diagnosis. We report 8 patients encountered since 2006 who had monoplegia (3 in upper and 5 in lower limb) due to brain lesions in order to avoid initial misdiagnosis henceforward. Patients: All patients were Japanese, and had never visited neurologists before they visited us, and simply wanted to be treated for spinal or peripheral disorder. They were 5 women and 3 men, 51-79 years of age, their chief complaints were sudden onset of hand weakness in 2 patients, gradual onset of upper limb monoplegia in 1, sudden distal leg weakness in 2, gradual leg weakness and intermittent claudication in 2, and gradual foot drop in the remaining 1. Their final diagnosis was small cerebral infarction in 4 patients, meningioma in 3, and metastatic brain tumor due to lung cancer in 1 Discussion: These patients are from the middle-aged to the elderly, and degenerative spinal disorders are common in the same generation. Actually 2 of them had been misdiagnosed as lumbar spinal stenosis, 3 of them as peripheral or cervical, 1 as peroneal palsy. In these cases, gradual onset of lower limb monoplegia was caused by parasagittal meningioma and sudden onset monoplegia was caused by small cerebral infarction.

Abstract no.: 46791

THE ANALYSIS OF CAUSE OF PRIMARY REDUCTION FAILURE IN HIP DISLOCATION WITH OR WITHOUT HIP FRACTURE

Hee-Gon PARK, Yong Eun SHIN
Dankook University Hospital, Cheonan (SOUTH KOREA)

Rapid and accurate reduction is important for hip dislocated patients because of the potential to various complications including AVN of femoral head. The authors analyzed hip dislocation cases, particularly failed in primary reduction trial. 87 hip dislocation cases who visited emergency room between January 2007 and September 2015 were analyzed retrospectively. 68 cases of them were successful in first closed reduction trial, and the other 19 cases were failed. 12 of 19 cases who failed in first trial were successful in second closed reduction, but open reduction was performed in operation room for remained 7 patients. Every closed reduction was practiced by at least 2 orthopedic doctors, and open reduction was by a single senior author. Patients whose age under 50, male gender, and who combined around hip fracture had higher rate of first reduction failure with statistical significance. Especially, presence of impacted fracture fragment in hip joint and large size of impacted fracture fragment was highly related with failure of second closed reduction trial which need open reduction. On the other hand, reduction method, Thompson-Epstein classification, Pipkin classification were not related to failure of closed reduction statistically. To evaluate the patients whose hip were dislocated, realizing the type of dislocation, presence of accompanied fracture, location and size of fracture fragment, age and gender of patients are important. If the fracture fragment is impacted in hip joint and the size of fragment is large, operative treatment is considered rather than repetitive trial of closed reduction by constraint.

Abstract no.: 46792

COMPUTER-ASSISTED VIRTUAL SIMULATION AND 3D PRINTING FOR TREATMENT OF OPEN BOOK FRACTURE COMBINED WITH STRADDLE FRACTURE: A RARE CASE TREATED WITH A NOVEL TECHNIQUE

Yuanta LI[1], Tsu-Te YEH[2]
[1]Tri-Service General Hospital, Taipei (TAIWAN), [2]Tri-Service General Hospital, Taiwan (TAIWAN)

Open book fracture with straddle fracture of pelvis rarely occur at the same time. we present a novel technique using computer-assisted simulation and 3D-printed pelvis model to design two pre-contoured locking plates and place them along bilateral superior pubic rami to iliac wing. In detail, we took CT scan of whole pelvis for evaluation of fracture pattern at first. DICOM files were collected from CT software and imported to Mimics Research 19 by Materizlise, the software for simulation. Preoperative planning before the surgery includes sampling, segmentation, 3D image reconstruction, and virtual reduction. Finally, we exported the image to .stl file to be printed by 3D printer. After we got a patient-specific pelvis model, we planned the size, position of plates implantation and pre-contour the curvature of plates anatomically. According to this fracture pattern, we designed two anterior column plates crossing pubic symphysis, which overlapped 7 holes each other. Modified Stoppa approach combined with the lateral window of the bilateral ilioinguinal approach were used during operation. The whole procedure was smooth; less operation time and blood loss were noted. It shows that pre-contoured plate not only helps reduction, but also reduce surgical time, intra-operative blood loss, and the requirement of anesthetic dosage. This novel technique offers a whole new vision for treatment of open book fracture combined with straddle fracture.

Abstract no.: 46794

BIOMECHANICAL CHARACTERISTIC OF LOWER LIMB FUNCTION IN PATIENTS WITH ASEPTIC INSTABILITY OF THE HIP JOINT ENDOPROSTHESIS

Ludmila PASHKEVICH[1], Anna ZAROVSKAYA[2], Andrei VORONOVICH[3], Mohammad Taher MOHAMMADI[4], Olga VASKO[4]

[1]Belarus Republic Scientific and Practical Center of Traumatology and Orthopaedics, MINSK (BELARUS), [2]Belarus Republic Scientific and Practical Center of Traumatology and Orthopaedics, Минск (BELARUS), [3]Belarus Republic Scientific and Practical Center of Traumatology and Orthopaedics, minsk (BELARUS), [4]Belarus Republic Scientific and Practical Center of Traumatology and Orthopaedics, Minsk (BELARUS)

The aim of the study was to assess the biomechanical function of lower limb function in patients with aseptic instability of the hip joint endoprosthesis. We examined 26 patients aged 40-70 with aseptic instability of components of the hip joint endoprosthesis. Analysis of biomechanical data has shown that there was a significant relationship ($p<0,005$) in load distribution between foots from the clinical and radiological manifestations of the disease. In 15 patients with insignificant clinical and radiological picture of instability, percentage of body weight in a quiet standing position for the injured leg was 48□5%, for the intact leg – 52□5%. When performing double step: for the injured leg –51□9%, for the intact leg – 58□6%. Accordingly, in 7 patients with moderate clinical and radiological picture of instability: for the injured leg –38□2%, for the intact leg –62□2%, when performing double step: for the injured leg –36□8%, for the intact leg –65□8%. Percentage of body weight in a quiet standing position in 4 patients with significant clinical and radiological picture of instability: for the injured leg – 27□4%, for the intact leg – 74□4%, and when performing double step: on the injured leg – 19□6%, on the intact leg – 81□6%. The center of pressure shifted forward and to the side of the intact leg in all patients in a quiet standing position and when performing double step. Thus, biomechanical studies allow to quantify the reduction of the load on the injured limb in patients with aseptic instability of the hip joint.

Abstract no.: 46797

EARLY PATHOLOGICAL DIAGNOSIS OF THE JUVENILE RHEUMATOID ARTHRITIS

Ludmila PASHKEVICH[1], Mohammad Taher MOHAMMADI[2], Mikhail GERASIMENKO[3], Stanislau TRATSIAK[4]

[1]Belarus Republic Scientific and Practical Center for Traumatology and Orthopaedics, MINSK (BELARUS), [2]Belarus Republic Scientific and Practical Center for Traumatology and Orthopaedics, Minsk (BELARUS), [3]Belarusian Medical Academy of Post-Graduate Education, Minsk (BELARUS), [4]6th Minsk City Hospital, Minsk (BELARUS)

Introduction: The prevalence of juvenile rheumatoid arthritis (JRA) in the pediatric population is from 0.028% to 0.8%. Synovitis in the JRA tends to be chronic with pannus formation and destruction of the joint soft tissue, cartilage and bone. Materials: Biopsies obtained by knee arthroscopy in the 71 pediatric patients with JRA clinical manifestation. The average age of patients was 11 years (6 – 14 years). For pathological study we considered grouping microscopic signs: degenerative, inflammatory, hypertrophic, atrophic, necrotic and sclerotic. Results: We analyzed the pathological irreversible changes of synovium depending on the continuance of disease onset. Thus, we showed early pathological criteria for JRA synovitis of the knee joint. Early JRA is considered the first 3 months from the start of the clinical manifestations. Early pathological signs of the JRA are the proliferation of synoviocytes with the formation of a multilayer or stratified intimal layer consisting of large rounded or polygonal cells, fibrinoid necrosis of the synoviocytes with fibrinoid overlays on the intimal surface, hyalinosis and necrosis in the subintimal layer with palisade-like arrangement of the cells around these areas, endovasculitis with endotheliosis, mild to moderate angiomatosis with blood vessels hyperemia and infiltration of lymphocytes and plasmocytes with a tendency to the formation of small lymphoid follicles. Conclusions: Diagnosis of JRA in early stage (Early JRA) is very important for the early complex treatment and prevention of disease complications including irreversible deformation of joints.

Abstract no.: 46798

GONARTHROSIS PATHOLOGY IN THE ARTHROPLASTY

Ludmila PASHKEVICH[1], Mohammad Taher MOHAMMADI[2], Pavel SKAKUN[2]
[1]Belarus Republic Scientific and Practical Center for Traumatology and Orthopaedics, MINSK (BELARUS), [2]Belarus Republic Scientific and Practical Center for Traumatology and Orthopaedics, Minsk (BELARUS)

Introduction: Gonarthrosis represents one of the most actual problems of present medicine. Currently, the most effective way to restore movement in the gonarthrosis III-IV stage is an arthroplasty. Materials: We performed a pathological research of resected articular segments in 87 patients, 62,6±1,4 (28-82) years. We measured the thickness of the articular hyaline cartilage, subchondral bone plate, bone trabeculae at the load and no-load areas. Results: In all patients histologically we observed the III-IV stage gonarthrosis. In the III stage we determined the defibrillation, deep cracks, microcysts of cartilage and subchondral bone plate sclerosis. In the IV stage we noted the wide cartilage destruction with subchondral bone denudation, the separate intertrabecular space open into the joint cavity with the epiphyseal fibrous cysts formation and the osteophytes formation. In the sites where integrity of the cartilage is remaining, we determined the osteoporotic changes of the subchondral bone plate and epiphyseal trabeculae bone. Also we found the destruction of intra-articular ligaments, fibrosis and chondromatosis of the synovial membrane. Conclusions: In the gonarthrosis, the destructive and degenerative changes localize both in the cartilage and in the bone structures. These changes are observed often in the joint knee areas with the greatest load. On the site without cartilage-cover observe the osteosclerosis, but in areas whit cartilage-cover determine the osteoporosis of the bone structures. Assessment of the location, type and extent of the destructive and degenerative changes are important to select the operation tactics and predicting the outcomes of arthroplasty.

Abstract no.: 46799

NEUROPHYSIOLOGICAL DISORDERS OF THE SUBACROMIAL IMPINGEMENT SYNDROME

Ludmila PASHKEVICH[1], Inessa ILYASEVICH[2], Elena SOSHNIKOVA[2], Mohammad Taher MOHAMMADI[2], Olga VASKO[2]

[1]Belarus Republic Scientific and Practical Center for Traumatology and Orthopaedics, MINSK (BELARUS), [2]Belarus Republic Scientific and Practical Center for Traumatology and Orthopaedics, Minsk (BELARUS)

Introduction: The aim of this research is to estimate the criteria of the functional disorders for the differential diagnosis of the subacromial impingement syndrome (SAIS) with other forms of periarticular pathology, to clarify the indications for surgical and non-surgical treatment and to monitor the rehabilitation treatment. Materials: We investigated 50 patients with pain, clinical and radiological feature of the SAIS. Neurophysiological diagnostic included the total and stimulating electromyography (EMG), the somatosensory evoked potentials (SSEPs - n.medianus) and the motor evoked potentials (MEPs - m.biceps brachii). Results: Through surface EMG evaluated the prevalence of pathological changes in the muscles of the shoulder girdle. According to evoked potentials and motor responses, degree of neuromuscular disorder was assessed in the different parts, including the root spinal nerve, proximal and distal portions of the peripheral nerves. Results: The specific neurophysiological criteria of the SAIS dysfunctional disorder is the selective reduction of bioelectrical activity m.supraspinatus, m.deltoideus and m.biceps brachii on the pain side at 50-60%, the reduction of motor conduction n.axillaris and the signs bilateral sensomotor failure of spinal nerve roots C5-C6. Conclusions: The prevalence of SAIS functional disorders is much wider than the localized lesion in the shoulder joint. On the basis of the pathogenetic concretizations of the SAIS physiological mechanisms, a new approach has created to the diagnosis and treatment of the SAIS.

Abstract no.: 46800

PATHOLOGICAL ASSESSMENT OF PERIPROSTHETIC TISSUE FOLLOWING TOTAL HIP ARTHROPLASTY

Ludmila PASHKEVICH[1], Mohammad Taher MOHAMMADI[2], Andrei VORONOVICH[2], Anna ZAROVSKAYA[2]

[1]Belarus Republic Scientific and Practical Center for Traumatology and Orthopaedics, MINSK (BELARUS), [2]Belarus Republic Scientific and Practical Center for Traumatology and Orthopaedics, Minsk (BELARUS)

Introduction: Currently, problem of hip re-replacement is paid great attention. In our opinion, structural changes of soft and bone tissues around the hip endoprosthesis is not sufficiently studied. The aim of this study is to investigate the structural features of the tissue around the primary implant, and identification of their value on the long-term stability of the revision endoprosthesis. Methods: Materials for pathological studies were biopsies of the hip joint capsule and bone tissue of the acetabulum and the femoral canal, obtained in revision arthroplasty. Histological sections stained with hematoxylin and eosin, and van Gieson. Results: In the periprosthetic soft tissue we discovered chronic aseptic inflammation with accumulation of prosthesis wear microparticles (phenomenon metallosis) and an increase of the density of stromal macrophage, foci of coagulation necrosis, sclerohyalinosis, myxomatosis, calcification, chondromatosis and osteomatosis. In the bone around prosthesis acetabular component revealed a varying degrees of osteolysis. The dynamics of the formation of granulation-fibrous capsule, as well as speed of the cortical bone decompactization around the acetabular prosthesis component depend on the severity and the long-time of loosening of the unstable femoral and acetabular component. Conclusion: Metallosis and osteolysis are the reasons that lead to aseptic loosening of the implant. Aseptic productive inflammation that occurs around the metallosis force osteolytic process. Qualitative and quantitative morphological assessments of periprosthetic bone and soft tissues in the area of the acetabulum and the femoral component should be considered for the purpose of distribution of patients for rehabilitation by functional classes.

Abstract no.: 46801

PATHOLOGICAL CHANGES OF THE SUBACROMIAL IMPINGEMENT SYNDROME

Ludmila PASHKEVICH[1], Mohammad Taher MOHAMMADI[2], Inessa ILYASEVICH[2], Elena SOSHNIKOVA[2]

[1]Belarus Republic Scientific and Practical Center for Traumatology and Orthopaedics, MINSK (BELARUS), [2]Belarus Republic Scientific and Practical Center for Traumatology and Orthopaedics, Minsk (BELARUS)

Introduction: Pathology of the subacromial space structures, in particular, subacromial impingement syndrome (SAIS) is a common cause of pain in the shoulder joint. One of the main factors in the development SAIS is considered compression of the rotator cuff tendons and subacromial bursa. Material: The material of the pathological studies is based on tissue biopsy specimens of synovium subacromial bursa obtained by shoulder and subacromial bursa arthroscopy at the SAIS. Results: Intimal layer of the subacromial bursa synovium is mainly covered by 1-2 rows of small, flattened synoviocytes. In some cases, there is a focal proliferation of synoviocytes to 4 rows with weakly papillary hyperplasia and bursa synovial villi formation. In the stroma of the synovial bursa marked focal manifestations of the proliferative, dystrophic and sclerotic processes mild expression and prevalence. The subintimal layer defined small field with dystrophic and necrotic changes in the form of free homogeneous areas. Also areas of the edema, myxomatosis, hyalinosis, fibrosis and lipomatosis are marked. The subintimal stroma usually has a moderate number of vessels. The inflammation in the subacromial synovium in most cases poorly marked and the inflammatory process has a focal perivascular mononuclear round cells character. The inflammatory infiltrate composed of lymphocytes, plasma cells, macrophages and epithelioid cells. Conclusions: Histologically in the synovium subacromial bursa at the SAIS are observed dystrophic, necrobiotic, sclerotic and inflammatory processes of the low severity and prevalence. Wherein, subacromial bursitis is characterized by chronic reactive productive mild inflammation.

Abstract no.: 46802

PATHOLOGICAL FEATURES OF MALIGNANT GIANT CELL TUMOR

Ludmila PASHKEVICH[1], Mohammad Taher MOHAMMADI[2], Alexander BELETSKY[2], Ihor SHPILEVSKY[2]

[1]Belarus Republic Scientific and Practical Center for Traumatology and Orthopaedics, MINSK (BELARUS), [2]Belarus Republic Scientific and Practical Center for Traumatology and Orthopaedics, Minsk (BELARUS)

Introduction: Giant cell tumors (GCTs) of bone are divided into two forms: benign and malignant. The morphological criterias for their differential diagnosis extremely uncertain. The aim of this study is to identify the pathological signs of malignant GCT. Methods: The material for pathological studies were the bone tissue biopsies of GCT. Histological sections were stained by H&E and van-Gieson. Results: In the tumor determine an increase of cell proliferative activity with typical and atypical mitosis. Mononuclear spindle cells acquire sarcomatous features and form structures similar to storiform pattern. Intracortical infiltrative growth by cells complexes through the Haversian canals is one of the symptoms of Malignant GCT (permeative destruction). Tumor cells destroy the cancellous bone of epiphysis with subchondral cortical bone and invade into the articular cartilage. Multinucleated cells have a smaller cell size and a smaller number of nuclei and their cell walls are smoother. Focuses of necrosis and vascular invasion by tumor cells can be observed. Fetal sinusoidal type of circulation is less observed and processes of capillarization and vascularization appear. Conclusion: The question of the malignant potential of GCT remains unresolved in the world literature. The main pathological signs of malignant GCT are atypical mitosis, sarcomatous pattern, permeative tumor spread, extraosseous tumor invasion into surrounding tissue, interchondral infiltrative tumor growth, vascularization of sinusoids and intravascular tumor invasion.

Abstract no.: 46803

SURGICAL TREATMENT OF GIANT CELL TUMOR OF LONG BONES IN CHILDREN

Ludmila PASHKEVICH[1], Ihor SHPILEVSKY[2], Alexander BELETSKY[2], Mohammad Taher MOHAMMADI[2]

[1]Belarus Republic Scientific and Practical Center for Traumatology and Orthopaedics, MINSK (BELARUS), [2]Belarus Republic Scientific and Practical Center for Traumatology and Orthopaedics, Minsk (BELARUS)

Introduction: The only way of treatment of benign type of giant cell tumor (GCT) is surgical. The aim of this study is to generalize our experience of GCT surgery in growing patients. Methods: In 1982-2015 generally we have cured 33 patients aged before 18 with benign type of GCT of long bones. The retrospective study of features of surgical treatment, results and factors that may influence on it, were performed in 12 cases. Results: We used three types of bone resection: segmental one was per-formed in cases of subtotal bone involvement with extraosseous tumor masses (4), sectoral – in cases of eccentric small lesions (3), and intralesional – in others (5). All types of resection was performed typically. In 11 cases we used allografts, and autografting with diaphysis of fibula – in one. The osteosynthesis after segmental resection and bone reinforcement (1 case) after sectoral one was performed according AO rules. The results of surgery were studied in terms of 1,5-6 years. Different technical and tactical mistakes were registered in 4 cases. Good results were obtained in 8 patients, satisfactory – in 2, and bad – in 2. All satisfactory and bad results were connected with late diagnosis of tumor (1), inadequate resection (1), rejection of bone reinforcement (1) and bone axis malalignment after segmental resection (1). Conclusion: The optimal results may be obtained in cases of timeous full diagnosis, detailed planning of technique and tactics of surgery and meticulous implementation of them.

Abstract no.: 46806

TITLE: FEMORAL NECK FRACTURES IN ADULTS. WHERE WE LAND?- A CASE PRESENTATION.

Ramchander SIWACH
Pt. B. D. Sharma PGIMS, Rohtak (INDIA)

Bachground: The femoral neck fracture continues to be unsolved fractures and the guidelines for management are still evolving. It is a common skeletal injury, occurring with minor trauma in the osteoporotic bone. Case Report: We bring forth case of a 46 year old female who had femoral neck fracture after a trivial fall. Close reduction and internal fixation with lag crew was performed but patient had non union and coxa vara for which modified pauwel's valgus osteotomy was done, but the fracture did not unite and free fibular grafting with two lag screws was done. Patient presented to us at this stage. Patient had coxa vara and non union along with limb shortening of 2.5 cm. Uncemented total hip replacement was performed and patient was mobilized on third post op day. Patient's harris hip score was 90 at one year follow up. Discussion: Femoral neck fractures are known for various associated complications. Non union is one of the most dreaded one. Osteosynthesis in femoral neck fractures remains the management of choice for younger patients, but complications can arise due to poor fixation techniques, implant failure, wrong choice of implant and poor surgical skills. Total hip arthroplasty should be kept in reserve to deal with these complications at various stages of management. Conclusion: To decrease complications and morbidity of patients, the first surgical attempt in management of these fractures must be the best attempt.

Abstract no.: 46807

DELAY IN SURGICAL MANAGEMENT OF ORTHOPEDIC TRAUMA PATIENTS IN AN URBAN TERTIARY CARE HOSPITAL OF INDIA: A CROSSECTIONAL STUDY

Ankit PRASAD
Dr R.N. Cooper Municipal General Hospital , Mumbai., KOLKATA (INDIA)

Delay in surgical management of trauma and fracture cases is a problem being faced by all major tertiary care institutes in developing countries. Exponential growth of population against static number of health care institutions and health care personnel has led to a mismatch in the number of takers and givers. A myriad of factors lead to delay in the definitive management of fracture patients. This study was conducted to determine the chief reasons for this delay after careful monitoring of date of admission and date of surgery and interviewing the treating surgeon and the patients. Modified Lankaster classification was used to standardize the advised time for surgery and the results were analyzed statistically

Abstract no.: 46810

LESSONS FROM PERIODIC COMPARISON OF SURGICAL OUTCOMES AFTER TOTAL KNEE ARTHROPLASTY: IMAGELESS NAVIGATION VS CONVENTIONAL TECHNIQUE

Kwang-Jun OH[1], Suktae YOON[2], Do-Kyung LEE[2], Je Hyun YOO[3]
[1]KonKuk University Medical Center, - (SOUTH KOREA), [2]KonKuk University Medical Center, Seoul (SOUTH KOREA), [3]Hanliym University Medical Center, anyang (SOUTH KOREA)

The purpose of this study is to evaluate the impact of exposure to imageless navigation, combined with increasing surgical volumes on the radiographic results of a single surgeon's conventional jig based TKA group compared to before and after ceasing navigation. In period 1(P1) , 53 TKA were done using navigation system as (P-1 NAV) and simultaneously 106 TKA were done as conventional TKA as (P-1 CON). In period 2 (P2) after stopping use of navigation, 136 conventional TKA were performed. Retrospective review was done concerning component positioning in coronal plane, surgical outlier rate, operative time, blood loss, infection rate and revisions up to three years. All the three groups were comparable on demographics and pre operative alignment. Frontal femoral component angles showed significantly superior results in P1-NAVI and P2-CON groups than P1-CON, with no significant difference of outliers across all groups. Frontal tibial component angles showed significantly inferior results in P2-CON than other two groups with no significant difference of outliers. HKA angles showed better mean results in P1-NAVI than other two groups but outliers were significantly high in P2-CON. Operative time, blood loss, infection rate and revision rate at three year follow up also showed significant differences in each period. The navigated group had superior postoperative radiological alignment across all evaluated parameters. Navigation training benefit significantly helped in achieving comparable results in conventional group of TKA, but this training benefit seemed to neutralize with time after ceasing navigation despite increase in surgical volume.

Abstract no.: 46811

CURVED LATERAL FEMORAL CORTEX ENGAGING SHORT STEM :AN UNPREDICTABLE REPRODUCIBILITY OF HIP GEOMETRY IN TOTAL HIP ARTHROPLASTY

Kwang-Jun OH[1], Suktae YOON[2], Do-Kyung LEE[2], Je Hyun YOO[3]
[1]KonKuk University Medical Center, - (SOUTH KOREA), [2]KonKuk University Medical Center, Seoul (SOUTH KOREA), [3]Hanliym University Medical Center, anyang (SOUTH KOREA)

Biomechanical reconstruction of hip geometry was analyzed using curved short stem in THAs. For this we evaluated the results with two different centrum-collum-diaphyseal (CCD) angle short stems including total 60 cases using 120° and 135° CCD angled short stem. Geometrical parameters were analyzed and compared to those of the contralateral hip without deformity which included Horizontal (HHCR) and Vertical (VHCR) hip center of rotation, Horizontal Femoral Offset (HFO), Abductor Lever Arm (AbLA), Leg Length Discrepancy (LLD), Stem Shaft Axis (SSA) and Neck Shaft Angle (NSA).HFO increased in, 120º CCD group and 135º CCD group by +0.9mm and +5.6mm respectively. When compared to opposite hip 120º CCD group showed significantly increased HFO with >5mm difference seen in >50% hip (p=0.0001). Compared to opposite hip, 135º CCD angle group showed more than 5mm of LLD in 27% of the cases which was statistically significant (p=0.0128). Considering SSA, 120º CCD angled stem had more valgus insertion (in 30% hips) which was statistically significant (p=0.0086). Considering neck shaft angle (NSA) the 120° CCD angled group had significant number of hips (37%) with varus NSA of more than 5°(p=0.004). The curved short stems are endowed with unpredictability in reproducing hip geometry in THAs It is important for us to keep in mind while using these curved short stem femoral design as well as care of caution should be executed in preoperative templating, femoral neck resection, and controlled insertion of these curved short stem.

Abstract no.: 46815

HOW MUCH BONE CEMENT IS UTILIZED FOR COMPONENTS FIXATION IN PRIMARY TOTAL KNEE ARTHROPLASTY?

R. J. Satishkumar BHAVA[1], Praveen BASANAGOUDER[2]
[1]BRJ Orthocentre and MAK Hospital, - (INDIA), [2]Sagar Hospital Banashankari, Bangalore (INDIA)

The aim of this study was to identify the exact amount of bone cement utilized for component fixation in primary TKA and to find out the factors which can influence the quantity of bone cement used. In a prospective study carried out at five centers, 133 cemented TKAs were performed. One pack 40g Palacos bone cement (PBC 40) was hand mixed and digitally applied during the surgery. The remaining bone cement after fixation of the TKA components was methodically collected and weighed on a digital weighing scale. On an average, 22.1 g of bone cement was utilized per joint, which accounted to 39 % of 57g , the solidified dry weight of PBC 40. Among 133 knees, 109 knees had cement utility between 20 % to 50% and 20 knees had cement utility more than 50% of the solidified dry weight. Cement usage was same for implant designs with or without femoral box cut. Larger femoral implant size and use of pulse lavage resulted in increased cement utilization. Conclusion: Large quantity of bone cement was handled than actual requirements in primary TKA when a standard 40g pack was used with digital application technique resulting in sizeable wastage of bone cement. A 30g cement pack could be marketed along with the standard 20g and 40 g cement packs, so that the surgeon can choose the correct pack according to the bone size, bone quality and the trial implant fit and avoid unnecessary cement wastage and help cost savings.

Abstract no.: 46825

COMPARISON OF CLINICAL STABILITY & COMPLICATIONS BETWEEN CROSSED AND LATERAL PINNING IN DISPLACED SUPRACONDYLAR HUMERUS FRACTURES IN CHILDREN: A SYSTEMATIC REVIEW OF RANDOMIZED CONTROLLED TRIALS

Alok AGGARWAL
The Alashka-The Mediworld Hospital, Gurugram, INDIA, Delhi (INDIA)

INTRODUCTION: To compare the clinical stability, functional outcome and complications of closed reduction with crossed or lateral k-wire fixation in displaced extension-type Supracondylar humerus fractures (SCHF) in children. METHODS: A systematic literature search was conducted on 1st October 2016 using PubMed, Cochrane Central Register of Controlled Trials, and Scopus databases for randomized controlled trials (RCTs) comparing closed reduction with percutaneous crossed versus lateral pinning. Relevant RCTs in humans and English language were selected; all studies except RCTs were excluded. RESULTS: Seven RCTs (five Level I and two Level II) evaluating 521 patients (265 crossed and 256 lateral pinning) with an average follow-up of 20.6 weeks (range: 8.6-39 weeks) were selected. The mean age was 6.1 years and 5.8 years in crossed and lateral group respectively. There was no difference in functional and radiological outcomes in either of percutaneous pinning techniques as per Flynn criteria (Relative Risk 1.01). Twenty-one (11.6%) of 176 patients and 29 (17.06%) of 170 patients had loss of reduction in crossed and lateral pinning groups respectively in 4 RCTs (Relative Risk=0.70; p=0.18). Iatrogenic ulnar nerve injury was seen in 12/265 (4.5%) and 2/256 (0.8%) in the crossed and lateral group respectively with 5.8 times higher in crossed pinning group (p=0.02). CONCLUSIONS: This systematic review suggests that both crossed and lateral k-wires configuration are similar in terms of stability construct and functional outcome. Lateral pinning is safest to avoid iatrogenic ulnar nerve injury over crossed pinning, although most of iatrogenic ulnar nerve injuries recover by 6 months post-operatively.

Abstract no.: 46826

COMPARISON OF PLATELET-RICH PLASMA VERSUS HYALURONIC ACID INJECTIONS IN OSTEOARTHRITIS OF KNEE: A SYSTEMATIC REVIEW OF LEVEL I STUDIES

Alok AGGARWAL[1], Gaurav SINGH[2]

[1]The Alashka-The Mediworld Hospital, Gurugram, INDIA, Delhi (INDIA), [2]The Alashka-The Mediworld Hospital, Gurugram, INDIA, Gurugram (INDIA)

OBJECTIVES: To evaluate the short term outcomes of platelet-rich plasma (PRP) injections in symptomatic mild to moderate osteoarthritis (OA) of knee in comparison to hyaluronic acid (HA) or corticosteroids (CS) or placebo injections. METHODS: A systematic literature search was conducted on 9th July 2016 using PubMed, Cochrane Central Register of Controlled Trials, and Scopus databases for Level I studies comparing PRP versus HA or CS or placebo injections. Relevant randomized control trials (RCTs) comparing atleast two of these injections were selected. All studies were qualitatively analyzed using Modified Coleman Methodology Score (average, 84.9/100). RESULTS: Nine (six full articles and three abstracts) short-term RCTs (evaluating 1134 patients, 1233 knees) with minimum follow-up of 6 months (range: 6-12 months) were selected. Seven studies compared PRP with HA, two compared PRP with placebo. No study compared PRP with CS. The mean age, mean BMI, mean % of females and mean % of OA with Kellgren-Lawrence grade (KL I-II) osteoarthritis were 58.3 years, 27.9 kg/m2, 60.6 % and 67.7% respectively. PRP injections produced statistically significant improvement in mild to moderate OA knee w.r.t. WOMAC total, IKDC, and EQ-VAS scores in comparison to other injections, whereas no statistically significant improvement was seen in WOMAC pain, WOMAC stiffness, WOMAC function, and Lequesne scores. CONCLUSIONS: This systematic review suggests that PRP injections are more efficacious than HA or placebo at 6 to 12 months period post-injections in mild OA knee (KL grade up to II) for reducing pain, improving function and quality of life.

Abstract no.: 46828

SHORT TERM COMPARISON OF FUNCTIONAL RECOVERY AFTER TOTAL KNEE REPLACEMENT WITH STANDARD TECHNIQUE OR PSI TECHNIQUE, USING GAIT ANALYSIS

Cesare CHEMELLO[1], Enrico SCALCO[2], Nicola CALZAVARA[3], Thomas KANIOURAS[3], Martina DALLA LIBERA[3], Sergio RIGONI[3], Diego PIGATO[3], Giovanni COSTACURTA[3]

[1]ULSS 7 Asiago Hospital, Padova (ITALY), [2]ULSS 7 Asiago Hospital, Vicenza (ITALY), [3]ULSS 7 Asiago Hospital, Asiago (ITALY)

Introduction:TKR is the gold standard in osteoarthritis.Patient Specific Instruments(PSI) represents the most recent technological finding.Aim was to compare the functional recovery of patients operated with PSI versus Standard technique(S) using gait analysis(GA).Methods: 16 patients were randomized for TKP surgery with S or PSI.After surgery patients followed a standardized rehabilitation protocol with GA at 60 days.Spatio-temporal parameters(ST),gait kinematics and kinetics were compared with a control group (CG).This was a double-blind study.Results: 9 subjects were operated with PSI technique, 7 with S technique.The groups were omogeneuos.PSI group had better results of range of motion, functionality and earlier return to physical and social activities.Only S shows significant difference between the two step lenghts (p 0.07).During the loading response phase,S evidences a reduction in flexor moment amplitude (p 0.008) and in the first ground reaction force peak amplitude (p 0.05) at the operated limb.During mid-stance phase the maximum of the internal-rotating moment at the operated knee is reduced in S (p 0.02).Only S shows a significative difference between the healthy (54°) and operated (44°) sides (p 0.03).Conclusion:Study highlights the superiority of PSI over standard technique with respect to an improved frontal plane limb alignment, joint functional recovery and a more physiological gait pattern.GA evaluation reported an improved knee flexion in swing for PSI and a more symmetrical load distribution between limbs.The operated knee flexor moment reduction at loading responce in S seems to be correlated to an increased anterior trunk flexion as a compensating movement used to minimize eccentric quadriceps contraction in this phase.

Abstract no.: 46833

NUMERICAL INVESTIGATION ON HUMAN KNEE JOINT FOR VERIFYING INTACTNESS OF ANTERIOR CRUCIATE LIGAMENT

Kiran Kumar Vedavyasa ACHARYA[1], Bharath BHAT[2], Raviraja ADHIKARI[2]
[1]Kasturba Medical College, Manipal University, Karnataka (INDIA), [2]Manipal Institute of Technology, Manipal University, Manipal (INDIA)

Introduction: Simulation of loading on the knee joint and various biomechanical analysis have been routinely done in the past decade using computer generated numerical models. Our study aims to use a model based on Magnetic Resonance Image (MRI) of a healthy human knee joint of a 17-year old male subject. Material & Methods: A 3-Dimensional (3D) model of the knee joint is generated from the MRI in MIMICS (Materialise, Belgium) software. Recreated geometry included bones, menisci and ligaments. The geometry was discretized for various element sizes in a specialized software 3-Matic (Materialise, Belgium); linear elastic isotropic material property is considered for all the parts in this study. The contacts were considered to be either bonded or having no-separation type of contact in ANSYS software. Various magnitudes of loads were applied on the constructed model (134N / 250N) in the posterior to anterior direction for estimating Anterior Tibial Translation (ATT) and the Equivalent (Von-Mises) stress distribution in the model. As per the clinical practice, the intactness of ACL is ensured if the ATT is in the range of 3-10 mm. Results: The results obtained from the analysis have ascertained the intactness of ACL in this study. This analysis confirmed that the stresses in the joint are in permissible limit of human endurance. Conclusion: Numerical investigation using computer generated model based on MRI can be used effectively for analysis various loading related simulations of the knee , instead of cadaveric specimens and lab testing.

Abstract no.: 46834

SYNOVIAL FLUID REPLACEMENT THERAPY: IN SEARCH OF RIGHT INDICATIONS

Kiran Kumar Vedavyasa ACHARYA
Kasturba Medical College, Manipal University, Karnataka (INDIA)

Introduction: With increase in life expectancy and improved quality of life, the elderly population is on the rise. Majority of them invariably have various grades of degenerative changes in their knee joints. Osteoarthritis at young age due to numerous reasons (obesity, trauma) is on the rise. Approximately 25% of people with pain from knee OA experience difficulty in performing major activities of daily living. Analgesics have a short term limited role owing to safety concerns, whereas orthotic supports and physical therapy have moderate success. There is a definite void in the current management of such early cases of OA. Recent clinical studies on intra-articular use of Synovial Fluid Replacement Therapy (SFRT) have demonstrated favorable outcomes in select cases. Material & Methods: In our study conducted between Jan 2010 to December 2015, we analysed the use of SFRT using Hylan GF 20 in a tertiary care hospital, with respect to indications, safety and efficacy in 168 patients. Result: Following SFRT, patient satisfaction, WOMAC and VAS scores were significantly improved in comparison with no injection group (Improvement of Pain:48%, Stiffness:36% and Function:43%). Use of concomitant medication was significantly reduced (48% at 24 weeks and 54% at 52 weeks). Conclusion: Analysis of cases of osteoarthrosis treated with Synovial Fluid Replacement Therapy revealed variable effects. However, when administered to patients with features of early osteoarthritic changes and during the early course of the disease, it appears to be valuable especially in alleviating the pain and improving the overall function.

Abstract no.: 46837

EVALUATION OF THE REVISION SPINE SURGERIES PERFORMED BY ENDOSCOPIC PROCEDURES

Yohei YUZAWA, Hirohiko INANAMI
Inanami Spine and Joint Hospital, Tokyo (JAPAN)

Endoscopic spine surgery requires high-level techniques, especially in the case of revision surgery. Our institution performed 1296 endoscopic spine surgeries in 2014 and 68 cases were revision surgeries. We evaluated those endoscopic revision spine surgeries. The study included 51 men and 17 women, having a mean age of 57.0 years. The mean follow up period was 28.5 months. The revision procedure, cause of the revision surgery, complication, and results of the surgery were examined. The improvement rate for JOA score was categorized as follows: excellent (100%-75%), good (74%-50%), fair (49%-25%), and poor (<25%). Endoscope-assisted posterior fusion re-surgery was performed in 14 cases, and the cause of revision included disc degeneration (9 cases) and spinal instability (5 cases). Endoscopic laminotomy re-surgery was performed in 10 cases, and the cause of revision included re-stenosis (9 cases) and cystic lesion (1 case). Endoscopic discectomy re-surgery was performed in 43 cases, and the cause of revision included recurrent disc herniation (37 cases) and poor cases (6 cases). The surgical results obtained are as follows: a) Fusion group - 3 excellent, 3 good, 6 fair and 2 poor cases; b) Endoscopic laminotomy group - 2 excellent, 5 good, 2 fair and 1 poor case; and c) Endoscopic discectomy group - 24 excellent, 11 good, 6 fair and 2 poor cases. There were 6 cases of dural tear and 1 case of surgical site infection but no other serious complication or open conversion cases. The revision spine surgery can be performed using an endoscopic procedure.

Abstract no.: 46839

THE INCIDENCE OF OCCULT SURGICAL NECK FRACTURE IN PATIENTS WITH ISOLATED GREATER TUBEROSITY FRACTURE OF THE PROXIMAL HUMERUS

Wei-Ren SU, Leo SHAW, Chih-Kai HONG, Cheng-Li LIN
National Cheng Kung University Hospital, Tainan (TAIWAN)

Background: Occult surgical neck fracture can be found in patients diagnosed with isolated greater tuberosity (GT) fracture during the follow up period. The purpose of this study was to retrospectively assess the incidence rate of occult surgical neck fracture in those initially diagnosed with isolated GT fracture. Methods: Records of patients diagnosed as having an isolated GT fracture were retrieved from a database in a medical center. GT fracture type (split, avulsion and depression types) was assessed. Three senior orthopedic surgeons re-evaluated all images of these patients. The day the surgical neck fracture was found from the re-evaluation was recorded. For patients with occult surgical neck fracture, the displacement of this fracture was assessed. Results: Occult surgical neck fractures were found in 8 out of 67 (11.9%) patients after re-evaluation, with 4 being found in the initial images. In total, 32 patients had split type GT fracture, 32 had avulsion type and 3 had depression type. For those with occult surgical neck fractures, 7 had the split type GT fracture, while the remaining one had the avulsion type. Although the proportion of occult surgical neck fracture was higher in the split-type GT fracture (21.9%) than in the avulsion-type GT fracture (3.1%), the difference was not statistically significant (p= 0.056). Conclusion: Occult humeral surgical neck fractures occurred in 11.9% of displaced GT fractures after re-evaluation, with half being found in the initial images.

Abstract no.: 46842

BIOMECHANICAL PERFORMANCE OF TRANSTENDINOUS ALL-SUTURE ANCHOR TECHNIQUE FOR SUPRAPECTORAL BICEPS TENODESIS

Wei-Ren SU, Chih-Kai HONG, Fa-Chuan KUAN
National Cheng Kung University Hospital, Tainan (TAIWAN)

Background: Transtendinous all-suture anchor technique for long head of the biceps brachii (LHB) tenodesis is a novel technique that features several advantages, including little tendon damage, small cortical hole on humerus, and simple suture-passage procedure. Purpose: To evaluate the biomechanical properties of transtendinous all-suture anchor technique in a cadaveric model. Methods: Sixteen fresh-frozen human cadaveric shoulders (mean age, 67.6 ± 5.8 years) were used, and were randomly selected into two experiment LHB tenodesis groups (n= 8), transtendinous all-suture anchor technique and interference screw technique. Tensile forces parallel to the longitudinal axis of the humerus was applied for each specimen. A preload of 5 N was applied for 2 minutes, followed by cyclic loading for 500 cycles from 5 to 70 N at 1 Hz; then a load-to-failure test was performed. The ultimate failure load, stiffness, cyclic displacement, failure displacement, and failure modes were recorded. Results: The transtendinous all-suture anchor technique provided similar ultimate failure load and stiffness to the interference screw technique. The cyclic displacement and failure displacement of the transtendinous all-suture anchor technique were significantly greater than the interference screw technique (P= 0.009 and 0.021 respectively). Six specimens in transtendinous all-suture anchor technique group failed due to suture anchor pullout while the others failed with tendon tear; all specimens in interference screw group failed with tendon tear. Conclusion: The transtendinous all-suture anchor technique for LHB tenodesis offers equivalent ultimate failure load and stiffness, but demonstrates significantly larger cyclic and failure displacement values when compared with the interference screw technique.

Abstract no.: 46844

PROXIMAL OPENING-WEDGE OSTEOTOMY OF THE FIRST METATARSAL FOR CORRECTION OF HALLUX VALGUS

Kenichi KITAOKA
Kochi Hata Prefectural Hospital, Sukumo Kochi (JAPAN)

Aim of Study : This study was conducted to evaluate the results of the proximal opening-wedge osteotomy of the first metatarsal for symptomatic hallux valgus, using a locking plate. Materials & Methods : Fourteen patients(24feet) were treated for symptomatic hallux valgus. All patients were female and average age was 65. A proximal opening-wedge osteotomy of the first metatarsal and fixation with a locking plate in combination with a distal soft tissue release with the same postoperative protocol was used in all the patients. Bone gaps at the osteotomy site were filled with local bone or artificial bone materials. Improvement in the hallux valgus angle (HV) and 1-2 metatarsal angle (IM1-2) as well as the length of the first metatarsal were noted pre-and postoperatively. Three cases were treated both side simultaneously. Results: The mean HV was decreased from 37 to 18 degrees. The mean IM 1-2 was decreased from 18.2 to 9.7 degrees. The mean length of the first metatarsal was changed from 57.9 to 56.9 mm. Bony unions were obtained in all cases within 12 weeks except one case with union at 16 weeks. Conclusions: This procedure was an effective for a hallux valgus, especially in the senior patients.

Abstract no.: 46845

A MODIFIED DHS IN UNSTABLE INTERTROCHANTERIC FRACTURE:PROSPECTIVE AND RETROSPECTIVE STUDY

Praveen Duraisamy DURAISAMY
PSG INSTITUTE OF MEDICAL SCIENCE AND RESEARCH, coimbatore (INDIA)

Intertrochanteric hip fracture accounts for approximately one quarter of all hip fractures in the elderly.Intertrochanteric fractures are broadly classified as stable and unstable intertrochanteric fractures.An unstable intertrochanteric fracture of the hip has the potential to displace or result in nonunion despite what appears to be adequate reduction and internal fixation. In spite of a host of operative techniques and fixation devices, none of the method has gained universal acceptance for the treatment of intertrochanteric hip fractures.If the displacement is minor ,it results in minimal limb shortening.If its severe,it will lead to cutout of the femoral head and may also lead in malunion, nonunion and failure of the fixation device.The sliding hip screw is the most widely used implant for stabilization of both stable and unstable intertrochanteric fractures.However, with more unstable fracture patterns, problems with compression hip screw fixation, such as excessive fracture collapse and implant cutout has been increase in trend.DHS implant is slightly modified to control the over collapse which is undesired in unstable trochanteric fractures.We have modified the dhs device such that the fracture collapse can be controlled to a maximum of about 1 cm so that over collapse and complication of overcolapse can be prevented. We have used this modified implant in multiple patients and had successful outcome in 13 patients.Thus Modified DHS is an useful tool in the management of unstable intertrochanteric fracture.

Abstract no.: 46847

BILATERAL AND SIMULTANEOUS RUPTURE OF TRICEPS TENDON IN A BODYBUILDER: CASE REPORT

Venkata Subba Reddy ELICHERLA REDDY
Burjeel hospital, Dubai, kadapa (INDIA)

Simultaneous bilateral triceps rupture in a healthy individual is extremely rare, with very few cases reported in literature in patients with predisposing conditions like Hyperparathyroidism, Chronic renal failure. We present a case of 37 year old bodybuilder who had simultaneous bilateral triceps tear. Mechanism of injury was while lifting weights, he developed severe pain and weakness in both elbows after hearing a click sound. He had a history of pain in both elbows for one year and had one corticosteroid injection. He used to take anabolic steroids and growth hormone occasionally. Radiographs showed small avulsion fragments bilaterally and MRI confirmed bilateral complete tear of triceps tendon from olecranon. Simultaneous repair of both triceps planned with patient in prone position. Intraoperative findings of complete tear of right triceps and near total tear of left triceps with small pieces of bone from olecranon noted. Debridement of tendon ends and Repair of triceps to olecranon achieved with soft anchors on each side and protected with achillocord neoligament passed through the olecranon and brought back through the tendon in a zigzag fashion. Postoperative rehabilitation with elbow range of motion brace for 8 weeks with gradual increase in flexion. Active strengthening of triceps started at 8 weeks, and full range of motion with return to routine activities achieved in 3 months. 8 months post-surgery, patient has no major pain and able to lift weights three fourths of his previous capability.

Abstract no.: 46849

TIP APEX DISTANCE- IS IT ENOUGH TO PREDICT IMPLANT FAILURE IN TROCHANTERIC FRACTURES?

Biswajit SAHU[1], Alok PRUSTY[2], Barsha TUDU[2]
[1]VIMSAR, Burla,Sambalpur, Odisha,India, cuttack (INDIA), [2]VIMSAR, Burla,Sambalpur, Odisha,India, Burla (INDIA)

The tip-apex distance (TAD), expressed in millimeters, is the sum of distances from the tip of lag screw to the apex of femoral head on both AP and lateral radiographic view. A TAD of greater than 25 mm is considered to be an accurate predictor of lag screw cut-out when dynamic hip screws (DHS) are used to treat intertrochanteric (IT) fractures. The purpose of this study was to determine the various factors affecting the clinical outcomes of IT fractures surgically treated with DHS. This retrospective study included 30 patients. The TAD values of this cohort were analysed from post-operative radiographs. The fractures were classified by severity and the post-operative reduction and their affection to cutout was determined. These were correlated with inability to achieve fracture union at a mean follow-up of 12 months. Good reduction was obtained in 14 cases of type 1 fractures while all the fractures which had poor reduction were type 2 fractures.All type 1 fractures completely united at a mean of 12 months. Overall 7 patients experienced lag screw cut-out all of which were type 2 fractures. The number of cut-outs had direct correlation to the severity of IT fractures and the TAD. Surgeons should try to achieve a TAD < 25 mm to avoid lag screw cut-out. Though TAD plays a vital role in predicting implant failure, it's not the only factor. The quality of bone, pattern of fractures, placement of the screw also influence the outcome in trochanteric fractures.

Abstract no.: 46850

SCREW PROXIMITY PLAYS AN IMPORTANT ROLE ON THE STABILITY OF TRANSVERSE PATELLAR FRACTURE FIXED WITH CANNULATED SCREW AND CABLE

Yennien CHEN[1], Chih-Wei CHANG[1], Chih-Han CHANG[1], Chun-Ting LI[2], Yao-Te PENG[1]

[1]National Cheng Kung University, Tainan (TAIWAN), [2]National University of Tainan, Tainan (TAIWAN)

For the management of displaced patellar fractures, surgical fixation using cannulated screws with anterior cable wiring is getting popular. However, the effect of screw proximity on the fixation stability remains unclear. The aim of this biomechanical study was to evaluate the stability of the fractured patella fixed with screws at various positions by finite element method. A patella model with simple transverse fracture was developed; two parallel cannulated screws with anterior stainless cable wiring were used to fix the patella. Two different locations, including the screws 5-mm and 10-mm away from the leading edge of the patella, were used. The diameter and length of the screw were 4-mm and 30-mm, respectively; and a 1.25-mm stainless cable was used for wiring. A tension force 850-N was applied on the apex of the patella. Our results indicated that the superficial screws (5-mm away from the leading edge of the patella) resulted in smaller gap opening and lower cable tension than the deeper ones (10-mm away from the leading edge). The deeper screws created a less secure fixation structure for increased gap opening by 1.9 times (from 1- to 1.9-mm) and increased the cable tension by 1.8 times (from 293- to 529-N). Hence, based on a higher stability and lower cable tension obtained by the superficial screws and cable, we recommended the proximity of the screws while fixing the transverse patellar fracture with cannulated screws and cable

Abstract no.: 46855

EXCELLENT OUTCOME AFTER MINIMUM 5 YEARS FOLLOW-UP PERIOD FOLLOWING SHORT STEM HIP ARTHROPLASTY

Kalman TOTH[1], Gyula KOVACS[2], Gabor JANOSITZ[2], Katalin GION[3], Csaba GOMBAR[1], Krisztian SISAK[1]

[1]Department of Orthopaedics, University of Szeged, Szeged (HUNGARY), [2]Department of Orthopaedics, Bacs-Kiskun District General Hospital, Kecskemét (HUNGARY), [3]Department of Radiology, University of Szeged, Szeged (HUNGARY)

Introduction: Metaphyseal, proximally anchored uncemented stems for total hip arthroplasty provide bone preservation, and decrease the incidence of proximal stress shielding and thigh pain. Our study investigated the clinical and radiological outcome of the DePuy ProximaTM short stem at a minimum of 5 years. Methods: Consecutive patients under the age of 70 undergoing primary THR at two arthroplasty centres were enrolled. Follow-up was clinical (Harris Hip Score, thigh pain, satisfaction) and radiological (subsidence, malalignment, loosening) at 6 months and yearly thereafter. Results: Average age was 50 (range 32-65) with 79% (55/70) being male. Preoperative diagnosis included: primary OA 36%, AVN 51%, dysplasia 9% and posttraumatic OA 4 %. HHS improved 51 points at latest follow-up (from 40 to 91). We had 4.3% (3/70) periprosthetic fractures, one requiring revision. We had one case of subsidence, where the stem was an undersized implant. We had one dislocation, no infections and no thigh pain. Malalignment rate (≥5 degrees off neutral) was 14% (10/70), not affecting clinical results. Conclusions: Overall survival was 97.1% at 5 years. The DePuy ProximaTM provides excellent clinical results at a minimum of 5 years postoperatively.

Abstract no.: 46863

POSTROMEDIAL RELEASE FOR SKELETALLY MATURE PATIENTS WITH PES CAVUS DEFORMITY

Khaled EMARA[1], Khaled ABDULGHAFFAR[2], Ramy Ahmed DIAB[2], Ahmed EMARA[2]

[1]Faculty of Medicine, Ain Shams University, CAIRO (EGYPT), [2]Faculty of Medicine, Ain Shams University, Cairo (EGYPT)

Adult foot deformity is a highly disabling condition that seriously interfere with daily activities. Adult foot deformities are attributed to a variety of etiologies. Approximately 80% of cavovarus deformities can be attributed to neurological disorders. Various treatment options have been described for treatment of spastic foot deformities. Procedures commonly aim to restore a plantigrade foot. PATIENTS AND METHODES: In this retrospective review,15 patients with late onset spastic foot deformities (5 females and 10 males) were consecutively treated with posteromedial release, subtalar, talonavicular and naviculocuniform joint release, without subtalar joint fixation. All the patients were available for follow up, the mean age at the time of surgery was 18.2 years (range 15-21), and the mean follow up period was 36 months. -RESULTS: All patients were followed up for a mean of 36 months postoperatively, clinical evaluation was done using the foot postural index which was measured as -12 preoperatively in all of the 20 feet, at the final follow up the foot postural index ranged from -6 to -2 with a mean of -3.65. CONCLUSION: pure soft tissue release unaccompanied by osteotomies nor fixation in adults seems to be effective and satisfactory on short to medium term follow-up without recurrence of deformity.

Abstract no.: 46865

CALCULATION OF POWER DISTRIBUTION ON THE EDGE OF CONTACT POINTS BETWEEN FEMORAL COMPONENT OF THE HIP PROSTESIS AND THE FEMUR IN REALISTIC CONDITIONS

Taras NIZALOV[1], Viktor TORCHYNSKII[1], Roman KOZAK[1], Oleksandr HALUZYNSKII[1], Ludmila SHMELYOVA[2], Anatolii SUPRUN[2]
[1]Institute of traumatology and orthopedics, Kyiv (UKRAINE), [2]Kyin National University n.a. Taras Shevchenko, Kyiv (UKRAINE)

Introduction. Based on previously developed methods of mathematical modeling point load distribution of forces and moments for their legs hip joint for perfect contact conditions similar distributions through real contact were calculated. Materials and methods. The main focus, contrary to previous research, the analysis focused not on the relationship between the elastic forces of load length prosthetic legs, and their dependence on the average length of the contact area. Deviations from these distributions is a quantitative measure of pathological changes in the operation of the prosthesis due to additional violations of areas of contact. Results. In this paper, the calculation of the distribution point loading forces and their moments in real defect-free surface contact between the femoral stem prosthesis and bone and brain canal of the femur when the femoral component area tops the implant is not in contact with the femur. It is necessary as a basis for mathematical modeling of pathological deviations in the distribution of forces and moments caused by disturbances in various areas Gruen according to Paproski classification. It is shown that in actual distribution component elastic force load and corresponding points are expected dependence on the spatial variable and the average length of the contact area. Conclusions. The calculation will allow modeling of pathological deviations in the distribution of forces and moments caused by the presence of bone defects in various areas Gruen according to Paproski classification.

Abstract no.: 46868

CERVICAL SPINE FRACTURE IN PATIENTS WITH DIFFUSE IDIOPATHIC SKELETAL HYPEROSTOSIS : A REPORT OF 7 CASES

Sameda HIROAKI[1], Sumio IKENOUE[2], Kan TAKASE[2], Jun SHINBO[2], Yukio SOMEYA[2], Michiaki MUKAI[2], Manabu YAMADA[2], Mayasa MIMURA[2]
[1] Funabashi Municipal Medical Center, Funabashi city Chiba (JAPAN), [2] Funabashi Municipal Medical Center, Funabashi city (JAPAN)

Introduction: Fractures of the spine in diffuse idiopathic skeletal hyperostosis (DISH) have rarely been reported. Pre-existing DISH causes adjacent intervertebral stability and mechanical power to concentrate on fractured parts, which cause the fractured parts to become pseudarthrosis easily and difficult to control with an external brace. The DISH patients render high neurological risk after spinal fracture. Moreover, it is difficult to identify fracture just on plain radiographs. Purpose: The purpose of this study was to examine the surgical outcome of cervical spine fracture of DISH at our institution. Materials and Methods: There were three men and four women with age ranged from 72 to 86 years old(average,78yrs). All of the seven patients were treated operatively. Plain radiographs, magnetic resonance images(MRI) and computerized tomographic scans(CT) were made for all seven patients. Results: Cervical fractures were identified on MRI and CT in all patients, but not on plain radiographs clearly in all patients. All patients had healing of the fracture with anatomical alignment of the spine and without severe postoperative complications. Conclusions: Treatment of cervical spine fracture in DISH requires rigid stabilization of the vertebral bodies as soon as possible. Treatment of this rare injury should be early stabilization of the spine to avoid complications of nonunion, deformity, neurologic injury. Early diagnosis and treatment are important and careful check up of MRI and CT is mandatory for DISH patients with persistent or severe cervical pain.

Abstract no.: 46873

SUPERFICIAL ACRAL FIBROMYXOMA: A RARE AND DISTINCT SOFT TISSUE TUMOR: A CASE REPORT

Anubhav MALHOTRA[1], Ravi GUPTA[2], Vinisha BANSAL[2], Sonam ARORA[2]
[1]Government Medical College Hospital, Chandigarh, Ludhiana (INDIA),
[2]Government Medical College Hospital, Chandigarh, Chandigarh (INDIA)

Superficial acral fibromyxoma (SAF) is a rare, slow growing soft tissue tumor which was first described as a separate entity in 2001 by Fetsch et al. The tumour involves periungual and subungual regions of fingers and toes in middle aged adults with slight male predominance. It has a recurrence rate of 25%. Local recurrence is almost always associated with positive margins. Malignant or metastatic behaviour has not been reported as yet. Not many cases have been reported in literature, with just two of them in Indian population. We present one such case in Indian population in a 37 year old male patient who presented with a swelling on the medial aspect of left great toe since 1 year. It was a painless mass, 3 cm x 2 cm, round-shaped, firm, nonfluctuant, flesh colored and subungual in location. FNAC was done, followed by biopsy, where diagnosis of SAF was made. Patient underwent wide excision of the soft tissue mass which was then subjected to IHC (Immunohistochemistry), which came out positive for CD34 and negative for EMA, which further pointed towards the diagnosis of SAF. Two year follow-up examination showed no evidence of recurrence. Since, it is only a benign tumour and has a tendency to recur, patient counseling and re-assurance play an important role. Additionally, making a correct pre-operative provisional diagnosis encourages the surgeon to do wide surgical excision upto tumor free margins so as to avoid recurrence.

Abstract no.: 46875

ANALYSIS OF FUNCTIONAL OUTCOME OF 2, 3 AND 4-PART PROXIMAL HUMERUS FRACTURES WITH PERCUTANEOUS K-WIRE FIXATION

Rex CHANDRABOSE, Manjunath B V
Rex Ortho Hospital, coimbatore (INDIA)

The incidence of proximal humerus fractures accounts for about 4-5% of all fractures. Around 80% of the fractures are un-displaced and stable and are treated conservatively, only 20 % of proximal humerus fractures require surgical treatment. Significant controversy exists regarding the best methods of treatment for proximal humerus fractures since there are various modalities of treatment available. We are presenting our experience of percutaneous threaded pinning technique of unstable proximal humerus fractures amenable for closed reduction and rest excluded. Materials and methods: A study group of 50 consecutive patients with a mean age of 52 years were evaluated clinically (Constant Murley score) and radiologically with a mean follow up of 18 months. Results: Twenty-two patients had 2-part fractures, 18 had 3–part and 10 patients had 4-part fractures. Mean Constant scores of 2- part and 3-part fractures are 91.6 and 88.1 respectively and 4-part fractures had Constant score of 73.4. Complications encountered in our series were loss of reduction (n=1), mal-union (n=1) and pin tract infection(n=2) with no avascular necrosis. Conclusion: Percutaneous K-wire fixation of proximal humerus fracture is a reliable, inexpensive technique with least morbidity, more biological fixation with less operating time especially in elderly fragile patients and no need of second surgery like implant removal. Percutaneous treatment of proximal humeral fractures results in predictable union and good clinical results with a low rate of complications.

Abstract no.: 46877

VERTICAL SACRAL FRACTURES TREATED WITH SPINO-PELVIC FIXATION AND INTERNAL FIXATION

Rocco ERASMO, Luigi GUERRA, Federico VISCI, Domenico MARINELLI
Pescara public hospital, Pescara (ITALY)

Vertical fractures of the sacrum are rare. There are several surgical options for their treatment. We analyzed our experience, the best focusing of surgery technique correlated with the lesions in order to ensure a stable osteosynthesis and compared soft tissue. From January 2015 to January 2017, we treated surgically 8 vertical fractures of the sacrum. According to the Tile classification we had: 6 pelvic ring injury cases C1.3, two C3 injuries; based on the Denis classification of sacrum fractures were three Denis 1, three cases Denis 2, two cases Denis 3. All our patients received in the hospital X-ray of the pelvis in anteroposterior and CT with 3D reconstruction. In 3 patients it was performed the so-called "triangular" osteosynthesis in 2 patients a spino-pelvic fixation and in 3 cases a ileoiliac internal fixation. The functional outcome was assessed with Majeed functional score (1 scare, 6 good and 1 excellent) with an average of 62.5, with a range (52-77) We observed two cases of complete injury of the sciatic nerve at the entrance, one with partial recovery to twelve months. We had a case of superficial and one deep infection infection. The full weight bearing was allowed an average of five weeks (3-8 weeks) We believe that the internal fixator and " triangular “osteosynthesis, guarantees the best adequate mechanical stability in surgical treatment of vertical instable sacrum fractures.

Abstract no.: 46878

SIMULTANEOUS BILATERAL TOTAL KNEE REPLACEMENT WITH OR WITHOUT TOURNIQUETS

Mridul ARORA[1], Varun GUPTA[2], Ashutosh DONGRE[2], Vijay SHETTY[2]
[1]Hiranandani Orthopaedic Medical Education (HOME), Hissar (INDIA),
[2]Hiranandani Orthopaedic Medical Education (HOME), Mumbai (INDIA)

Background: Tourniquets are commonly used in total knee replacement (TKR) surgeries to achieve bloodless surgical field, thereby potentially reducing blood loss and surgical time. However, some studies have shown that the use of tourniquet can result in complications such as skin bruising, persistent thigh pain, and thigh muscle weakness. We, therefore, conducted a prospective study to compare the effect of tourniquet on blood loss, thigh pain and thigh bruising in simultaneous bilateral TKR surgeries. Materials and methods: In a prospective comparative study, 30 patients with end-stage bilateral osteoarthritis of the knees were divided into two groups; the “tourniquet group” (n=15; 30 TKRs) and “no tourniquet group” (n=15; 30 TKRs). All operations were performed by a single surgeon. All procedures were performed using conventional TKR procedures. We looked at surgical time, intra-operative blood loss, transfusion requirements, post-operative pain, length of stay, thigh pain and bruising in all patients. Results: Our analysis suggested that in “no-tourniquet” group, there was less pain, no thigh pain or bruising in the immediate post-operative period. However, blood loss was greater in “no tourniquet group”resulting in transfusion requirements. There was no difference in surgical time and length of stay in both groups. Conclusions: It appears, from this small study, that bilateral total knee replacement surgeries without tourniquet is an attractive option for the obvious advantages of less post-operative pain and less thigh bruising. However, intra-operative blood loss needs to be looked at carefully by adequate haemostais. Keywords: Tourniquet, Total knee arthroplasty, Blood transfusion , post-op rehabilitation.

Abstract no.: 46881

A MODULAR SYSTEM FOR REVISION HIP ARTHROPLASTY

Rocco ERASMO, Luigi GUERRA, Federico VISCI, Domenico MARINELLI
Pescara public hospital, Pescara (ITALY)

The aim of this study was to evaluate early results of acetabular revisions of total hip replacement using fully cementless trabecular titanium (TT) acetabular modular implants and tapered fluted revision stem (Lima Corporate, Udine, Italy) We treated 84 patients, in the period May 2011-May 2016, for revision surgery of hip arthroplasty The average patient age at surgery was 77.16 years (range, 49-87). They included 29 males and 55 females . In 27 cases it was periprosthetic fractures of B3 and B2 according to the Vancouver classification, 53 patients had mobilizations or dislocation in arthroplasty outcomes and 4 were infections. We In 5 cases we proceeded with the replacement of only the stem, in 12 replacement of acetabular cup, in the remaining 67 pazient we performed a global revision of components of the modular revision system (LIMA Corporate S.P.A.) . Frozen morcellised bone allografts were used in 53 cases. In the septic case we performed two-stage procedure. The mean follow-up was 48 months (min 12 and max 72 months) The results were evaluated with the HSS score and serial radiographic evaluations Complications were represented by recurrent dislocation in 8 cases (4 cases in revisions of only one component), one case of infection, 3 cases of sciatic- popliteal nerve palsy, including 1 case solved after 12 months, no case of mobilization .

Abstract no.: 46882

15 ACETABULAR FRACTURES TREATED WITH SUPRAPECTINEAL PLATE

Rocco ERASMO, Luigi GUERRA, Federico VISCI, Domenico MARINELLI
Pescara public hospital, Pescara (ITALY)

Since January 2015 we implanted 15 suprapectineal plate (Stryker TM) in patients with acetabular fractures. According Letournel classification : 2 fractures were transverse, 2 two columns fractures, 8 fractures of the anterior column and the quadrilateral lamina and 3 fracture of the anterior column and posterior hemitransverse column. We used Stoppa approach, sometimes supplemented with the first window of ilioinguinal approach. The patients were 8 males and 7 females, ranging in age from 35 to 68 years. The surgery was performed on average of four days away from the date of the injury, except 2 patients operated in nine days. The minimum follow-up was 12 months and maximum 21. The results were evaluated according Matta score. In conclusion we observed that the use of suprapectineal plate is advantageous especially in the associated lamina fractures treatment, with a significant improvement of surgical time, compared to traditional plates. Furthermore allow easy fixation , ensuring an excellent stability, with the possibility to fix the posterior low column, using only intrapelvic approach.

Abstract no.: 46883

METAEPIPHYSEAL PROXIMAL TIBIA FRACTURES: DOUBLE PLATE FIXATION

Rocco ERASMO, Luigi GUERRA, Federico VISCI, Domenico MARINELLI
Pescara public hospital, Pescara (ITALY)

The aim of our retrospective study was to evaluate the results of double plating fixation in 35 meta-epiphyseal fractures of the proximal tibia(Types V & VI of Schatzker classification) from March 2010 to February 2016. The mean age was 52.6 years. We performed bilateral access and all patients were treated with 4,5-LCP plate side, combined with 3.5 or 4,5 LCP contralateral. In 4 cases we added posteriorly a third plate. To facilitates reduction of impacted fragment we sometimes performed a tibial plateau osteotomy. In 18 patients the residual bone loss was filled with frozen morcellised bone allografts. The mean follow up was 48 months. The patients were evaluated by a functional point of view using the HSS and radiographic evaluation at intervals. The average time for full weight-bearing was 12.1 weeks. All patients achieved articularity up to 95 °. Complications were represented by 2 cases of hardware removal for sepsis, 3 cases of reoperation for fixation failure, 2 case of knee stiffness. Double plate fixation constitutes a valid treatment in complex proximal meta-epiphyseal fractures of the tibia, as it provides an adequate mechanical stability, with possibility of early mobilization. However, we reiterate the importance of reduction accuracy as a prognostic factor key for functional outcome.

Abstract no.: 46885

EXTRACOMPARTMENTAL SOFT TISSUE SARCOMAS . SURGICAL DIFFICULTIES AND RESULTS

Reda HARRAR[1], Kamel ACHOUR[2], Mourad OUBIRA[2], Amine TOUHAMI[2], Meriem GUIDOUM BOUZIANE[3], Chafiza GRARADJ[2], Mourad HAMIDANI[3]
[1]Blida university hospital center, Alger (ALGERIA), [2]Blida university hospital center, ALGIERS (ALGERIA), [3]Blida university hospital center, Blida (ALGERIA)

Introduction: Extra compartmental soft tissue sarcomas develop in virtual spaces outside muscular compartment traversed by a neurovascular bundle making the surgical resection of these sarcomas complicated. Methods: From 2011 to 2015 we retrospectively analyzed 32 cases of extra compartmental soft tissue sarcomas on a series of 122 cases. These sarcomas were located in the femoral triangle (12cases), sartorial canal (5cases) , and the popliteal fossa (15cases) . These sarcomas may be divided into three groups depending on involvement the structure neurovascular (11 cases) or musculofascial (13 cases) or no involvement (8 cases). Results: Conservative surgery was performed in 75% (24 cases), whereas 8 patients had to undergo amputation (25%). The mean follow-up was 20 months (6 - 45). The overall local recurrence rate was 34% (11cases). The overall three-year survival was 23%. Conclusion: Extra compartmental soft tissue sarcomas are more aggresive and harder to treat and with a worse prognosis.

Abstract no.: 46887

UNILATERAL FACET LUMBAR DISLOCATION . A CASE REPORT

Amine TOUHAMI, Mourad HAMIDANI
Blida Hospital, Blida (ALGERIA)

Unilateral facet dislocations are frequently seen in the cervical spine but it's very exceptionnal in the thoracic and lumbar spine. In our case it occured a 26 years old patient following a road accident. Neurological examination was normal. Xrays and CT scan showed an unilateral dislocation of L4 with transverse process fractures of L3,L4 and L5. The patient was operated 2 days after. The reduction was done carefully after doing a bilateral laminectomy and resecting the the facets.Then we did a short construct L4-L5. The post operative state was normal and the patient left the hospital 3 days later with a brace for 2 months.

Abstract no.: 46890

A USED OF VR SIMULATION FOR MEDICAL EDUCATION IN TERM OF ENGAGEMENT AND EFFECTIVENESS

Bura SINDHUPAKORN, Jessada TANTHANUCH, Suwittaya THIENPRATAN
suranaree university of technology, nakornratchasema (THAILAND)

Introduction:In medical studies, technology-enhanced simulations have used widespread. In term of effectiveness remain unclear but these technologies enhance student skills in learning, enjoyable, understand, collaboration. This paper use experimental study to determine if using a technology-enhanced simulation (augmented reality) for medical education (orthopedic class) can impact medical student engagement and effectiveness. Four different techniques were performed in orthopedic class, which were conventional, VDO, 3 Dimensional (3D) video and augmented reality (AR). Method:A total of 79 medical students did the pre-test. Afterward they were randomly into 4 groups which studied in 4 approaches as conventional lecture, VDO, 3D VDO and AR. After that they did the same tests. Learning effectiveness is the change pre- and post-tests scores. The students were asked for their engagement in terms of enjoyment, and attractiveness. Results: they shown there was no different of age, gender, cumulative GPA, English grade and pre-test score among study groups. There were differences of post-test score means among 4 learning methods (p-value, <0.001). Effectiveness: conventional(Mean + SD, 5.7 + 1.95)provided higher effectiveness than AR(Mean + SD, 2.55 + 1.47). Enjoyment: AR lecture was the highest(Mean + SD, 7.30+2.70). Attractiveness: AR lecture gave the highest scores(Mean + SD, 7.9 + 2.71). Understanding: The highest is conventional(Mean + SD, 6.7 + 2.77), followed by AR group(Mean + SD,6.3 + 2.45). Discussion: AR learning environment was developed for almost realistic fracture pattern simulations in orthopedics lecture, where learners become emotionally involved in their learning process. It totally shifted to an entirely new level.

Abstract no.: 46895

A FACILE AND SIMPLE METHOD TO PERFORM PRIMARY TOTAL KNEE ARTHROPLASTY WITH FEWER INSTRUMENTS

Chih-Wei CHANG[1], Chyun-Yu YANG[2], Yen-Nien CHEN[3], Chih-Han CHANG[3], Kai-Lan HSU[2], Yao-Te PENG[3], Alicia WANG[4]

[1]Department of BioMedical Engineering, National Cheng Kung University, Tainan City, Taiwan; Department of Orthopedics, National Cheng Kung University Hospital, College of Medicine, National Cheng Kung University, Tainan City, Taiwan, Tainan (TAIWAN), [2]Department of Orthopedics, National Cheng Kung University Hospital, College of Medicine, National Cheng Kung University, Tainan City, Taiwan, Tainan (TAIWAN), [3]Department of BioMedical Engineering, National Cheng Kung University, Tainan City, Taiwan, Tainan (TAIWAN), [4]College of Medicine, National Cheng Kung University, Tainan City, Taiwan, Tainan (TAIWAN)

In current practice of total knee arthroplasty (TKA), the predominant intramedullary system requires numerous jigs, fixtures and a complex sequence of steps. To improve the mentioned drawbacks, we gradually evolved our techniques in critical bony cuts with fewer instruments according to preop image evaluation, intraoperative calibration, visual judgement and application of geometric principles. To determine the surgical accuracy of our method, a prospective study regarding to radiographic outcomes was conducted. Sixty-seven females without abnormal body composition (BMI > 45 or < 18), extra-articular deformity, and secondary osteoarthritis scheduled for their unilateral, primary TKAs were enrolled. Two groups were allocated according to the different surgical methods, extramedullary bony preparation (EP group, n=39) vs. conventional IM guidance (CI group, n= 28). The radiographic results by two independent investigators, including the pre-, post-operative limb alignment, numbers of outliers, and component positions, were recorded and compared accordingly. In spite of different methods, similar surgical accuracy was achieved in both groups, including similar no. of outliers (8/28 vs. 11/39), similar postoperative limb alignment and even all measured angles of prosthesis position. Compared with the standard intramedullary instrumentation, similar surgical accuracy of our EP group indicated the practicality of our extramedullary referencing method. With preservation of medullae, clinical benefits from less surgical trauma without compromising the surgical duration and expenditure were expected. However, limitations in non-randomization and dependence on surgeon's experience were acknowledged. In conclusion, a facile and simple method to perform primary TKA in a more effective and less invasive way was proposed.

Abstract no.: 46897

MIPPO IN DISTAL TIBIA FRACTURES: RESULTS IN 99 CASES

Alexandre SITNIK, Alexander BELETSKY, Aleh KORZUN
Belarus Republic Scientific and Practical Center for Traumatology and Orthopedics, Minsk (BELARUS)

Minimally invasive percutaneous plate osteosynthesis is popular in the treatment of lower leg fractures. Nevertheless published series are usually small and don't allow to assess the actual level of complications. Materials. 99 patients with distal tibia fractures treated using MIPPO technique from 2004 to 2016 were included in the study. There were 12 open fractures, 7 closed with significant soft-tissue injuries. Staged treatment with delay of definitive internal fixation was used in 46 patients. Results. Most fractures healed uneventfully with full weight-bearing after 16.4±4.6 weeks. Complications occurred in 18 cases (18.2%), and were divided into three groups: intraoperative (malreduction), consolidation complication and infection. Malalignments more than 5° (mostly valgus) were noticed in 7 cases (7%). Fixation of the fibula first (performed in 18 cases) appeared to prevent this malalignment. Corrective osteotomy was performed in 1 case. Non-union (8; 8%) and delayed union (3; 3%) were seen mostly in patients with significant soft-tissue injuries. In all cases of nonunion bone-grafting procedures were performed, in 3 cases with additional screw placement and in 2 with conversion to IM-nailing. There was 1 case with deep infection after GIIIA fracture, that required conversion to antibiotic-impregnated nailing. In other 7 cases superficial infection on medial tibia surface was seen. The plate was removed after healing of fractures there without additional surgeries. Conclusions: Uneventful healing was noticed in 81.8% of cases, but there is still substantial number of complications, mostly related to severity of initial injury. Thorough preoperative planning and timing of surgery are important.

Abstract no.: 46898

NUMERICAL INVESTIGATION OF TIBIAL TUBERCLE OSTEOTOMY FIXED WITH VARIOUS SCREW CONFIGURATIONS

Chih-Wei CHANG[1], Yen-Nien CHEN[2], Chyun-Yu YANG[3], Chih-Han CHANG[2], Yi-Jung MA[4], Wei-Ren SU[3]

[1]Department of BioMedical Engineering, National Cheng Kung University, Tainan City, Taiwan; Department of Orthopedics, National Cheng Kung University Hospital, College of Medicine, National Cheng Kung University, Tainan City, Taiwan, Tainan (TAIWAN), [2]Department of BioMedical Engineering, National Cheng Kung University, Tainan City, Taiwan, Tainan (TAIWAN), [3]Department of Orthopedics, National Cheng Kung University Hospital, College of Medicine, National Cheng Kung University, Tainan City, Taiwan, Tainan (TAIWAN), [4]College of Medicine, National Cheng Kung University, Tainan City, Taiwan, Tainan (TAIWAN)

Tibial tubercle osteotomy (TTO) facilitates difficult knee exposure during revision total knee arthroplasty (RTKA) or complicated juxta-articular trauma. However, certain complications are encountered while fixing the osteotomized fragments. Few studies mentioned and explored the effect of different screw configuration in the fixation of TTO. We used numerical simulation to investigate the stability of TTO fixed with various configurations. A solid tibia model with TTO consisting of an osteotomized fragment 75-mm long and 12-mm thick fixed with various screw configurations, including two parallel screws in horizontal, tip-upward, tip-down and even a diverging fashion, were developed and analyzed. A 1600-N force on the tibial tubercle simulated the force from the extensor mechanism. The reaction forces between the fragment and tibia and the internal stress in the bone were calculated using the finite element method. Among all configurations, the configuration with two tip-downward screws yielded the highest stability, but induced high stress on the cortical area of the osteotomized fragment. Although a slightly lower stability was obtained by the common two horizontal screws, it distributed the lowest stress on the osteotomized cortex. The most unstable configuration was obtained by two tip-upward screws for the largest displacement of the fragment as well as gap deformation under stress. Our results highlight the current practice of two horizontal screws in parallel fashion suitable for the fixation of TTO, and the configuration with two tip-downward screws could be alternative; however, the configuration with two tip-upward screws is the least recommended for the fixation of TTO.

Abstract no.: 46900

SIGNIFICANT REDUCTION OF FLUOROSCOPY REPETITION WITH LUMBAR LOCALIZATION SYSTEM IN MINIMALLY INVASIVE SPINE SURGERY: A PROSPECTIVE STUDY

Fan GUOXIN, Xiaofei GUAN, Hailong ZHANG, Xin GU, Yunshan FAN, Shisheng HE

Shanghai Tenth People's Hospital, Tongji University School of Medicine, Shanghai (CHINA)

For most countries around the world, the conventional localization methods for minimally invasive spinal surgery (MISS) were mainly based on repeated X-ray fluoroscopy in a trial-and-error manner preoperatively and intraoperatively. The study aimed to primarily evaluate the efficacy of a novel lumbar localization system in reducing radiation exposure and risks of radiation-induced disease to patients. Included patients underwent minimally invasive transforaminal lumbar interbody fusion (MISTLIF) or percutaneous transforaminal endoscopic discectomy (PTED). A total of 249 eligible patients were included from July 2015 to May 2016 in our center. Patients receiving novel localization system were regarded as Group A (n=123), and others were regarded as Group B (n=126). For PTED, The estimated effective dose was 0.41±0.13 mSv in Group A and 0.57±0.14 mSv in Group B ($p<0.001$); the exposure time of PTED was 22.18±7.30 seconds in Group A and 30.53±7.56 seconds in Group B ($p<0.001$); The estimated cancer risk was 22.68±7.38 (10-6) in Group A and 31.20±7.96 (10-6) in Group B ($p<0.001$). For MISTLIF, the estimated effective dose was 0.45±0.09 mSv in Group A and 0.58±0.09 mSv in Group B ($p<0.001$); The exposure time was 25.41±5.52 seconds in Group A and 32.82±5.03 seconds in Group B ($p<0.001$); The estimated cancer risk was 24.90±5.15 (10-6) in Group A and 31.96±5.04 (10-6) in Group B ($p<0.001$). There were also significant differences in localization time and operation time between the two groups either for MISTLIF or PTED. The lumbar localization system could be a potential protection strategy for minimizing radiation hazards for MISS.

Abstract no.: 46901

USE OF MOSAICPLASTY AND 3D PRINTING AS A UNIQUE APPROACH TO TREAT CHONDROBLASTOMA OF FEMORAL HEAD

Tarun VERMA
Maulana Azad Medical College and Lok Nayak Hospital, New Delhi (INDIA)

Treatment of chondroblastoma of the femoral head is tricky because the tumour is surrounded by articular cartilage on one side and physis on the other. Treatment in literature is curettage with bone grafting/ bone cement. Various approaches used are minimally invasive approach via a drill along the femoral neck, open approach with capsulotomy and raising a ‘trapdoor’ of the femoral neck and by a direct approach through the articular surface of the femoral head, potentially damaging the articular cartilage. We used mosaicplasty to treat a case of chondroblastoma femur head in a 17 years old female. Mosaicplasty grafting represents a method of autogenous osteochondral transplantation for the treatment of focal cartilaginous defects. Its use in benign lesions of femoral head is not yet described in literature. The patient presented with complaint of left hip pain and limp for 3 years. X ray revealed lytic lesion in femoral head which had eroded the joint cartilage. CT and MRI pelvis revealed a well-defined focal epiphyseal lesion with internal matrix calcification. A 3D model was generated from CT scan using Mimics software and lesion was separated virtually. Size of the defect was assessed on 3D printed model. Patient was operated via posterior approach with trochanteric flip osteotomy followed by anterior dislocation of hip. Curettage was done to scoop out the lesion and then high speed burr was used followed by osteo-chondral graft harvesting and placement. Post-operatively patient was put on skeletal traction and started on skate board exercises

Abstract no.: 46904

RETURN TO PROFESSIONAL ACTIVITY OF PATIENTS, SURGICALLY TREATED FOR COXARTHROSIS BY TOTAL CEMENTLESS HIP JOINT ALLOPLASTY

Marek DROBNIEWSKI, Andrzej BOROWSKI, Magdalena KRASINSKA, Marcin SIBINSKI, Marek SYNDER

Clinic of Orthopaedics and Paediatric Orthopaedics Medical University of Lodz, Lodz (POLAND)

The aim of the study was to present the results of an analysis, concentrating on the issue of return to active professional life of patients, surgically treated with THA for coxarthrosis. Analysis was performed on 114 patients in the working age were isolated. The mean age of the women was 49.9 years and the mean age of men was 52.2 years. The study was retrospective in character. The obtained results of the clinical study were processed. to the classification of Merle d`Aubigne and Postel in Charnley's modification. Radiological imaging was also an integral part of follow up examinations. Results. Both clinical and radiological results were poor in preoperative evaluations. The very good outcome was recorded in 71 cases (61.7%), a good in 37 cases (32.2%) and a satisfactory in 7 cases. No poor results were found. The mean improvement score in the evaluation system was 6.6 points and was statistically significant. Only 65.8%, out of the examined patients, were occupationally active before the surgical procedure. After the surgical intervention, 58.8% of the patients got back to work. The mean period of sick leave was 138.6 days and the rehab benefit was granted in 21 cases. In working age patients, THA is a valuable method of surgical intervention, applied in cases of advanced forms of coxarthrosis. The majority of patients, who worked before surgical procedure, return to their workplace and employment dimensions. Only displastic coxarthroses are associated with unfavourable prognoses, regarding undertaking of or returning to work after surgical therapy.

Abstract no.: 46906

TWO-STAGE REVISION OF PERIPROSTHETIC HIP AND KNEE JOINT INFECTIONS? WHEN IS THE BEST TIME TO PERFORM THE SECOND STAGE?

Ines VIELGUT, Andreas LEITHNER, Mathias GLEHR
Medical University of Graz, Graz (AUSTRIA)

Background: Two-stage revision arthroplasty seems to be the procedure of choice for late, chronic periprosthetic joint infections (PJI). Nonetheless, the results remain unpredictable due to various clinical findings and the absence of prospective randomised trials. We analysed the mortality and reinfection rates in a series of patients who underwent two-stage revision surgery for periprosthetic hip- and knee joint infections in dependency of the length of spacer-retention. Patients and Methods: A series of 76 patients with periprosthetic hip- and 77 patients with knee joint infections, who had undergone two-stage revision arthroplasty for PJI between 2005 and 2013, were included. Results: The mean spacer-retention period was 12.6 weeks for prosthetic hip- and 10.6 weeks for prosthetic knee joint infections. Infection has reoccurred in 30.3 % versus 18.7% of the patients. For PJI of the hip, the best outcome was achieved in patients who had undergone second-stage surgery after 4-11 weeks. For prosthetic knee joint infections, a prolonged spacer-retention period of more than 83 days has led to a significant worse outcome. Compromising local conditions as well as repeated spacer-exchanges have influenced the outcome negatively as well. No significant influence on the outcome could be determined for patients' age or gender. Conclusion: The optimal time for second-stage procedure could be calculated between four and eleven weeks for hip joint infections and less than 12 weeks for PJI of the knee. To our knowledge, this study is the first focusing on the length of spacer retention and its potential impact on the outcome.

Abstract no.: 46907

EFFECT OF REGION OF INTEREST ON QUANTITATIVE GRADING OF FATTY INFILTRATION

Jin Woong YI, Sang Bum KIM, Jae Sin LEE
Konyang University, Daejeon (SOUTH KOREA)

Fatty infiltration(FI) of the rotator cuff muscles correlates with a clinical outcome. To evaluate FI, Semi-quantitative Goutallier stage was used. But quantitative method is more detail and if the Region-Of-Interest (ROI) designation is incorrect, th result is likely to be affected also. But the effect of ROI on FI measurement has not yet been reported. Authors planed a virtual muscle image with various parameters such as muscle size, ROI and uniformity f th FI of the muscle, and measured FI (calculated FI, cFI) in each situation. Uniformity was calculated only when the ROI was set smaller than the muscle. The cFI value of the outer part of the ROI was varied from -50% to + 50% of the iFI. The error of the cFI increases as follows. The smaller muscle size, the greater distance from muscle to ROI, the degrees of uneven distribution of FI in the muscle. There was less error when the boundary of the ROI is within the muscle than outside. The greater distance between the original muscle and ROI, there is more error. Therefore If the data about the muscle size and homogeneity of the FI were given, the error of the cFi can be expected and to reduce the error, ROI has to locate exactly on muscle boundary or just inside.

Abstract no.: 46910

PERCUTANEOUS SURGICAL RELEASE WITH SCALPEL 64 MIS MSP, IN THE TREATMENT OF THE TRIGGER FINGER.

Damian MIFSUT MIEDES[1], Juan MORENO RIVELLES[2]
[1]University of Valencia. Malva-Rosa Hospital, ALBALAT DE LA RIBERA (SPAIN), [2]DOCTOR PESSET HOSPITAL, VALENCIA (SPAIN)

Introduction: There are different surgical techniques for the treatment of stenosing tenosynovitis of the fingers, commonly known as a trigger finger, from open surgery to percutaneous surgery with the bevel of a needle. The aim of the present study was to review the results obtained with percutaneous treatment, using a 64 MIS MSP scalpel (commonly used for percutaneous foot surgery). Material and method: A total of 33 patients operated on in 2016 were reviewed using this technique, 58 trigger fingers. 18 men and 15 women. A minimum follow-up time of 6 months. We analyzed demographic variables, affected fingers, surgical time, recovery of motor function, reincorporation to its activities and complications or recurrences. Results The majority of the trigger fingers were at the level of the 4th finger (24 cases), followed by the thumb (15 cases) and 3th fingers (10 cases). The surgery was performed under local anesthesia and without ischemia with an average duration of 11 minutes. No case of recurrence was observed during the study period. There were no neurological lesions. conclusion The percutaneous surgical release with Scalpel 64 MIS is a safe and effective technique in the treatment of the trigger fingers, with minimal aggression on soft parts and a fast recovery

Abstract no.: 46913

BLOOD TRANSFUSION REQUIREMENTS IN TOTAL PRIMARY KNEE ARTHROPLASTY. COMPARATIVE STUDY BETWEEN AC. TRANEXáMICO AND POSTOPERATIVE COLLECTION AND REINFUSION OF AUTOLOGOUS BLOOD.

Damian MIFSUT MIEDES[1], Juan MORENO RIVELLES[2]
[1]University of Valencia. Malva-Rosa Hospital, ALBALAT DE LA RIBERA (SPAIN), [2]DOCTOR PESSET HOSPITAL, València (SPAIN)

There are different methods of saving blood in prosthetic knee surgery, during the preoperative phase, with erythropoietin, autotransfusion predonation, etc .; During the surgical act with the tranexamic ac, and others; And during the postoperative period with the reinfusion of recovered blood in the first hours. The objective of the present study was to compare the results obtained with two different methods of saving blood, the tranexamic ac. and postoperative collection and reinfusion of autologous blood. For this, we reviewed 54 cases of patients undergoing primary PTR in our center. 20 men and 34 women. We analyzed the demographic variables as well as model of prosthetics, previous and postoperative Hb levels. Number of blood transfusions. Out of 54 cases, 27 were treated with Tranexamic and 27 with ConstaVac CBCII of Stryker. Of the latter, 12 cases of bleeding were reinfused to the patient and another 4 patients were transfused with 2 units of red cells concentrate; In contrast, patients treated with Ac. Tranexamic only 2 cases required transfusion. The use of Tranexamic Ac is more effective in the post-surgical blood savings in PTR compared to the use of and postoperative collection and reinfusion of autologous blood.

Abstract no.: 46920

COMPARISON OF THE ACCURACY OF COMPUTER ASSISTED NAVIGATED SURGERY IN ACHIEVING FINAL COMPONENT ALIGNMENT IN TOTAL KNEE ARTHROPLASTY BETWEEN MILD-MODERATE (<15^{O}) VARUS AND SEVERE (>15^{O})DEFORMITIES

Vikas BOLLAVARAM[1], Krishna Kiran EACHEMPATI[2], Chandra Sekhar DANNANA[2]

[1]MAXCURE HOSPITALS, MADHAPUR, Hyderabad (INDIA), [2]MAXCURE HOSPITALS, MADHAPUR, Hyderabad Local, Andhra Pradesh (INDIA)

Introduction:Computer assisted surgery is well known to improve the accuracy of component placement and restoration of mechanical alignment in total knee arthroplasty. We did a retrospective comparative study of accuracy in achieving final component alignment between varus deformities <15^{O} and >15^{O}.Materials and Methods:Our study included 137 primary knees between Jan and Dec 2015 using Orthopilot 5.1 B Braun Aesculap - Image free computer navigation system. We excluded 16 patients with valgus deformity, rheumatoid arthritis, hip stiffness and revision surgery. The mean age in both the groups was 64 years. All surgeries were done by senior author with Aesculap Columbus CR using sub-vastus approach. Group A included 95 patients with varus <15^{O} and group B included 26 patients with varus >15^{O} . All the procedures were done by femur first measured resection technique and the final component alignment was recorded. Postoperatively full length weight bearing scannograms were taken to evaluate the FCA(Femoral component angle) and TCA (Tibial component angle) and the final mechanical alignment was calculated. Result:The final mechanical alignment was within 3^{O} in 96.15 % of the patients in group A and 95.75 % in the severe group B. A statistical analysis showed that this difference in the final alignment was not statistically significant ($p>0.05$). Conclusion:Our study shows that irrespective of the severity of deformity, with meticulous , sequential soft tissue release and using computer assisted surgery we can not only accurately quantify the degree of deformity and it's correction but also achieve the desired, acceptable final component alignment.

Abstract no.: 46929

ANTERIOR CRUCIATE LIGAMENT RECONSTRUCTION HAS GOOD 2-YEAR OUTCOMES IN BOTH YOUNG AND MIDDLE-AGED PATIENTS IN AN ASIAN POPULATION

Kae Sian TAY, Andrew Hwee Chye TAN
Singapore General Hospital, Singapore (SINGAPORE)

BACKGROUND:Anterior cruciate ligament(ACL) reconstruction for patients above the age of 40 has shown good results, but there are few studies directly comparing them to younger patients, especially in Asians. This study aims to compare the outcomes of ACL reconstruction in Asians, by age group. METHODS: A retrospective cohort study was performed based on prospectively collected data from the ACL registry in a tertiary institution. All Asian patients with isolated ACL tears, and underwent arthroscopic ACL reconstruction by a single surgeon between 2006 and 2014, with minimum 2-year follow-up, were included. Patients with previous knee surgery or other knee pathologies were excluded. Two groups were formed: G1(age<30) and G2(age>40). The 2 groups were compared pre-operatively and 6 months, 1 year, and 2 years post-operatively with regards to knee range of motion(ROM), anterior laxity, Tegner level, Lysholm scores, and patient satisfaction. RESULTS: G1(n=84) and G2(n=22) had significant differences in mean age(G1=23.1,G2=46.4 years,p<0.001), BMI(G1=23.3,G2=25.9,p=0.009), pre-injury Tegner level(G1=7.4,G2=6.4,p=0.005), and pre-operative Lysholm scores(G1=65.3,G2=53.0,p=0.034). At 2 years post-operatively, both groups had comparable knee ROM and laxity. The Tegner score was significantly different(G1=6.3,G2=5.2,p=0.028), but the proportion of patients returning to pre-injury Tegner level was the same(G1=45.2%,G2=46.9%,p=0.812), Lysholm scores were similar(G1=92.5,G2=93.8,p=0.794), and satisfaction levels were equivalent(G1=98.5%,G2=94.1%,p=0.370). There were no graft ruptures in either group. CONCLUSION: In an Asian population, middle-aged patients can benefit as much as younger patients from ACL reconstruction in terms of restoration of knee function and return to pre-injury activity level, and should not be excluded from surgery on the basis of age alone.

Abstract no.: 46933

IN VIVO THREE-DIMENSIONAL KINEMATIC ANALYSIS OF MINIMALLY-INVASIVE AND PATIENT-SPECIFIC INSTRUMENT TOTAL KNEE REPLACEMENT DURING SIT-TO-STAND

Kao-Shang SHIH[1], Cheng-Kai LIN[2], Hsuan-Lun LU[2], Cheng-Chung LIN[2], Tung-Wu LU[2]

[1]Orthopedic department, Shin Kong Wu Ho-Su Memorial Hospital, Taipei county (TAIWAN), [2]Institute of Biomedical Engineering, National Taiwan University, Taipei, Taiwan, Taipei (TAIWAN)

Introduction:The minimally-invasive TKR surgeries (MIS-TKR) have been developed to minimize the soft tissue damage and shorten the recovery period. Additionally, patient-specific instrument TKR surgery (PSI-TKR) is the newest surgical approach to more accurately restore the alignment of the lower limbs for the improvement of functional recovery. This study aims to quantitatively measure and compare the TKR kinematics of the patients with either MIS-TKR or PSI-TKR post-operatively during the sit-to-stand using the model-based registration methods via dynamic fluoroscopy.Methods: 15 patients with osteoarthritis will be recruited after total knee replacement. MIS-TKR of 9 subjects, PSI-TKR of 6 subjects. The 3D poses of the TKR components were obtained by registering their CAD models to the corresponding 2D fluoroscopy images using the WEMS method. Results:During sit-to-stand the patterns and magnitudes of the translations were similar between the MIS-TKR and PSI-TKR groups. For angular kinematics, both groups showed close-to-zero abduction/adduction, but the PSI-TKR group rotated externally from an internally rotated position (10° of internal rotation) to the neutral position, while the MIS-TKR group maintained at an externally rotated position of less than 5° during the movement. Discussion & Conclusion:During sit-to-stand both groups showed similar patterns and magnitudes in the translations but significant differences in the angular kinematics existed between the groups. While the MIS-TKR group maintained at an externally rotated position during the movement, the PSI-TKR group showed external rotations during knee extension, a pattern similar to the screw home mechanism, which may be related to more accurate restoration of the knee axis.

Abstract no.: 46935

STRAP STABILIZATION FOR PREVENTION OF PROXIMAL JUNCTIONAL KYPHOSIS IN POSTERIOR SPINAL FUSION

Vikas PATEL, Francisco RODRIGUEZ FONTAN, Bradley REEVES, David OU-YANG, David CALABRESE, Reed AYERS, Andriy NOSHCHENKO, Christopher KLECK, Christopher CAIN, Evalina BURGER-VAN DER WALT
University of Colorado, Anschutz Medical Campus, Aurora (UNITED STATES)

Proximal junctional kyphosis (PJK) has a variable incidence (6 - 41%) following spine fusion surgery. Mersilene tape (MT) strap stabilization of 1-2 adjacent levels to the UIV might prevent PJK in posterior spinal fusion (PSF) surgeries. Patients undergoing PSF surgeries for ASD, ≥ 18 years old, ≥ 3 levels and/or osteotomy, and with or without MT (Ethicon, NJ, USA) were included. Sagittal Cobb angle (SCA) measurements were performed on lateral spine X-rays pre-operatively and post-operatively in a 2-year follow-up period, using a measuring software. PJK was defined as a SCA, between the UIV and 2 levels above, of ≥ 10° compared to pre-operatively. Logistic regression was used to analyze the association between baseline variables and maximum post-operative SCA difference, and odds ratio (OR) for measuring risk of developing PJK with MT. A total of 51 patients were included: 16 patients (10 females and 6 males) with MT, and 35 age, sex, and procedure matched patients (22 females and 13 males) with no MT. The mean age was 61.3 years old ± 11.3. The maximum SCA deviation was at 2-year follow-up (8° ± 6.9). This was associated to age > 55 years old (p= 0.01), osteoporosis (p= 0.003) and post-operative interval (p= 0.006). A total of 13 (25.5%) patients developed PJK, 3 had MT (OR= 0.58, p= 0.18), 18.8% with MT vs 28.6% without MT. Results show that MT tends to decrease PJK incidence. However, further case-control studies are needed to assess the full efficacy of this technique.

Abstract no.: 46936

CLINICAL RESULTS OF ROTATOR CUFF REPAIR IN PATIENT OF GLENOHUMERAL OSTEOARTHRITIS

Yoon JONG PIL[1], Seok Won CHUNG[2], Jae-Wook JUNG[1]
[1]Department of Orthopaedic Surgery, Kyungpook National University Hospital, DaeGu (SOUTH KOREA), [2]Department of Orthopaedic Surgery Konkuk University School of Medicine, Seoul (SOUTH KOREA)

Introduction : Osteoarthritis of the glenohumeral joint is relative combined lesion with rotator cuff tear, especially in elderly patients. The aim of the study was to evaluate the effect of associated osteoarthritis on the treatment outcome of rotator cuff repair. Methods : We included 348 patients who had undergone arthroscopic rotator cuff repair for full thickness. Severity of osteoarthritis were evaluated by Samilson-Prieto methods preoperatively, and intraoperatively by Outerbridge classification. 45 patient had concomitant osteoarthritis. Postoperative clinical outcomes were evaluated based on visual analog scale (VAS) for pain, simple shoulder test (SST), University of California, Los Angeles (UCLA), Constant, and American Shoulder and Elbow Surgeons (ASES) scores at baseline, 2 year postoperatively, and final follow-up. Results : Overall, no significant differences in demographic characteristics and baseline data were observed according to existence of osteoarthritis. Clinical symptoms were significantly improved at the final follow-up in both groups. At the final follow-up, no significant differences were found in VAS pain (P = .946), SST (P = .259), UCLA (P = .071), Constant (P = .329), ASES (P = .972) scores. But, in large to massive tears, Patients with osteoarthritis had significantly inferior clinical results than those with no osteoarthritis. Conclusion : Mild to moderate osteoarthritis of the glenohumeral joint is relative combined lesion with rotator cuff tear. Overall, clinical outcome scores showed improvement after rotator cuff repair regardless of osteoarthritis. However, clinicians should consider this potential negative prognostic factor in patients with large to massive tear.

Abstract no.: 46937

FAST TRACK IN KNEE ARTHROPLASTY 300 PATIENTS

Pastucha MILAN
Horovice Hospital, Prague (CZECH REPUBLIC)

Background Fast-track programs have been developed for different surgical procedures leading to higher patient satisfaction and lower morbidity. This concept has been extended to knee arthroplasty in recent years. The purpose of this narrative review was to discuss the different aspects of fast-track knee arthroplasty. Method Authors searched the contemporary literature on minimally invasive knee arthroplasty and review articles on fast-track surgery aiming to summarize recent developments.with 300 hundred of patients in their group. Results Length of stay after knee arthroplasty is influenced by preoperative risk factors, anaesthetic and surgical techniques, pain, orthostatic intolerance, cognitive function, sleep disturbances, bleeding and anaemia and finally muscle function and rehabilitation. Conclusions Fast-track surgery reduces the length of stay in hospital Clinical relevance Optimisation of pathway for knee arthroplasty reduces morbidity after this type of surgery and results in shorter length of stay.

Abstract no.: 46938

SURGICAL TREATMENT FOR CERVICAL PYOGENIC SPONDYLITIS

Atsushi GOTO[1], Yuichi KONDO[2], Katsuji SHIMIZU[3], Yutaka NAKAMURA[3], Yukihiro SHIRAI[3], Yusuke SASAKI[3], Takatoshi YAMAMOTO[3], Yoshiyuki OHNO[3], Hiromi OTUKA[3], Kazunari FUSHIMI[4], Haruhiko AKIYAMA[4], Kei MIYAMOTO[3]

[1]Division of Orthopaedic Surgery, Gifu Municipal Hospital, Takayama city (JAPAN), [2]Division of Orthopaedic Surgery, Gifu Municipal Hospital, Gifu (JAPAN), [3]Division of Orthopaedic Surgery, Gifu Municipal Hospital, Gifu city (JAPAN), [4]Department of Orthopaedic Surgery, Gifu University Graduate School of Medicine, Gifu city (JAPAN)

INTRODUCTION: While pyogenic spondylitis in the thoraco-lumbar spine is frequently reported, we do not have sufficient information on pyogenic spondylitis in the cervical spine. Here, 9 patients with cervical pyogenic spondylitis are reviewed. METHODS: Between 2005 and 2016, nine patients [6 male and 3 female, mean age: 67 (42-86) years old, the average follow-up term: 37.4 months] underwent surgery for cervical pyogenic spondylitis. RESULTS: Six patients were classified into the destructive stage in Griffiths and Jones classification. In preoperative American Spinal Injury Association (ASIA) impairment scale, one patient was grade B, two were C, five were D, and one was E. The average ratio of spinal canal space occupied by epidural abscess was 26.6% (6-40). Operative procedures were anterior decompression with bone graft with halo-vest for 3 patients, posterior decompression for 5 (3 of them with halo-vest), and posterior instrumentation for one. Five patients required additional surgery (3 posterior instrumentation, 2 anterior bone graft) because of kyphotic deformity caused by anterior bony destruction. Postoperatively, ASIA impairment scale was improved in 3 patients and did not change in 6. C-reactive protein returned to normal level in all patients. CONCLUSION: Importantly, majority of the cervical spondylitis was initially managed by anterior or posterior direct decompression, followed by anterior or posterior stabilization. In contrast, current trend in initial surgery for thoracolumbar spondylitis is posterior spinal instrumentation. A possible explanation is that most of the present patient were associated with spinal cord compression with abscess.

Abstract no.: 46940

MRNA EXPRESSIONS OF FIBROCHONDROCYTE CULTURES ACCORDING TO AGE AND SIDE OF THE HUMAN MENISCUS

Nuri AYDIN[1], Bedri KARAISMAILOGLU[2], Selma YILMAZER[3], Duygu GEZEN AK[3], Erdinc DURSUN[3], Irem Lutfiye ATASOY[3], Merve ALAYLIOGLU[3], Esin CANDAS[3]

[1]Istanbul University Cerrahpasa Medical Faculty Orthopaedics and Traumatology Department, Istanbul (TURKEY), [2]Istanbul University Cerrahpasa Medical Faculty Orthopaedics and Traumatology Department, ISTANBUL (TURKEY), [3]Istanbul University Cerrahpasa Medical Faculty Medical Biology Department, ISTANBUL (TURKEY)

Introduction:The meniscus plays a critical role in the complex biomechanics of the knee joint. Engineering of biologically-driven tissues provides a promising avenue for meniscal repair, to restore meniscus function and avert the onset of osteoarthritis. With this study, we aimed to help further researches related to tissue engineering for meniscus in near future. Methods:In this study, tissue samples derived from patients undergoing total knee arthroplasty and partial meniscectomy surgeries were cultured. Patients were divided into two groups as younger and older than 50 years old. Behaviours of fibrochondrocytes and their mRNA expressions in cell culture enviroment were investigated according to age groups and the side of meniscus(medial or lateral). Results:In lateral and medial meniscus cultures of young patients, COL1A1(has a role in production of type 1 collagen) expressions were increased in both second and third passage(p=0.001). COL1A1 expression was decreased in third passage of lateral meniscus culture of old patients(p=0.02) but was increased in third passage of medial meniscus cultures of old patients. Overall, young patients showed more COL1A1 expression than old patients. HIF2a(increases in prolonged hypoxia) expression was increased in old patients. COMP1(encodes non-collagenous extracellular matrix protein) expressions were increased in third passage of medial meniscus of both young and old patients. Conclusions:We concluded that; in young patients, third passage of both medial and lateral meniscus cultures yield good results; while in old patients, third passage of medial meniscus culture is a better choice for tissue engineering. Also, young patient age is an important factor to obtain better results.

Abstract no.: 46941

EPIDEMIOLOGY OF ACETABULAR FRACTURES IN THE STATE OF QATAR

Abduljabbar ALHAMMOUD, Mohammed Mubarak AL-ATEEQ AL-DOSARI, Ghalib AHMED
Hamad Medical Corporation, Doha (QATAR)

Background Acetabular fractures are considered as complex orthopedic injuries that require special attention and expertise in treatment.There are different classification systems but Letournel's classification system is the most widely used.We aim to report our experience in acetabular fracture in level one trauma center. Methods A retrospective epidemiological descriptive study on acetabular fractures that presents to the orthopedic department Hamad General Hospital,Doha,Qatar during 2008–2010.Demographic data,radiographs images,fracture classification,treatment options and final outcomes were reviewed from patient files. Results: 103 acetabulum fractures were comprising 1.7% of 6046 various fractures received by our unit from 2008 – 2010.There were 96 (93.2%) males,average age 36 years.Most cases are result of motor vehicle collision (49.5%).Posterior wall fractures were more common than the anterior column fracture 28(27.1%)versus 15(14.6%)respectively. There were 77(74.7%)primary acetabular fractures whereas 25(24.3%)complex fractures.There were 22 (21.3%) cases associated with hip dislocations (18 posterior & 4 central),64 (62.1%) cases were associated with other injuries e.g. long bones fracture, chest, head and abdominal injuries.72 (70%)patients were treated conservatively whereas 31(30%) underwent surgical fixation.There are no cases of reported mortality, seven cases of sciatic nerve palsy and one lateral cutaneous nerve palsy was iatrogenic.There is one case of superficial infection and one case of post fixation femoral head subluxation of complex fracture with central dislocation. Conclusion: Acetabular fractures are uncommon injuries with motor vehicle accident as the most common mechanism of injury.The most common fracture pattern is posterior wall fracture.The need for well-trained surgeons & the presence of specialized centers to treat these injuries is recommended.

Abstract no.: 46946

SCOPE OF CONSTRAINED CONDYLAR KNEE ARTHROPLASTY IN DIFFICULT PRIMARIES

Mahmood WAHHAB, Ahmed ALQATUB
Medical city complex, Baghdad (IRAQ)

Introduction: The Constrained Condylar Knee implant (CCK) which usually used in revision TKA is found to be useful as a primary implant in those with severe deformity to overcome the problem of instability after surgery. Aim of the study:Assessing the functional outcome of patients underwent total knee arthroplasty using the Constrained Condylar Knee prosthesis as a primary implant using the American Knee Society Score and function score (AKSS). Patients and method: Between March 2015 and November 2015, a case series prospective study conducted in nineteen (19) CCK arthroplasty done in Medical city complex. Fourteen patients included in the study who had severe varus malalignment and instability. Of those patients, five had bilateral CCK and the rest nine had unilateral CCK whose five of them underwent other side posterior stabilized prosthesis before or after our index surgery date. All the patients followed up regularly and the scores calculated at the end of study in November 2016 using the(AKSS). Results: After the end of study the mean follow up 12-20 months (mean 16.2 months) all the patients' knee society score (19 knees) were good to excellent, which improved from preoperative score of (mean 6.6) to postoperative score of (mean 87.2). the patients' function score (14 patients) were good to excellent in 64.3% of them (9 patients), fair in 28.5% (4 patients) and poor (1 patient) in 7.1%. Conclusion: The short term follow up after primary CCK arthroplasty show patients satisfaction and good to excellent functional outcome, improvement in postoperative stability and alignment.

Abstract no.: 46947

EFFICIENCY OF FRAGMENT SPECIFIC FIXATION PLATES IN THE TREATMENT OF COMMINUTED DISTAL RADIAL FRACTURES

Abduljabbar ALHAMMOUD, Elhadi MUSAAB ELHADI BABIKIR, Eyad AL-MAQDAS, Khalid Hasan KHALID HASAN, Shamsi ABDUL HAMEED, Mohammed Mubarak AL-ATEEQ AL-DOSARI
Hamad Medical Corporation, Doha (QATAR)

Introduction:Distal radial fractures are most common type of fractures.Distal radius fracture can be caused by simple fall, or by high energy trauma.There are several options to fix comminuted distal radial fractures e.g.K-wire,volar fixed angle locking plate,augmented external fixators and fragment specific fixations.The fragment-specific approach uses metal pins and plates that are shaped to exactly fit the normal contours of the distal radius.Despite their small size,the fragment-specific implants are designed to withstand the forces of immediate wrist motion and are intended to be used as part of an early wrist motion program after surgery. Purpose:To assess the clinical,radiologic and functional outcome of treating comminuted intraarticular distal radius fractures with fragment specific fixation. Methods:A retrospective chart review of 25 unstable intraarticular distal radius fractures (type C2 AO) that had fragment specific fixation done in orthopedic department in Hamad General Hospital from (2010-2013), with a follow up of one year postoperatively. Results:Twenty five patients ranging (24-58) years of age, 22 males (88%) and 3 females (12%) with different mechanisms of injury such falling from height (average 2 meters) the commonest with 13 patients (52%) mostly work related.There is an obvious improvement between pre and postoperative wrist parameters at different time points,but P-values were not significant.Supination and pronation at 6 weeks of follow up showed significant values (p 0.04 & 0.03 respectively).Grip strength improved about 76% compared to the normal side. Conclusion:Fragment specific fixation is a reasonable alternative for treating intra-articular distal radius fractures to get a better clinical, radiological and functional outcome.

Abstract no.: 46949

INCIDENCE OF HETEROTOPIC OSSIFICATION FOLLOWING A MULTIMODAL PAIN PROTOCOL IN TOTAL HIP ARTHROPLASTY WITH THE POSTERIOR APPROACH

Morteza MEFTAH[1], Peter WHITE[2], Narges GHAZI[2], Amar RANAWAT[2], Chitranjan RANAWAT[2]

[1]NYU Hospital for Joint Disease, New York (UNITED STATES), [2]Hospital for Special Surgery, New York (UNITED STATES)

Introduction: Heterotopic Ossification (HO) is a prevalent occurrence after total hip arthroplasty, with historical incidences reported to be as high as 90%. Oral NSAIDs and COX-2 inhibitors have reduced the incidence of HO; however, to our knowledge no studies have reported the incidence and severity of HO with a pain protocol. Methods: Between January 2009 and December 2013, 678 consecutive primary THAs were performed with minimum one-year follow-up. All patients underwent a posterolateral THA with a multimodal pain protocol consisting of preoperative celecoxib, local steroid infiltration intraoperatively, postoperative celecoxib, dexamethasone and ketorolac as well as aspirin or warfarin thromboprophylaxis. All patients had pre- and post-operative radiographs examined and classified for HO using the Brooker Classification. Inter-observer reliability was calculated for both incidence of HO and Brooker Classification. Results: Overall, HO was present around 98 (14.1%) THAs. The incidence of Brooker I, II and III HO was 38 (5.5%), 47 (6.8%) and 12 (1.7%). No patients required surgical excision or had radiographic evidence of Brooker IV HO. Multivariate logistic regression identified males (OR: 3.8; 95% CI: 2.2 to 5.1; $p<0.01$) and patients with hypertrophic OA (OR: 2.1; 95% CI: 1.2 to 3.5; $p<0.01$) as significant risk factors. Conclusion: In this study, we found the overall incidence of HO utilizing celecoxib during a posterior THA to be 14.1% which is similar to what others have reported with the direct lateral approach and with other COX-2 inhibitors for a posterior approach. Risk factors include the males and preoperative hypertrophic osteoarthritis.

Abstract no.: 46952

ROUTINE PREOPERATIVE VENOUS DOPPLER SCREENING IS NOT EFFICIENT IN PREVENTING THROMBOEMBOLIC EVENTS AFTER TOTAL JOINT ARTHROPLASTY

Morteza MEFTAH[1], Peter WHITE[1], Ira KIRSCHENBAUM[2]
[1]NYU Hospital for Joint Disease, New York (UNITED STATES), [2]Bronx-Lebanon Hospital, New York (UNITED STATES)

Background: The aim of this study was to assess the utility of selective vs. non-selective pre-operative lower extremity venous dopplers screening protocols as a tool in reducing the incidence of thromboembolic events (DVT/PE) after total joint arthroplasty (TJA). Methods: Between August 2013 and August 2015, 457 consecutive TJAs were identified form our prospective IRB approved database. During the first year, a selective preoperative screening ultrasound doppler protocol (high risk patients or history of DVT/PE) was utilized in 184 patients, 31 of which had preoperative ultrasounds. The following year, a non-selective screening protocol was utilized in 273 consecutive patients, all underwent preoperative ultrasound doppler. All patients were followed for a minimum of 3 months postoperatively. All patients who underwent post-operative dopplers, emergency room (ER) visits or re-admissions related to DVT or PE were identified. Results: Preoperatively, there was no difference between the selective and non-selective cohorts with respect to preoperative DVTs (3 and 1, respectively; p=0.307). There was no difference in the number of postoperative ultrasounds dopplers between selective and non-selective cohorts (50 and 25; p=0.003). Postoperative thromboembolic events were found in 4 (2.6%) patients in the selective cohort and 2 (0.7%) patients in the non-selective cohort (p=0.196). Only one of these patients (from selective screening group) had a preoperative positive doppler finding. The cost associated with selective and non-selective screening was $69.48 and $170.41 per patient, respectively. Conclusions: Utilization of non-selective pre-operative ultrasound dopplers for all patients did not improve the identification of preoperative DVTs or reduce postoperative thromboembolic complications.

Abstract no.: 46954

TRANEXAMIC ACID REDUCES BLOOD LOSS AND TRANSFUSION RATE IN OBESE PATIENTS UNDERGOING TOTAL JOINT ARTHROPLASTY

Morteza MEFTAH[1], Peter WHITE[2], Ira KIRSCHENBAUM[2]
[1]NYU Hospital for Joint Disease, New York (UNITED STATES), [2]Bronx-Lebanon Hospital, New York (UNITED STATES)

Introduction: The aim of this study was to evaluate the effect of TXA changes in haematocrit and hemoglobin levels as well as incidence of packed red blood cell (pRBC) transfusions in obese patients after total joint arthroplasty (TJA). Methods: Between January and December 2014, 117 consecutive primary joint replacements (THA=23; TKA=94) with a body mass index (BMI) greater than or equal to 30 kg/m2 were performed. TXA was utilized in 45 (38.5%) arthroplasties [study group] and was compared to a consecutive series of 72 (61.5%) TJAs [control group]. Changes in hemoglobin and haematocrit levels, number of pRBC transfusions were recorded.Results: The group that received TXA had a lower haematocrit (36.5% vs. 38.5%). The changes in haematocrit (4.5% vs. 9.7%) and hemoglobin levels (2.7 g/dl vs. 3.6 g/dl) were significantly less for group that received TXA than the control group. Within the control group 25 (34.7%) patients required a pRBC transfusion with a mean of 2.0 units per patient (range:1-5); whereas, only 5 (11.1%) patients required a mean of 1.6 units per patient (range:1-2 units). The use of TXA significantly reduced the incidence of pRBC transfusions (p=0.005). Two pulmonary emboli were reported in the group that did not receive TXA, whereas no thrombolytic events were reported in the group that did receive TXA. Conclusion: The use of TXA in obese patients undergoing total joint arthroplasty significantly reduced the changes in haematocrit and hemoglobin levels.

Abstract no.: 46955

SAFETY CRITERIA FOR SHORT HOSPITAL STAY AFTER TOTAL JOINT REPLACEMENT

Morteza MEFTAH[1], Peter WHITE[2], Ira KIRSCHENBAUM[2]
[1]NYU Hospital for Joint Disease, New York (UNITED STATES), [2]Bronx-Lebanon Hospital, New York (UNITED STATES)

Introduction: Safety criteria for same-day (SD) or next-day (ND) home discharge are not well defined. The aim of this study was to assess the efficiency of a questionnaire as screening criteria to qualify for early home discharge.Methods: Between January 2014 and July 2015, 423 consecutive primary hip and knee arthroplasties were performed and were followed prospectively for a minimum of 3-month.Group 1 includes 302 cases with pre-operative questionnaire and group 2 includes 121 cases as control cohort. Spinal anesthesia and multimodal pain management including peri-articular injection was used. Length of stay (LOS), post-operative complications, readmissions, and discharge destination were assessed.Results: In group 1, 29% of the patients were discharged home after minimum 2 days after surgery with home services, 71% were discharged to short- or long-term rehabilitation center. The mean LOS was 4.6 ± 2.5 days (2 to 7). 3% symptomatic DVT and one pulmonary embolism (PE) during hospital stay, two cardiopulmonary events (1.6%), and 4 ER visits for inadequate pain control (3%). In group 2, 51% of the patients were discharged home, 6% of which (10 patients) were same-day discharge. The mean LOS was 2.2 ± 0.8 days (0 to 5). One (1%) symptomatic PE, 3 cardiopulmonary events (1%), and 5 (1.6%) ER visits for pain. There were no acute re-admissions, infections or re-operations. Conclusions: Implementation of a screening questionnaire for SD/ND early discharge is safe and results in significant reduction of LOS, higher discharge to home, lower rate of DVT/PE/cardiopulmonary complications and less ER visits.

Abstract no.: 46957

REVISION OF NONUNION FOLLOWING POSTERIOR OR TRANSFORAMINAL LUMBAR INTERBODY FUSION WITH A LATERAL LUMBAR INTERBODY FUSION : A CASE SERIES

Yosuke MIYAMOTO[1], Keisuke NAKANO[2], Yutaka NISHIJIMA[1]
[1]Spine Center, Takagi Hospital, Tokyo (JAPAN), [2]Orthopedic Dept, Takaokaseishikai Hospital, Toyama (JAPAN)

conventionally, revision of nonunion following posterior or transforaminal lumbar interbody fusion is undertaken through anterior lumbar interbody fusion (alif) using a large bone graft or re-approach via the same posterior exposure as the initial surgery together with release of adhesive scar tissues; however, csf leakage or nerve root injury are frequent complications. recently however, revision has become easier with introduction of lateral lumbar interbody fusion (llif). We report three cases (1 man, 2 women; mean age at revision 67.3 [58–79] years) of llif for revision of nonunion following plif or tlif. mean duration from primary operation to revision was 18 (5–31) months. two cases underwent oblique lumbar interbody fusion (olif) and 1 underwent extreme lateral interbody fusion (xlif). mean follow-up duration was 13.6 (10–19) months. fusion was undertaken in all cases. both olif and xlif are effective as salvage options for lumbar nonunion following failed posterior fusion surgery. however, olif is more suitable for this purpose because the retractor of xlif is too narrow and deep to insert the remover of plif or tlif cage from various directions; minimizing the time that retractor blades are expanded for is essential to protect the psoas muscle and lumbar plexus. this is the first report describing xlif for revision of nonunion following plif. future studies are required to research the long-term result of llif as a salvage surgery for failed posterior lumbar fusion.

Abstract no.: 46959

DISTALLY BASED SURAL FLAP IN THE TREATMENT OF COMPLICATED TIBIA FRACTURES WITH SOFT-TISSUE DEFECTS

Alexandre SITNIK[1], Aleksander BELEYSKY[1], Ina NEVDAKH[1], Alexander SUKHAREV[2]

[1]BRSPCTO, Minsk (BELARUS), [2]Military Medical Center of Belarus, Minsk (BELARUS)

Introduction. Fractures of tibia with significant soft-tissue injuries or infected non-unions with exposed bone pose a problem for trauma surgeon. Materials. The study included 24 patients with soft tissue defects of the lower leg. Mean age was 39.5±7 years, there were 17 men and 7 women. 13 cases (54.1%) had infected non-inions, 11 cases chronic osteomyelitis of tibia with post-traumatic ulcers. The duration of previous treatment comprised 12.4 ±4.6 months. In all patients distally based reverse fasciocutaneous neurovascular sural flap was used. The mean size of soft-tissue defect was 48 cm2 (30-98). Non-union persisted in 13 cases. The length of pedicle comprised 20 cm (15-25 cm). The size of skin island was 20% bigger than the size of defect. All the surgeries were performed in the settings of regular orthopedic trauma department by surgeons with special interest in soft-tissue reconstruction without special equipment. Results. Duration of coverage procedure comprised about 1.5 hours. There were any cases of total loss of the flap, but 3 cases of partial flap necrosis (12.5%) with involvement of up to 30% of the skin island. Deep portions of the flap survived in these cases, that allowed to cover the area of defect with split-thickness skin graft later. In 2 cases flap-reducing procedures were performed due to excessive size of flap. Conclusions. The reverse sural artery flap is a robust flap which has a low failure rate. The possibility to use this flap in the settings of regular orthopedic department is very important.

Abstract no.: 46965

MID-TERM RESULTS OF TRIDENT CERAMIC ON CERAMIC TOTAL HIP ARTHROPLASTY

Tadahiro HIGUCHI[1], Shinji YOSHIOKA[1], Shunji NAKANO[1], Yutaka KINOSHITA[1], Masahiro KASHIMA[1], Masaru NAKAMURA[1], Takashi CHIKAWA[1], Koichi SAIRYO[2]

[1]Tokushima Municipal Hospital, Tokushima (JAPAN), [2]The University of Tokushima Graduate School, Tokushima (JAPAN)

Ceramic on ceramic (CoC) bearing couples have the lowest wear combination of all bearing couples. However, various clinical problems exist with CoC hip prostheses, such as squeaking, ceramic breakage, and malseating. This study aimed to compare the clinical and radiographic results of THA, performed using a Trident CoC, and using a Trident Ceramic on polyethylene (CoP) bearing couples. From 2008 to 2010, 22 Trident CoC THAs were compared with 44 Trident CoP THAs, with a minimum follow-up period of 5 years. The mean age at operation was significantly younger in the CoC group. There were no significant differences between the two groups in terms of follow-up duration, sex, body mass index, and the Japanese Orthopedic Association (JOA) score before surgery. There was no significant difference in the JOA score at the final follow up. There were no cases of dislocation or revision surgery in both groups. Radiological evaluation showed a significant difference between the groups in the average cup inclination (CoC: 38°, CoP: 35°). The cup-center-edge angle was not significantly different between the groups. Although three THAs in the CoC group had evidence of malseating of the liner, there were no adverse effects after 5 years. Both groups had successful clinical results over the mid-term follow-up, however, the CoC group showed malseating of the liner. The incidence of malseating of Trident CoC was reported to be 6 to 16.4% in previous studies. Although there have been no adverse effects because of malseating, we will keep our patients under careful review.

Abstract no.: 46966

CLINICAL SIGNIFICANCE OF ANTERIOR HUMERAL LINE IN SUPRACONDYLAR HUMERAL FRACTURES IN CHILDREN

Hsuan-Kai KAO[1], Wei-Chun LEE[2], Wen-E YANG[2], Chia-Hsieh CHANG[2]
[1]Chang Gung Memorial Hospital, - (TAIWAN), [2]Chang Gung Memorial Hospital, Taoyuan County (TAIWAN)

Introduction: Anterior humeral line (AHL) location is commonly used to evaluate sagittal alignment after fracture reduction in children with supracondylar humeral fractures. However, the position of the AHL for acceptable fracture reduction has not been validated by clinical outcome. Patients and Methods: We retrospectively reviewed 101 children who underwent closed reduction and percutaneous pinning for Gartland type III supracondylar humeral fractures between 2009 and 2014. The children were classified according to the location of the AHL three months postoperatively into five groups: anteriorly loss (n=6), anterior third (n=25), middle third (n=47), posterior third (n=21), and posteriorly loss (n=2). Clinical and radiographic outcomes were compared among the five groups. Results: The children with AHL anterior to the capitellum had less elbow flexion angle (125.8o vs. 131.2o, p=0.046) and less total range of elbow motion (128.3o vs. 135.7o, p=0.048) than children with AHL crossing the capitellum. When the AHL crossed the capitellum, the elbow flexion angle and total range of elbow motion were significantly decreased in children with AHL crossing the anterior third of the capitellum. The Flynn criteria were significantly worse in children whose AHL missed the capitellum ($p<0.001$). Conclusions: These findings demonstrate that children with AHL crossing the middle and posterior thirds of the capitellum appear to have slightly better early elbow flexion and total range of elbow motion. AHL crossing the anterior third of the capitellum can be an underreduction that has similar elbow motion as AHL anterior to the capitellum.

Abstract no.: 46967

REDUCING SURGICAL TIME WITH NEEDLELESS SUTURE TECHNIQUES: A COMPARATIVE STUDY

Wei-Ren SU, Chih-Kai HONG, Cheng-Li LIN, Jui-Ming YANG, Chien-An SHIH, Yi-Chuan CHOU
National Cheng Kung University Hospital, Tainan (TAIWAN)

Background: Several needleless suture techniques for tendon graft fixation in ligament reconstruction surgeries have been proposed. Although previous studies have reported that shorter operative times were required for completing these techniques, there remains a lack of evidence supporting such claims. Purpose: The purpose of this study was to compare the surgical time for tendon graft fixation among the Krackow stitch, modified rolling hitch, modified Prusik knot, and Wittstein suture loop. Methods: Flexor profundus tendons acquired from fresh porcine hind-leg trotters were used. The four investigated suture techniques were completed with a braided nonabsorbable suture. Four experienced orthopaedic surgeons performed each of the suture techniques on the tendons, the required surgical times for which were measured. The measurements were taken on three different occasions to account for intraobserver repeatability and interobserver reproducibility. Results: The Krackow stitch group (80.9 ± 16.7 seconds) had significantly longer average surgical time than the modified rolling hitch group (9.2. ± 1.9 seconds) ($p< 0.001$), modified Prusik knot group (9.1 ± 1.8 seconds) ($p< 0.001$), and Wittstein suture loop group (9.0 ± 2.2 seconds) ($p< 0.001$); however, there was no difference among these latter three needleless suture techniques. The intra-class correlation coefficients for each surgeon ranged from 0.97 to 0.98, indicating excellent reproducibility. Conclusions: Significantly shorter surgical times were required to complete the modified rolling hitch, modified Prusik knot, and Wittstein suture loop than the Krackow stitch.

Abstract no.: 46971

UNHAPPY TRIAD REVISED

Andrea FERRETTI[1], Edoardo MONACO[2], Antonio PONZO[3], Fabio CONTEDUCA[4], Andrea REDLER[4], Daniele MAZZA[4]

[1]Ospedale Sant'Andrea, - (ITALY), [2]Ospedale sant'andrea, Rome (ITALY), [3]Ospedale Sant'Andrea, roma (ITALY), [4]Ospedale Sant'Andrea, Rome (ITALY)

Introduction: The term “unhappy triad” was first used by O Donoghue identifying an injury affecting the ACL, MCL and medial meniscus. The purpose of this study is to describe the surgical findings of the lateral compartment in patients presenting with the “unhappy triad”. Our hypothesis is that both the lateral and medial compartment are involved in the unhappy triad injury pattern, and thus is actually more of a tetrad of injuries. Methods: Elevent patients were so divided: cases with a medial opening between 6 and 10 mm (group A) or more than 1 cm (group B) and they were considered eligible for open MCL surgical repair. In all cases the lateral compartment was approached and injuries of lateral capsule were accurately classified and repaired by direct suture of the capsule. Results: Fluoroscopy revealed eight cases in group A and three cases in group B. The lateral capsule was frankly involved in all cases: there were 1/11 case of type I (stretching and hemorrhages involving antero-lateral capsule alone), 8/11 type II (injuries extending from antero-lateral to postero-lateral capsule) and 2/11 type III (complete tear of antero-lateral capsule). No cases of type IV (Segond’s fracture) was detected. Conclusion: Injury of lateral compartment occurred along with the medial compartment in all cases of the unhappy triad. The unhappy triad should be considered a tetrad of injuries, the fourth component being a fresh lesion of the lateral compartment.

Abstract no.: 46975

TOTAL HIP ARTHROPLASTY USING INTERMITTENT BOLUS INJECTIONS OF RECOMBINANT FACTOR Ⅷ FOR HEMOPHILIA A CARRIER : CASE REPORT

Takuya KURIHARA[1], Tuyoshi NAKAI[2]
[1]Itami city hospital, hyougo itami (JAPAN), [2]Itami city hospital, Hyougo Itami (JAPAN)

It has been believed that only men could have symptoms of hemophilia that women who carry the hemophilia gene do not experience symptoms themselves. However, it is recognized that hemophilia A carrier may experiences symptoms of hemophilia A. Because an abnormal bleeding can occur at the time of operation, perioperative management with intermittent bolus infusions of recombinant factor Ⅷ with careful monitoring of clotting factor Ⅷ is needed. We report a 54-year-old female who was undergone total hip arthroplasty (THA) using intermittent bolus injections of recombinant factor Ⅷ for hemophilia A carrier. She has suffered osteoarthritis of left hip for 5 years. In the workup, preoperative clotting factor Ⅷ levels in plasma was 21%. Other laboratory results were within the normal range. In perioperative period, intermittent bolus infusions of recombinant factor Ⅷ (Kogenate® FS) was used to maintain factor Ⅷ levels by the guidelines from the Japanese Society on Thrombosis and Hemostasis. The surgical time was 66min and the bleeding volume was 400ml. The total dose of recombinant factor Ⅷ were 8000IU on the day of operation, 4000IU for the 1~4th post-operative day and 2000IU for the 5~7th post-operative day. The level of factor Ⅷ in plasma was 127.4 on the 3th post-operative day which above the level to maintain for major surgery. After the operation there were no episodes of bleeding and postoperative complications. This result suggests that perioperative intermittent bolus injections of recombinant factor Ⅷ can be useful option for hemophilia career A in THA.

Abstract no.: 46976

TUBERCULAR DACTYLITISSPINA VENTOSA: (A CASE REPORT)

Anmol Shiv Arora ANMOL[1], Dr Satya Ranjan Patra SATYA[2], Manish Sharma MANISH[2]

[1]hi-tech medical college &hospital, bhubneshwar (INDIA), [2]hi tech medical college, bhubneshwar (INDIA)

A 17-year-old male presented with a painful swelling of the middle phalanx of the right middle finger of 3 weeks duration. There was no history of trauma. The swelling had slowly increased over 3 weeks. He had mild fever and restriction of motion of the affected finger. Local temperature was not raised, mild discoloration of the overlying skin was evident, and the lesion was tender on palpation. The erythrocyte sedimentation rate was 45 mm/h after the first hour, and the leucocyte count was mildly elevated. The radiograph of the hand showed increased soft tissue around the middle phalanx of the middle finger with cortical destruction and a moth-eaten appearance to the underlying bone. Magnetic resonance imaging of the lesion revealed altered marrow signal It also showed the cortex to be irregular and surrounded by a soft tissue abscess . Fine needle aspiration cytology of the lesion yielded inflammatory cells with caseous necrotic material. Although isolation of acid fast bacilli from the aspirate is the most definitive proof of the diagnosis, this was not found in this case, probably due to the paucibacillary nature of the infection. The patient was initially treated with a four drug antitubercular regimen for 2 months, followed by two drugs (rifampicin and isoniazid) for 10 months, The soft tissue abscess and fusiform swelling of the finger healed completely .The mainstay of treatment for spina ventosa is antitubercular therapy together with early mobilisation of the digits to prevent ankylosis

Abstract no.: 46978

TRAJECTORY PLANNING AND GUIDED PUNCTURES OF ISOCENTRIC NAVIGATION FOR POSTEROLATERAL ENDOSCOPIC LUMBAR DISCECTOMY IN CADAVERS

Guoxin FAN[1], Shisheng HE[2]

[1] Shanghai Tenth People's Hospital, Tongji University School of Medicine, Shanghai (CHINA), [2] Shanghai Tenth People's Hospital, Tongji University School of Medicine, shanghai (CHINA)

INTRODUCTION:Posterolateral endoscopic lumbar discectomy (PELD) heavily relies on surgeons' experience. The aim of the study is to investigate the feasibility of isocentric navigation in trajectory planning and guided punctures of isocentric navigation for PELD in cadavers. METHODS:Twelve fresh cadavers (6 in prone position; 6 in lateral position) were included in the study from December 2015 to July 2016. Simulated PELD for central lumbar disc herniation were conducted at L3/L4, L4/L5 and L5/S1. In Group A, simulated PELD was conducted on the left side of the cadavers with isocentric navigation, and conventional PELD was conducted on the right side in Group B. Results:In prone position at L3/L4, average puncture frequency in group A was 1.17±0.41, and 2.83±1.17 (P=0.016) in group B. In prone position at L4/L5, average puncture frequency in group A was 1.33±0.82 and 3.17±1.47 in group B (P=0.029). In prone position at L5/S1, average puncture frequency in group A was 1.50±0.84 and 4.33±0.82 in group B (P<0.001). In lateral position at L3/L4, average puncture frequency in group A was 1.33±0.52, and 4.17±0.75 (P<0.001) in group B. In lateral position at L4/L5, average puncture frequency in group A was 1.50±0.84 and 4.33±1.51 in group B (P=0.004). Inlateral position at L5/S1, average puncture frequency in group A was 1.67±0.82 and 5.17±1.17 in group B (P<0.001). There were also significant differences in puncture-channel time either in prone position or lateral positoin at L3/L4, L4/L5 and L5/S1, respectively. Conclusion:Trajectory planning and guided punctures of isocentric navigation for PELD is feasible and effective.

Abstract no.: 46983

ARTHRITIS OF THE WRIST AFTER A NEGLECTED TRAUMA. REVIEW OF 8 CASES

Ahmed Racem GUIDARA[1], Zoubaier ELLOUZ[2], Wassim ZRIBI[2], Wajdi BOUAZIZ[2], Walid BEYA[2], Moez TRIGUI[2], Mohamed ZRIBI[2], Hassib KESKES[2]

[1]Habib Bourguiba University Hospital, Orthopaedic Department., Sakiet Ezzit - Sfax (TUNISIA), [2]Habib Bourguiba University Hospital, Orthopaedic Department., Sfax (TUNISIA)

Introduction: Wrist arthritis is defined by erosion of wrist's joints cartilage. It occurs after a trauma in 90% of cases. We try to show particularities, etiologies and the place of surgery in the treatment of this pathology. Methods: 8 patients with advanced stages of wrist arthritis which occurs following a trauma were surgically treated in our institution from 2009 to 2014. Patients received a detailed assessment including preoperative and post-operative pain using the Alnot classification, measure of mobility and grip strength using a dynamometer. The functional DASH survey was filled. A radiological study has been done allowing preoperative staging and comparison between preoperative and post-operative images. Results: Eight men with a mean age of 43 were included in the study. The dominant side was concerned in 75% of cases. Arthritis of the wrist was secondary to scapho-lunate instability in 3 cases and nonunion of the scaphoid in 5 cases. Surgical treatment consisted of limited carpal arthrodesis in all cases: Scaphoïdectomy was performed for all patients, with four-corner fusion in 6 cases and capito-lunate arthrodesis in 2 cases. Pain was improved. Significant loss of mean motion was noted. The grip strength at the last follow-up, was reduced by 32.04 %. The mean Disabilities of the Arm, Shoulder, and Hand score was 24.75. Conclusion: Arthritis of the wrist is a disease having a slow evolution, therefore it can occur long after the trauma. Surgery usually stabilize the arthritis process and provides better function to the wrist.

Abstract no.: 46988

MONTHLY MINODRONATE TREATMENT RESULTS IN IMPROVED QUALITY OF LIFE IN JAPANESE PATIENTS WITH OSTEOPOROSIS

Shusuke OTA[1], Yasuyoshi OKAMOTO[1], Yuji JOYO[2], Takanobu DOI[1], Tomohiko KAMOSHITA[3]

[1]Department of Orthpaedic Surgery, Shizuoka Medical Center, National Hospital Organization, Shizuoka (JAPAN), [2]Department of Orthpaedic Surgery, Shizuoka Medical Center, National Hospital Organization, shizuoka (JAPAN), [3]Department of Orthpaedic Surgery, Nagoya City University, Nagoya (JAPAN)

Objectives: The aim of this study was to determine the efficacy of two-year minodronate (MIN) treatment on quality of life (QOL) in Japanese patients with osteoporosis. Materials and Methods: A retrospective chart review was conducted of 104 Japanese patients (20 males and 84 females, mean age; 79.6±8.4 years) with osteoporosis. Patients were administrated oral monthly MIN (50mg/tablet) over 2 years and were measured bone mineral density (BMD) and EuroQol questionnaire (EQ5D) every 6 months. Results: At 24 months after the MIN treatment, BMD of lumbar spine and femoral neck was significantly increased by 6.6±7.6% ($P<0.01$) and 0.8±7.8% ($P<0.05$) change from baseline, respectively. The index score (0.63±0.22 at baseline; 0.70±0.18 at 18 months, $P<0.05$) and self-reported health status (61±20 at baseline; 67±19 at 12 months, $P<0.05$) of EQ5D was significantly improved at 18 and 12 months after the treatment compared to baseline, respectively. The rapid improvement was observed in the domain of mobility ($P<0.05$) and usual activity ($P<0.05$) at 12 months after the treatment. It took 24 months after the treatment to improve the domain of pain/discomfort ($P<0.01$) and anxiety/depression ($P<0.05$). There were no significant differences for the domain of self-care until 24 months after the treatment. Conclusions: Oral monthly the treatment was effective in improvement of QOL in Japanese patients with osteoporosis. It required at least one year after the MIN treatment to improve QOL.

Abstract no.: 46989

RESULTS OF ACETABULAR RECONSTRUCTION IN THR FOR UNTREATED ACETABULAR FRACTURES

Buddhadeb CHATTERJEE
Apollo Gleneagles Hospitals, - (INDIA)

Introduction:Inadequately treated acetabular fractures are frequently reoperated . These patients present with significant hip pain and limp and are a cause of severe disability particularly in young patients.Materials and Methods:43 cases of malunited or un-united acetabular fractures with cavitary or wall defects are presented.Mean age was 41 years and 72% were males.All were treated with THR with impaction bone grafting or structural bone grafting for the acetabular defects. Cemented THR was performed in 14 and non cemented in 29 cases.Mean followup was 7.4 years.Results:All patients were able to walk with walker support on the first post operative day. 37 patients were ambulant without any walking aid 3 months after surgery. All patients had significant pain relief and were rehabilitated at work or home. Complications included one case of dislocation, one case of sciatic Nerve Palsy and one case of post operative infection.there were no cases of graft resorption or implant loosening at the end of follow up. Conclusions:THR with reconstruction of the acetabulum with autograft in untreated fractures of the acetabulum give gratifying results with profound pain relief, restoration of activity and low rate of complications.

Abstract no.: 46994

MENISCUS TRANSPLANTATION - 5-10-YEAR RESULTS

Libor PASA[1], Jan KUZMA[2], Stanislav KALANDRA[2], Radim HERUFEK[2], Josef PROKES[2]

[1]Trauma Depart. of Medical Faculty Masaryk Univ., Brno (CZECH REPUBLIC), [2]Trauma Hospital, Brno (CZECH REPUBLIC)

Introduction: The authors present their experience with transplantation of deep frozen meniscus tissue in patients with pain during exercise, and proven chondromalacia compartment is affected after meniscectomy. Methods: From January 2005 to December 2013 the authors operated on 72 meniscal transplantation in 70 patients, 2 patients had ever transplant of both menisci, but in separate operations. In the group of patients were 24 women and 46 men, aged 18-57 years, 3-12 years after meniscectomy. 15 patients were seen CHM III according to Outerbridge, which were simultaneously treated with microfracture technique, 44 patients had second degree CHM, remaining patients had CHM I. Evaluation of the results was performed using the Lysholm and IKDC score. Results: During the monitoring, 3 patients suffered a new injury to the knee joint during 3-5 years after transplantation (horse riding, squash, fall in the bathtub). In 2 patients we conducted meniscectomy transplant, once we have made suturing injured meniscus.. Median follow-up was 38,2 months. The average Lysholm score improved from 58,2 to 88,7. IKDC score improved from 53,2 to 87,4. Conclusion: Transplantation of deep frozen meniscus is a method that allows to improve the movement comfort biologically younger patients (in our monitoring of up to 50 years of age) with pain after previous injury and subsequent meniscectomy patients. Patients with instability is needed ACL reconstruction (simultaneously or prior to transplant), at deflection of axis of the knee joint (varus) is indicated valgus OT proximal tibia before transplantation or concurrently with transplantation.

Abstract no.: 47000

TOTAL HIP REPLACEMENT WITH MONOBLOCK CERAMIC CUP IN HIGH DEMAND PATIENTS

Valeriy Y. MURYLEV[1], Yaroslav RUKIN[2], Grigoriy KUKOVENKO[2]
[1]S.P.Botkin City Clinical Hospital and I.M.Sechenov THe First Moscow State Medical University, MOSCOW (RUSSIA), [2]I.M.Sechenov First Moscow state medical university, Moscow (RUSSIA)

Background: high activity level course high wear level, because of it the implant survival in young patients is lower with polyethylene wear and osteolysis (Liang T.J.). Only 80% implants are still remaining in patients under 50 years old (C.Heisel, M.Silva, 2007). Ceramic weight bearings seemed to have better survival and we can prevent dislocations by increasing their diameter. Materials and methods: To achieve better functional results we use the large diameter ceramic-on-ceramic bearings (Maxera cap, Zimmer-Baiomet,ltd) in 77 THA in 62 patients, in : 32 in male, 30 in female during 2013-2016. In 15 (24.2%) patients “maxera” cap was used bilaterally in two surgical proceeds and only in one case we do it during one anesthesia. Mail mean age was 46.8 y.o., female – 44.1. The mean HHS before THA was 40,7. Mean operation time was 44 minutes. Results: the mean follow up time was 42 months. The mean HHS was 97,62. We have no dislocations and no infections. 1 patient (2,38%) had few pain, concerning the Hip-Spine syndrome. Summary: Monoblock ceramics cups have already more diameter head even in small caps. It’s dislocation prophylaxis. Lowering damage particles in ceramics expect to be prostheses long survival. Monoblock ceramics cup can help to avoid surgical mistakes with inlay and reduce operation time. These type of cups is the way to achieve the best functional results in young patients.

Abstract no.: 47002

INTRA-ARTICULAR INJECTIONS OF HYALURONIC ACID FOR HIP OSTEOARTHRITIS

Fabrizio RIVERA
SS ANNUNZIATA HOSPITAL, SAVIGLIANO (CN), ITALY, turin (ITALY)

The objective of this prospective study was to evaluate the efficacy and safety of a single IA injection of HA for hip OA. Two hundred seven patients received a single IA administration of 2.5% sodium hyaluronate (75 mg/3 mL) of high molecular weight (2.8 millions Dalton) (Coxarthrum). Fluoroscopy required an iodised contrast medium (iopamidol, 1 cc) which highlights the capsule before HA administering. Patients were evaluated before IA injection (T0), after 3, 6 months, and after 1 year. Results were evaluated by Brief Pain Inventory (BPI II), Harris Hip Score (HHS) and a visual analog scale of pain (pain VAS). The mean age was 67 (range 46-81). Regarding BPI severity score, changes in pain between T0 and the three following visits were statistically highly significant ($p < .001$). Changes in pain score was statistically significant for the worst pain in the second quarter post-injection ($p = .037$) and for mean pain in the second semester of post-injection ($p = .043$) The evolution of the HHS was statistically highly significant ($p < .001$) between T0 and T0 + 3 months. As for the evolution of HHS, the evolution of the pain VAS showed a statistically highly significant improvement ($p < .001$) between T0 and T0 + 3 months; thereafter it remains stable from the first quarter post-injection. No serious adverse event was noted. This study shows that a single IA injection of Coxarthrum is effective from the third month and that the results are stable or continues to improve up to one year.

Abstract no.: 47003

RESULTS OF POSTERIOR LUMBAR INTERBODY FUSION IN POST-LAMINECTOMY PAIN SYNDROME

Yuanta LI, Kuo-Hua CHAO
Tri-Service General Hospital, Taipei (TAIWAN)

This is a retrospective nonrandomized study on patients diagnosed as FBSS and received posterior lumbar interbody fusion with instrumentation at our hospital. The aim of this work was to analyze the clinical and radiologic outcome of our PLIF for post-laminectomy pain syndrome, and to find whether single operation can be used to overcome most of the complicated problems. From April 2009 to September 2015, 64 patients (Average age 48.2, range 34-75 years) were diagnosed as post-laminectomy pain syndrome with different structural causes underwent revision spinal surgery with the posterior lumbar interbody fusion by the same surgeon at our institute. All patients were followed up for 2-6 years (mean 3.5 years). We used VAS pain score and Japanese Orthopaedics Association (JOA) score system for clinical outcomes evaluation pre- and post-operatively and during the follow-up period. The mean VAS pain score was improved from 8.5 before operation to 1.9 at the final follow-up. The mean JOA score was improved from 9.3 before operation to 23.1 at the final follow-up ($P<0.001$). The average of recovery rate at the final follow-up was 70.1% (range 21.0-94.1%). Complications were seen in 6 cases due to dural tears during operation, there was no nerve root injury. Totally 79.7% satisfactory results achieved in our patients, and the overall fusion rate was 88.7%. According to the results of our series, we believe that PLIF is a reasonable and effective procedure for post-laminectomy pain syndrome with different surgical correctable structural causes.

Abstract no.: 47004

THE GOAL OF TREATMENT OF CLAVICLE FRACTURE IS TO PREVENT OF CLAVICLE SHORTENING AND RESTORE SOCIAL LIFE AT AN EARLY STAGE

Yoshiyuki KARASAWA[1], Tomoo INUKAI[1], Akira YOSHIDA[2]
[1]Daiyukai General Hospital, Ichinomiya (JAPAN), [2]Daiyukai General Hospital, ichinomiya (JAPAN)

Introduction: Recent studies have shown a high prevalence of symptomatic malunion and nonunion after nonoperative treatment of midshaft clavicular fractures. Thus, operatively treated cases have increased. However, some complications have been described. The clavicle is a membranous bone. The main arterial supply to the clavicle is primarily periosteal. These complications may partly be caused by extensive periosteal stripping of the fracture site. Intramedullary fixation (IF) is less invasive to periosteal damage than open reduction and internal plate fixation. However, a biomechanical study shows that plate fixation provides a more rigid stabilization compared to IF and may provide a stronger construction for early rehabilitation. So we performed minimally invasive plate osteosynthesis (MIPO), for midshaft clavicular fractures. Methods: Under general anaesthesia, the patients was placed in a beach chair position. Fracture reduction was performed indirectly. The plate was temporarily positioned against the clavicle and stabilized with a Kirschner wire on each side of the fracture. C-arm imaging was used to check fracture reduction. Fracture fixation was performed using the appropriate number of cortical screws and locking head screws. Between January 2012 and June 2016, twenty patients were treated with MIPO technique. The mean age was 45.3 years (range, 16-79 years). Results: All fractures healed within a mean period of 4.9 months (range, 2-10 months). Regarding complications, there was no occurrence of implant failure or deep infection. There were no nonunions, but one 79-year-old man had a delayed union. Seven plates were removed by their hopes.

Abstract no.: 47005

INTRA-ARTICULAR INJECTIONS OF SODIUM HYALURONATE-CHONDROITIN SULFATE IN KNEE OSTEOARTHRITIS: A MULTICENTER PROSPECTIVE STUDY

Fabrizio RIVERA[1], Luca BERTIGNONE[2], Gianclaudio GRANDI[3], Roberto CAMISASSA[3], Guido COMASCHI[4], Roberto TRENTINI[5], Marco ZANONE[6], Giuseppe TEPPEX[6], Gabriele VASARIO[6], Fortina GIORGIO[7]
[1]SS ANNUNZIATA HOSPITAL, SAVIGLIANO (CN), ITALY, turin (ITALY), [2]Sant'Anna Clinic, Casale Monferrato, AL, Italy, casale monferrato (ITALY), [3]La Vialarda Clinic, Biella, Italy, Biella (ITALY), [4]Sestri Ponente Hospital, Genova, Italy, Genova (ITALY), [5]Department of Orthopedics and Traumatology, IRCCS A.O.U. San Martino-IST, Genova, Italy, Genova (ITALY), [6]Department of Orthopedics and Traumatology, AO CTO Hospital, Turin, Italy, Turin (ITALY), [7]Santa Rita Clinic, Vercelli, Italy, Vercelli (ITALY)

Intra-articular injection of hyaluronic acid is a well-established therapy for the treatment of knee osteoarthritis. The aim of the study was to assess the efficacy and safety of the use of Arthrum HCS® (40 mg of hyaluronic acid and 40 mg of chondroitin sulfate in 2 mL). Materials and Methods. This was an open, multicentre, prospective study. Men or women over 40 years of age with documented knee osteoarthritis and WOMAC subscore A ("severity of pain") □ 25 were enrolled. They received three weekly intra-articular injections of sodium hyaluronate 2% and chondroitin sulfate 2% in combination. WOMAC subscore A was assessed at months 1, 3 and 6 after the last injection. Results. 112 patients were included (women, 66%). The mean (SD) WOMAC subscore A decreased from 52.1 (15.2) at inclusion to 20.5 (19.7) at month 6 ($p < 0.0001$). The mean subscore was already significantly decreased one month after the last injection at 25.7 ($p < 0.0001$). Pain relief and consumption of analgesic drugs, both assessed with visual analogic scale (VAS), consistently decreased. The investigators were satisfied/very satisfied as regards the therapeutic effectiveness of sodium hyaluronate-chondroitin sulfate in reducing pain (77%), improving mobility (78%) and reducing the consumption of analgesics (74%). Only, one adverse effect was reported by one patient (knee tumefaction). Conclusion. These results suggest that intra-articular injections of Arthrum HCS® (sodium hyaluronate plus chondroitin sulfate) in patients with knee osteoarthritis are efficient and safe. These results should be confirmed in a randomized controlled study.

Abstract no.: 47011

AXILLARY VERSUS FOREARM CRUTCHES: WHICH IS SUPERIOR FOR STABILITY AND GAIT?

Ming Quan Wayne YAP
Tan Tock Seng Hospital, Singapore (SINGAPORE)

BACKGROUND: Crutches are a common aid providing stability when an individual's gait is affected. 2 of the most common crutches utilized in hospitals nowadays include the axillary crutch and the forearm crutch. The objective of this study is to answer the clinical dilemma faced by clinicians on which crutch is superior for stability and gait. METHODS: 20 healthy volunteers underwent 3 bio-mechanical tests while non weight bearing on one leg, utilizing the axillary and forearm crutches separately. These were: Straight line single leg ambulation of 20m, "timed-up-and-go" test, dynamic stability test utilizing force places to record effort scores when the body is displaced out of equilibrium. A subjective questionnaire was also administered to each participant on their personal preferences for either crutch. RESULTS: For straight line ambulation of 20 metres with either crutch, the axillary crutch was faster ($p=0.04$) and also demonstrated a smaller increase in heart rate post activity ($p =0.03$). For the "Timed-up-and-go" test, ambulation with axillary crutches was faster as compared with forearm crutches ($p=<0.001$). For the dynamic balance test, axillary crutches required less effort to maintain balance for upward tilts of 5 degrees ($p=0.0497$). On subjective questioning, majority of participants felt that the axillary crutch was superior to the forearm crutch for balance and ease of ambulation. CONCLUSION: We conclude that axillary crutches are superior to forearm crutches as they provide better stability, faster ambulation speed, and require less effort maneuver. Similar results are also noted on a subjective questionnaire administered to participants.

Abstract no.: 47016

HOW THE RESULTS OF CONSERVATIVE TREATMENT FOR ACL TEARS ARE DIFFERENT BY POSTERIOR TIBIAL SLOPE?

Yoonseok YOUM[1], Sungdo CHO[1], Youngjin CHOI[2], Chaechil LEE[1]
[1]Ulsan University Hospital, Ulsan (SOUTH KOREA), [2]Ulsan University Hospital, Ulsan (SOUTH GEORGIA AND THE SOUTH SANDWICH ISLANDS)

Purpose: To evaluate the association between posterior tibial slope (PTS) and the results of conservative treatment for the patients with anterior cruciate ligament (ACL) tears. Materials and Methods: Thirty seven patients (37 knees : male 33, female 4) who were managed with same treatment protocols for ACL tears were included. Initial conservative treatment was applied in all cases using a knee brace. Group A consisted of 14 patients with successful results after conservative management and group B consisted of 23 patients who received operative treatments due to failed conservative management. For each group, a plain radiograph was used to measure the PTS. The differences of PTS between two groups were analyzed. Results: The mean age was 33.9 years in group A and 32.8 years in group B, respectively ($p>0.05$). The mean PTS was 8.3°±2.4° (range, 4.3° to 11.9°) in group A and 10.2°±2.7° (range, 5.7° to 14.9°) in group B. The mean PTS in group A was significantly smaller than that in group B ($p=0.03$). Conclusion: The patients with successful results after conservative management had a smaller mean PTS than those with failed conservative treatment (8.3° vs. 10.2°, $p=0.03$). The failure of conservative treatment after an ACL tear was found to be associated with an increased PTS.

Abstract no.: 47017

AMINOCAPRONIC ACID EFFECT IN REDUCING POSTOPERATIVE BLEEDING AFTER TOTAL JOINT REPLACEMENT

Viorel VETRILA, Roman SADOVSKYI
Hospital of Orthopedic and Traumatology, Chisinau (MOLDOVA)

Introduction:Total hip and knee arthroplasty sometimes is associated with postoperative bleeding. Postoperative hematoma, prolonged drainage disturb the patient rehabilitation. Hypotonia caused by bleeding impaired function of organs, increases the risk of septic complications. In this work we have studied the effect of administration Aminocaproic acid in prevention postoperative hemorrhage.Materials and methods.This is a single-center, retrospective study. Total hip arthroplasty(THA) were 111, 54 patients no administered aminocaproic acid(ACA), 57 patients administrated ACA. Total knee arthroplasty(TKA) were 88 patients, 43 without ACA and 45 with administration ACA. We examined hemoglobin, erythrocytes, blood lost by denaj, volume of blood transfusions.Results: In the THA group without ACA the hemoglobin was 136,5g/l, erythrocyte 4,2mln, postoperative hemoglobin was 105,1g/l, erythrocyte 3,4mln, by drainage 512.9ml. In group of THA with preoperative administration of ACA the hemoglobin level was 135,2g/l, erythrocytes 4,3mln, postoperative hemoglobin was 114,8g/l, erythrocytes 3,73mln, by drainage was eliminated 428,9ml. In THA patients without ACA was performed 502.57ml of blood transfusion., in group with ACA 308,5ml blood. The TKA group without preoperative administration ACA Hb level was 135,21g/l, erythrocytes -4.24mln, postoperative Hb 103,4g/l, 3.45million erythrocytes. By drain was removed 641.5ml. Transfused blood in the postoperative were 846.5ml. In TKA patients with ACA administration was found the following indices: preoperative Hb 135,21g/l, erythrocyte 4,27mln; postoperative Hb 113,9g/L, erythrocyte 3,77mln, by drain were removed 446ml,, 442ml blood was transfused.Conclusions.Intravenouse Aminocaproic acid infusion during surgery show a significant reduction in postoperative blood loss and decrease of postoperative transfused volume of blood in patients with THA and TKA.

Abstract no.: 47019

GAIT ANALYSIS AFTER UNI KNEE ARTHROPLASTY

Branko RISTIC[1], Goran DEVEDZIC[2], Aleksandar MATIC[1], Suzana PETROVIC[2], Nikola PRODANOVIC[3]

[1]Clinical center Kragujevac, Faculty of medical science, Kragujevac (SERBIA), [2]Faculty of Engineering, Kragujevac (SERBIA), [3]Clinical center Kragujevac, Kragujevac (SERBIA)

Introduction: The aim of this study was analyzing gait of patients with gonarthrosis before and after unicondilar knee arthroplasty. Methods: Ten patients with diagnozed unilateral degenerative knee disease were included in the study. Movement kinematics were analyzed using data recorded with infrared cameras (OptiTrack system), that followed the positions of passive markers placed on anatomic positions of patients' lower extremities. Data was then processed using the MATLAB programme. Gait was analyzed one day before surgery and 6 weeks after knee arthroplasty. Results: Results were shown through graphs and tables displaying differences in anterior posterior (AP) translation, internal external (IE) rotation and flexion/extension levels of the knee joint. On the damaged knee joints, the measured values of AP translation and IE rotation were within normal ranges for the healthy knees, while the values of flexion/extension were significantly limited on the damaged joint. After uniknee replacement, AP translation and IE rotation were still within normal ranges, while flexion of the operated knee joint was significantly increased. Conclusion After uni knee arthroplasty, movement ranges in the knee joint were significantly improved compared to the movement ranges before the operation (flexion/extension movement).

Abstract no.: 47020

TRAUMATIC PHYSIS MISSING (PETERSON TYPE 6): ACUTE LANGENDSKIöLD PROCEDURE - METHOD OF GROWTH DISTURBANCE PREVENTION

Tomas PESL, Petr HAVRANEK, Martin CEPELIK
Dept. of Pediatric and Trauma Surgery 3rd Faculty of Medicine Charles university -Thomayer´s hospital, Prague (CZECH REPUBLIC)

Aim of study: traumatic physis missing (physeal injury Peterson type 6) is extremly rare, but represents the most risky type of physeal injury due tu cosequent growth disturbance. We present Langendskiöld anticipatory procedure (fracture area debridement, physeal margin exposure and free fat autograft interposition) as a method of vote how to prevent it. Patients and methods: during the period of 10 years two boys and one girl (from five to eleven years old) were treated in authors´ institution because of compound injury of the distal fibula with partial missing of the distal fibular physis. All were caused by scraping of the lateral ankle by a bicycle wheel wires and all were managed by acute Langendskiöld (anticipatory) procedure with a free fat interpositional autograft . Results: all three patients were completely healed without any growth disturbance. The follow up was from three to ten years. Conclusion: we consider the Langendskiöld preventive procedure as fully effective for growth disturbance prevention in acute physeal injury Peterson type 6 – physis missing. It is a uncomplicated method with good results and well cost benefit.

Abstract no.: 47028

HOW STEEP IS THE TRAUMA LEARNING CURVE? AN OBJECTIVE MEASUREMENT OF TRAINEES ON A UK PROGRAMME

Robert JORDAN[1], Nicholas SMITH[2], Peter WALL[2], Gurdip CHAHAL[2], Shahbaz MALIK[3], Imran AHMED[2]

[1]University Hospital Coventry & Warwickshire, Coventry (UNITED KINGDOM), [2]University Hospitals Coventry & Warwickshire, Coventry (UNITED KINGDOM), [3]Royal Orthopaedic Hospital, Birmingham (UNITED KINGDOM)

Introduction: Trauma procedures are historically where trainees gain their early surgical experience. In the UK trainees rotate through six years of higher surgical training and are required to perform trauma surgery throughout. This study aimed to objectively measure whether the surgical skills improved during their training. Methods: A retrospective review of common trauma procedures completed by ten trainees on UK orthopaedic programmes was performed. Trainees were asked to identify cases from their E-logbook of procedures performed during their first and last years of training for comparison. Dynamic hip screws, ankle and wrist fixations performed during these periods were identified. Intra-operative radiographs were reviewed by two authors for an objective measure of surgical reduction using tip-apex distance, radial length, radial angulation and talo-crural angle. Electronic theatre records were analysed for the surgical time taken for each procedure. Results: During the training periods a total of 634 procedures were identified by the orthopaedic trainees. The tip-apex distance was lower in senior trainees (13mm vs 16mm) and the proportion deemed to be acceptable was higher (100% vs 92%). Radial length (9mm vs 7.5mm) and the proportion with an acceptable angulation (95% vs 88%) were both improved during wrist fixations in the last year of training. Objective measurements of ankle fixations were comparable. The time taken for all three procedures was significantly shorter during the final year of training. Conclusion: Objective improvements were seen in hip and wrist fixation and the time taken for all procedures was reduced during the final year of training.

Abstract no.: 47031

TOTAL HIP ARTHROPLASTY INDICATED FOR A TUBERCULOUS COXITIS COMPLICATING A CONTROLLED ACQUIRED IMUNODEFFICIENCY SYNDROM CONDITION: A PRELIMINARY REPORT CONCERNING A CASE

Theophil Chunteng NANA
Orthopedics and traumatology unit of the central hospital Yaounde, yaounde (CAMEROON)

Introduction: Total hip arthroplasty (THA) remains controversial in active tuberculosis (TB) infection because of the risks of septic loosening and reactivation of the infection. We present a rare case of THA in a patient positive for the human immunodeficiency virus (HIV) with active tuberculous coxitis. The aim of this work is to share our experience and our preliminary results. Case Report: The patient was a 53-year-old Black African woman, positive for the HIV, who was operated for implantation of a THA via the Hardinge approach indicated for a severe painful hip with restriction of joint movement and limp. A creamy-white liquid was noticed in the hip joint which was negative for urgent Gram-staining. The surgery was completed with the implantation of a hybrid THA. The post-operative period was uneventful, and she was put on antituberculous drugs following a positive histology result for TB, and to continue her antiretroviral drugs. She still has a satisfactory result for 3 years since her surgery. Conclusion: On condition that the patient is put simultaneously on triple antibiotics and antituberculous drugs, we propose that THA could be an option in patient presenting with the association of HIV infection and active tuberculous coxitis. Keywords: Tuberculous coxitis, total hip arthroplasty, human immunodeficiency virus, hip.

Abstract no.: 47036

MEDIAL AND LATERAL MENISCI - DO WE REALLY UNDERSTAND THE DIFFERENCE?

Robert JORDAN[1], Nicholas SMITH[1], Gurdip CHAHAL[1], Peter WALL[1], Mike BOWES[2], Christopher WOLSTENHOME[2]

[1]University Hospitals Coventry & Warwickshire, Coventry (UNITED KINGDOM), [2]imorphics ltd, Manchester (UNITED KINGDOM)

Introduction: The menisci have been shown to have a variety of functions within the knee. Recent surgical advances have led to improved repair techniques and the ability to perform meniscal transplants. A comprehensive understanding of meniscal anatomy is essential and this study aims to analyse clinically important measurements of normal menisci. Methods: 81 healthy knees were randomly selected from the Osteoarthritis Initiative database. Image analysis was performed by a specialist image analysis company to provide a model bone reference surface for each image. Menisci were segmented manually into three sections; anterior horn, midbody and posterior horn. Total meniscal and sub-region volumes were calculated, both within the external margin of the tibial plateau articular surface and outside (extruded meniscus). The mean meniscal thickness and lateral plateau coverage of the menisci were also calculated. Results: 81 knees were reviewed providing data for 81 medial and 81 lateral menisci. The medial meniscal volume had a higher volume (1917mm3 vs 1669mm)3 but the tibial plateau coverage was higher on the lateral side (46.2% vs 41.2%). Lateral menisci had an even thickness throughout; anterior horn 1.56mm, midbody 1.50mm and posterior horn 1.36mm compared to the medial meniscus that was thinner anteriorly 0.59mm and thicker posteriorly 2.07mm. Conclusion: The two menisci have subtle anatomic differences and an understanding of this is required when planning reconstructive procedures.

Abstract no.: 47038

MANAGING TRAUMATIC ANTERIOR SHOULDER DISLOCATIONS - AN OVERVIEW OF PRACTICE AT A MAJOR TRAUMA CENTRE

Robert JORDAN, Rajiv GOGNA, Gurdip CHAHAL, Peter WALL, Chetan MODI, Tom LAWRENCE, Stephen DREW
University Hospitals Coventry & Warwickshire, Coventry (UNITED KINGDOM)

Introduction: Traumatic shoulder dislocations are common and can present at any age. Young patients have a high rate of recurrence whereas elderly patients are more likely to have an associated rotator cuff tear. Controversy surrounds the position and length of immobilisation, the role of physiotherapy and when to perform further investigations or stabilisation procedures. This study aimed to review the practice of managing traumatic shoulder dislocations at a UK level 1 trauma centre. Methods: Patients presenting to our emergency department with a proven anterior dislocation between 1st February 2015 and 1st February 2016 were identified retrospectively. Electronic notes were reviewed and those patients with recurrent dislocations or associated fracture were excluded. Notes of included patients were analysed for involvement of a physiotherapist or shoulder specialist, requirement for any further investigations or surgery. Results: During the study period 78 patients were seen with a traumatic first time shoulder dislocation. The mean age was 32 (range 17 to 97 years) and 85% were males. 93% were seen in fracture clinic, 79% had formal physiotherapy but only 31% were referred to a shoulder specialist. During the 12 month follow up only 5% had a proven recurrence. 32% underwent further imaging with USS (17%) being the commonest modality in elderly patients, 12% had MRI and 5% had CT. 9% of patients underwent surgery within 12 months; 4% stabilisation, 2.5% rotator cuff repair and 2.5% reverse arthroplasty. Conclusion: This study demonstrated the current wide variation in management and investigation of traumatic anterior shoulder dislocations.

Abstract no.: 47043

LEVELLING THE ELEVATED PLUG CARTILAGE IN OSTEOCHONDRAL AUTOLOGOUS TRANSPLANTATION OF THE KNEE WAS ACCEPTABLE PROCEDURE TO ACHIEVE GOOD CLINICAL RESULTS

Kohei NISHITANI[1], Yasuaki NAKAGAWA[2], Shogo MUKAI[2], Shinichiro NAKAMURA[1], Shinichi KURIYAMA[1], Shuichi MATSUDA[1]
[1]Kyoto University, Kyoto (JAPAN), [2]National Hospital Organization Kyoto Medical Center, Kyoto (JAPAN)

Purpose: Plug protuberance can not always be avoided in osteochondral autologous transplantation (OAT). The purpose of this study to evaluate the effect of levelling of elevated plugs. Methods: Cases (Group S) were 22 patients who underwent OAT of the knee who had a plug which showed protuberance of more than 1 mm that was shaved off to obtain smooth congruity. Controls (Group N) were 22 patients who had matched background with Group S and who did not require plug resection. International Knee Documentation Committee (IKDC) objective score and the Japanese Orthopaedic Association score for knee osteoarthritis (JOA knee score) were used to evaluate the preoperative condition and at the condition of final follow-up (49.3 ± 18.1 months). For the patients who underwent second look arthroscopy, International Cartilage Repair Society (ICRS) articular cartilage injury classification was recorded. Results: In postoperative IKDC objective grading, 86% of Group N and 82% of Group S patients were graded as better than nearly normal ($p = 0.639$). The mean JOA knee scores of Group N (90.9 ± 8.9) and Group S (90.1 ± 9.5) were similar ($p = 0.647$). Nine second look arthroscopies were performed in Group N and eight in Group S, and all patients had plugs that were graded as better than nearly normal. Larger plugs tended to be used in those patients who required resection ($p=0.01$). Conclusions: Resection of the elevated plug cartilage achieved good outcomes in the midterm follow-up period.

Abstract no.: 47045

DIAPHYSEAL NONUNION IN CHILDREN

Tae-Min LEE, Sungtaek JUNG, Hyeon Wook AHN, Won-Gyun LEE, Gil Hwan LIM

Chonnam National University Hospital, Gwangju (SOUTH KOREA)

Objectives: To identify those child patients who may have a nonunion in diaphyseal fractures to assess the factors that contributed to the nonunion, and to suggest a treatment method. Method: This retrospective cohort study comprises 16 child patients who underwent operations for the treatment of the nonunion in diaphysis from January 1995 to December 2009. All patients were evaluated both clinically and radiologically. Results: A successful bony union was achieved for all of the patients, and the average time of the union after the osteosynthesis procedure is 3.1 months. Seven of the patients (43 %) showed hypertrophic features and nine patients (57 %) showed atrophic features. For the treatment of the nonunion, 14 of the patients were treated by osteosynthesis with a plate and/or a bone graft, and two patients were treated by sequestrectomy and distal corticotomy with the Ilizarov apparatus. A deformity occurred in nine of the patients (56.2 %). These deformities were corrected during the nonunion operations. Conclusions: Close attention should be taken when dealing with the pediatric long-bone diaphyseal nonunion so that iatrogenic soft-tissue damage is not caused, and a sufficient fixation should be performed with adequate stabilization tools. Also, it should be noted that it is not unusual for angular deformities and residual deformities to accompany the nonunion, and the correction for this deformity should also be considered at the time of surgery.

Abstract no.: 47046

ANTERIOR KNEE PAIN AFTER TOTAL KNEE ARTHROPLASTY

Sung-Do CHO, Yoon-Seok YOUM, Young-Jin CHOI
Ulsan University Hospital, Ulsan (SOUTH KOREA)

Anterior knee pain after total knee arthroplasty (TKA) reduces patients' satisfaction and quality of life. In this study, we evaluated if the tightness of quadriceps muscle is one of the causes of anterior knee pain after TKA. One-hundred sixty-two patients (244 knees) who underwent TKA by one surgeon with modified gap technique using one implant with a minimum 1-year follow-up were included in the study; patellar resurfacing was not performed. The experimental group (Group 1) included 44 cases who complained of anterior knee pain. The control group (Group 2) included 200 cases. Clinical evaluations included body mass index (BMI), range of motion, presence of swelling and quadriceps atrophy, and the tightness of quadriceps muscle which was evaluated using Q-flexibility angle. Radiological analysis included patellar height (Insall-Salvati ratio), lateral patellar tilt, and mechanical axis of the lower limb. Presence of swelling and quadriceps atrophy were 43%, 68% in Group 1, and 23%, 42% in Group 2, respectively ($p<0.05$). The Q-flexibility angle was significantly higher in Group 1 15.5o than in Group 2 10.4o ($p<0.05$). BMI, patellar height and tilt, and the mechanical axis of the lower limb did not differ significantly between the two groups. Anterior knee pain after TKA may have several causative factors. In this study, when the comparison between the two groups and the OR was considered, tightness of quadriceps muscle was one of the important cause of anterior knee pain after TKA.

Abstract no.: 47048

A USEFUL METHOD FOR REDUCTION OF TRAUMATIC POSTERIOR STERNOCLAVICULAR JOINT DISLOCATION: A CASE REPORT AND BRIEF REVIEW

Tadashi IWAI[1], Kazusige TANAKA[2], Mamoru OKUBO[2]
[1]Department of Orthopedic Surgery, Kishima Hon-in Hospital, Osaka (JAPAN), [2]Department of Orthopedic Surgery, Kishima Hon-in Hospital, Yao (JAPAN)

Introduction:Sternoclavicular joint dislocation (SCJD) is a rare injury. The SCJD may be anterior or posterior, the latter representing only 5% of cases. The symptoms of posterior SCID include swelling, pain and limitation of shoulder joint movement. It is also associated with serious and life-threatening injuries involving the trachea, esophagus, or great vessels.Patient and observation:An 18 year old male who fell while practicing judo complained of upper left chest pain. He had been diagnosed with posterior SCJD at another institute. Upon inspection, the usual protrusion around the sternoclavicular joint (SCJ) was not evident, but tenderness was observed. ROM of the left shoulder was limited due to pain. Radial artery was palpable. Closed reduction according to Buckerfield's method was performed approximately 72 hours (3 day) after injury. At first, reduction was not achieved. It was accomplished by clamping the proximal end of the clavicle using bone forceps adding rotation. Once the reduction was completed, stability of the SCJ was obtained. Pain during swallowing was resolved after emergence from general anesthesia. 32 weeks follow-up, both radiograph and 3DCT showed complete reduction of the SCJ without any instability and shoulder disability. Discussion and Conclusion:Many authors have reported that closed reduction is difficult if not performed within 48 hours after the injury. Nevertheless, we were able to achieve reduction at 72 hours after injury. We suspect that reduction might be easily accomplished by holding the proximal end of the clavicle using bone forceps and pulling up it with adding rotation.

Abstract no.: 47049

COMPARISON OF CLINICAL OUTCOMES BETWEEN PATELLAR RESURFACING AND RETENTION FOR PATELLAR CARTILAGE DEFECT IN TOTAL KNEE ARTHROPLASTY

Sung-Do CHO, Yoon-Seok YOUM, Young-Jin CHOI
Ulsan University Hospital, Ulsan (SOUTH KOREA)

The aim of this study is to compare the clinical outcomes of patients who underwent patellar retention or resurfacing for moderate to severe patellar cartilage defect during total knee arthroplasty(TKA). Three hundred seventy-three patients (454 knees) with Outerbridge grade III and IV of patellar cartilage defect underwent primary TKA from January 2009 to December 2012. The mean age was 68.3 years and there were 25 male and 348 female patients. The mean follow-up period was 42.3 months. Patients were divided into a patellar retention group (213 knees) and a resurfacing group (241 knees). The patelloplasty was performed for patellar retention group. Clinical outcomes were analyzed using the Knee Society knee & function score and Feller's patellar score. Also, clinical outcomes according to the Outerbridge grade III or IV patellar cartilage defect were compared. The Knee Society knee & function score at the final follow-up were 93.6/91.6 in the resurfacing group and 95.2/90.3 in the retention group(P>0.05). Feller's patellar score was 28.4 and 27.3, respectively (P>0.05). The outcomes of patients with patellar cartilage defect of OB grade III as well as OB grade IV showed no significant difference between the two groups. Patellar resurfacing was not superior to retention with respect to any of the measured outcomes. The clinical outcomes of two groups showed no significant difference regardless of patellar cartilage defect. The findings in this study suggest that patella retention with a patelloplasty may be viable as a routine procedure, even in knees with moderate to severe patella cartilage defect.

Abstract no.: 47054

THE ROLE OF PATHOLOGIC FRACTURES ON HEALING OF PROXIMAL HUMERUS UNICAMERAL BONE CYST

Tae-Min LEE, Sungtaek JUNG, Hyeon Wook AHN, Won-Gyun LEE, Gil Hwan LIM

Chonnam National University Hospital, Gwangju (SOUTH KOREA)

Purpose: To evaluate the role of pathologic fracture on healing of proximal humerus UBCs and Investigate clinical factors affecting healing of unicameral bone cyst (UBC) after pathologic fracture. Method: 56 patients with a UBC with an accompanying pathologic fracture in the proximal humerus treated between January 2002 and December 2014 were evaluated. . Initially, conservative treatment was done for 3-6 weeks with arm sling and immobilization until union of fracture. And after fracture healing, we performed follow-up X-ray and collected clinical data. Results: Mean follow-up duration was 58.2 months. Overall healing rate of UBCs 1year after pathologic fracture was 66%. The healing rate was significantly lower in the 10-14 year old patients (45%) who were puberty than the healing rate of 9 years old (76%) and 15 years old (80%). According to the displacement of the fracture, healing rate was 67% in the non-displaced fracture, 70% in the fracture with a displacement less than 2mm, and 58% in the fracture with a displacement of 2mm or more. According to site of cyst, the healing rate of the metaphysis (53%) was lower than that of the diaphysis (85%). Conclusions: In latent lesion and in older age after puberty, UBCs of humerus after pathologic fracture have better clinical result than in active lesions and in younger age before puberty. The Pathologic fractures in proximal humerus UBCs often dramatically decreased th cyst size, and these patients have excellent clinical result in healing rate.

Abstract no.: 47058

INTRAOPERATIVE PERIARTICULAR INJECTION VS EPIDURAL ANALGESIA AS PAIN MANAGEMENT FOLLOWING TOTAL KNEE ARTHROPLASTY(TKA) – A COMPARATIVE STUDY

Muthugukan RAJA
Sri Ramachandra University, Chennai (INDIA)

Introduction: Perioperative pain following Total Knee Arthroplasty(TKA) may result in poor functional outcome due to antalgic ambulation and difficulty in rehabilitation. Current strategies like epidural analgesia and femoral nerve block has its own risk of quadriceps inhibition and hence delayed recovery. Periarticular injection of analgesics during surgery helps in better functional outcome. Aim: To assess the effectiveness of periarticular injection vs epidural analgesia, in terms of pain reduction in TKA. Methods: This is a prospective, single center, randomized controlled trial involving 60 patients undergoing unilateral TKA by similar technique assigned equally to epidural analgesia and Periarticular injection from Jan 2016-Feb 2017. The primary outcome was pain assessment by Visual Analogue Pain Score analyzed 6th hourly till 5th POD. Patients in the Intraoperative periarticular injection group received a mixture of Ropivacaine, ketorolac and nor-adrenaline made up to a volume of 60ml in specified regions around knee. Functional recovery was assessed by pain free range of flexion at 24, 48 and 72 hours. Results: There were 24 females and 36 males with average age of 58yrs in the study. Periarticular injection group had good and sustained pain relief for the first 72 hours. With respect to functional recovery, local infiltration had a wider range of flexion at 72 hours. Conclusion: Local infiltration in TKA appears to be an efficient and safe alternative in pain management. Compared to epidural analgesics, periarticular injection offers better pain relief, minimise the use of analgesics and improves pain free knee flexion in the immediate postoperative period.

Abstract no.: 47061

SHOULDER INSTABILITY – TRAUMATIC DISEASE OF THE SHOULDER JOINT

Nurlan BATPENOV[1], Serik RAKHIMOV[2]
[1]Scientific – Research Institute of Traumatology and Orthopedics, ASTANA (KAZAKHSTAN), [2]Scientific – Research Institute of Traumatology and Orthopedics, Astana (KAZAKHSTAN)

Introduction: Study of intra-articular pressure and viscosity of synovial fluid of shoulder joint, and effect on changes in microcirculatory bed of shoulder joint dense and soft tissue elements, repercussion changes, unfortunately, remain unexplored regarding this disease. Methods: Study of IAP and VSF in 102 patients with shoulder instability and dislocations frequency. VSF and IAP were examined not only in affected, but also in intact symmetrical joint, in resting state IAP of healthy joint was averaged 115.2 mm of water column, and it doubled after physical activity. Before surgery IAP in affected joint in resting state was 3 times lower (42.5 mm w.c.) than in intact one. After physical activity pressure in affected joint increased more than two times and reached 92.6 mm w.c. 3 months and 3 years after, IAP in healthy joint was almost identical. It's like the signs of a repercussion change. 6 and 12 years after surgery, IAP in affected joint was almost normal, but didn’t reach it. Later it gradually increased, but after 12 years it didn’t reach the intact joint indices. Another criterion is VSF indicator. VSF was measured before surgery and determined simultaneously in affected and healthy joint, in healthy joint VSF was relatively constant. After 12 years, VSF after physical activity was slightly higher than before surgery. 3 and 6 years after surgery studies showed slow increase of VSF to intact joint level. Conclusion: IAP and VSF are indicators in morphofunctional changes evaluation, especially injured shoulder joint, characterizing severity of the disease.

Abstract no.: 47070

HYBRID SURGERY COMBINING ONE LEVEL INTERVERTEBRAL DISC TRANSPLANTATION AND ONE LEVEL FUSION FOR THE TREATMENT OF TWO-LEVEL CERVICAL DEGENERATIVE DISC DISEASES

Dike RUAN, Qing HE, Wei JI

Department of Orthopaedic Surgery , Navy General Hospital ,China, Beijing (CHINA)

Background: Hybrid surgery combining intervertebral disc transplantation and fusion for the treatment of two-level CDDD has not been reported. This study aimed to investigate the safety and effectiveness of hybrid surgery by using intervertebral disc transplantation and fusion in the treatment of two-level CDDD. Methods: Between 2008 and 2013, 10 patients with two-level CDDD underwent transplantation of fresh-frozen composite disc allograft and fusion. Clinical outcomes were measured using Visual analogue scale, Neck disability index, and JOA scoring system. Radiological Analysis was conducted at preoperative and final follow-up. The angular ROM for C2-C7 and adjacent segments were measured by Cobb method, as well as cervical lordosis. MRI was also performed to determine the status of transplanted disc and adjacent levels. Results: It showed better NDI recovery at 12 and 24 months after surgery, as well as JOA and neck VAS improvement at 24month postoperatively ($P<0.05$) . At 3 months after surgery, union of the grafted intervertebral discs were found in all patients. At a two-year follow-up, All levels of transplanted discs preserved the motion ranged from 4.2°to 9.5°, the average is 6.3°± 1.8°. There were no significant increases in range of motion of adjacent levels. MRI showed preservation of hydration in nine discs. Mild degeneration was found in one discs. Clinical outcome scores had been improved compared with those before surgery. Conclusion: Hybrid surgery using intervertebral disc transplantation and cervical fusion could be a safe and effective alternative to treat two-level CDDD.

Abstract no.: 47071

ANTEROMEDIAL STABILITY OF INTERTROCHANTERIC HIP FRACTURES

Tadashi KATAYAMA
KAISEI Genral hospital, sakaide, Kagawa (JAPAN)

During 2007-2016, We experienced 26 cases of Intertrochanteric Hip fracture(AO/OTA classification) which needs reoperation for complications. Our primary interest is to clarify relationship with reduction of anteromedial column(calcar) and complication. Out of 968 patients who had surgical fixation for Intertrochanteric Hip fracture in our institution, 26 patients had complications(periprosthetic fracture or reoperation requiring removal or revision of nail) within 4month. Types of fracture were A1 14cases, A2 6cases, A3 3cases and B2.2(basalneck) 3cases. In postoperative x-rays, 15cases of position of lagscrew and 10cases of tip-apex-distance were inadequate. 19cases of anteromedial column were unstable(14cases of proximal anteromedial column were reduced intramedullary to the distal fragment, 4cases anatomically but displaced sequentially into the intramedullary type. 6cases had comminution at calcar)after operation.In large majority of cases with complication, anteromedial column of proximal fragment were reduced intramedullary to the distal fragment, which makes fracture unstable because of poor anteromedial support. To construct a surgical stability, it is required to build 3 dimensional anteromedial support, considering sequential vector of displacement force, by reducing the proximal fragment anatmoically or extramedullary to the distal fragment with pre- and intra-operative 3 dimensional assessment.

Abstract no.: 47072

EXTENDED INDICATION OF HIGH TIBIAL OSTEOTOMY IN MILD VARUS DEFORMITY

Jae Ang SIM[1], Young Gon NA[1], Beom Koo LEE[2]
[1]Gachon University Gil Medical Center, Incheon (SOUTH KOREA), [2]The Armed Forces Capital Hospital, Seongnam (SOUTH KOREA)

Introduction: We aimed to determine the preoperative characteristics and postoperative outcomes of high tibial osteotomy (HTO) in patients with mild genu varum (≤3°) compared to those in patients with greater varus deformity (>3°). Methods: Seventy one patients who underwent HTO were included for this retrospective study. Patients were divided into either mild varus (MV) [N = 21 (28%)] and greater varus (GV) group [N = 51 (72%)] based on the mechanical femorotibial angle (mFTA). Preoperative characteristics on SPECT, MRI and radiograph were evaluated. Radiographic parameters (mFTA, weight bearing line %, medial proximal tibial angle (MPTA), tibial slope) and functional outcomes (Knee Society Score) were compared between the groups. Results: There was no difference in the proportion of hot uptake on SPECT-CT, medial meniscus (MM) root tear, MM complex or radial tear, bone marrow edema, full thickness cartilage defect of MFC and MTP. Kellgren-Lawrence grade was more severe in GV group. Coronal alignment of MV group was corrected into more valgus than GV group (4.5° vs. 2.8° in mFTA, 69% vs. 63% in WBL%). There was no difference in pre- and postoperative KKS scores. Conclusion: Selected subset of patients with mild varus deformity have similar functional deficit compared to the patients with greater varus deformity. These patients can be indicated for HTO and can benefit from HTO. Concomitant MMPH root tear, MM extrusion, severity of cartilage defect, hot uptake on SPECT, symptom and functional status should be considered for patient selection for HTO, along with the severity of varus deformity.

Abstract no.: 47078

THE INCIDENCE OF VITAMIN D DEFICIENCY IN PATIENTS WITH A NON-UNION OF A TIBIA FRACTURE

Mathias MOSFELDT[1], Rhoma ISSADIG[2], Michael HELD[2], Maritz LAUBSCHER[2]

[1] Department of Molecular Medicine and Surgery, Section of Orthopaedics and Sports Medicine, Karolinska University Hospital, Karolinska Institutet, Stockholm (SWEDEN), [2]Orthopaedic Research Unit, Groote Schuur Hospital, Cape Town (SOUTH AFRICA)

Background: The role of Vitamin D in bone metabolism is well established. Recently there has also been an increased interest in the possible links between low levels of vitamin D and certain types of malignancy, autoimmune diseases and several other health issues. However, there is still no clear consensus concerning the possible contribution of vitamin D deficiency in fracture healing and the development of non-union after fractures to the axial skeleton. As the vitamin D levels in an individual is mainly a result of direct exposure to sunlight it could be hypothesized that deficiency should not pose a problem in a sunny continent like Africa, but anecdotal rapports suggests otherwise. The goal of the study is to quantify the levels of the vitamin D in a consecutive group of patients presenting to a tertiary level hospital in Cape Town with a non-union of the tibia. Methods: Epidemiological and biochemical data from all patients with non-unions of tibia fractures presenting to our service over a two year period has been collected and entered into the study. Results: A total of 29 patients were included. Patients included were consistently deficient in their vitamin D levels. Our findings contribute to the relatively scarce amount of research that exists in this field and provide insight into a potential area of improvement of the biochemical conditions for patients with tibial non-unions. Furthermore it provides an argument for larger, more extensive studies in the field.

Abstract no.: 47079

ACETABULAR DE-ESCALATION IN HIP REVISION

Fabrizio RIVERA[1], Alessandro BARDELLI[2]
[1]SS ANNUNZIATA HOSPITAL, SAVIGLIANO (CN), ITALY, turin (ITALY), [2]SS ANNUNZIATA HOSPITAL, SAVIGLIANO (CN), ITALY, Savigliano (ITALY)

The idea of ‘‘de-escalation’’ indicates an arthroplasty revision performed by changing a revision component by a standard component. This technique was introduced with use of distal locked stem as temporary femoral revision implant to be following by a standard primary component replacement. In our experience this technique was applied in five cases of acetabular ring loosening. From January 2006 to December 2014 we performed 5 revisions of acetabular ring by standard cup. 4 patients was female, 1 patient was male. Average age was 60,8 years (51-68). Survivorship of de-escalated acetabular ring was respectively 15,8,6,5,3 years. Number of previous revisions was: 3 in one case, 2 in two cases and 1 in two cases. At final follow-up (10-2 years, mean 4,8 years) four patients showed a good recovery of their levels of activity and no radiolucencies at radiological check. One patient (20%) was revised due to de-escalation failure. Revised patient showed the highest number of previous revisions (3) and the lowest survivorship of de-escalation (3 years). Our little experience, according to numerous clinical and histological reported studies confirm that impacted morsellized chip graft during revision by acetabular ring are completely incorporates into a new trabecular structure. This structure is able to integrate a standard cup in case of ring failure. De-escalation technique is a surgical option to consider in case of young patients, limited number of previous revisions and more than three years survivorship of loosened acetabular ring.

Abstract no.: 47080

OUTCOMES OF TOTAL KNEE ARTHROPLASTY IN DEGENERATIVE OSTEOARTHRITIC KNEE WITH GENU RECURVATUM

Seung-Suk SEO[1], Changrack LEE[2], Muwon KIM[1]
[1]Haeundae Bumin Hospital, Busan (SOUTH KOREA), [2]Busan Paik Hospital, Busan (SOUTH KOREA)

Purpose: To assess the incidence and evaluate short-term radiologic and clinical results of genu recurvatum without neuromuscular disorders in knees that underwent TKA. Methods: We retrospectively reviewed 510 knees that underwent navigation-assisted TKA. The incidence of knees that showed hyperextension of ≥5° (genu recurvatum) on navigation under anesthesia and the accompanying alignment was evaluated. Radiologic, intraoperative, and clinical results in a recurvatum group and a control group (propensity score matching) were assessed. Subgroup analyses were performed with the recurvatum group by degree of preoperative hyperextension and implant/insert type. Results: Genu recurvatum was observed in 55 knees (11.8%). Of these, 41 knees (74.5%) had degree of hyperextension between 5° and 10°, and 47 (85.4%) had varus alignment. The difference in joint line height in the recurvatum group before and after TKA (2.6±2.7 mm) was larger than that in the control group (n=110, 0.6±3.8 mm, p = 0.001). Physical examination at the final follow-up showed that the sagittal alignment was 1.3±3.4° in the control group and −0.1±0.7° in the recurvatum group. The difference between the groups was statistically significant (p=0.003). Subgroup analyses in the recurvatum group showed no significant difference in postoperative sagittal alignment and patient-related outcome measures by degree of preoperative hyperextension and implant/insert type. (p > 0.05 for all parameters). Conclusions: Genu recurvatum is not uncommon among patients undergoing primary TKA. We obtained satisfactory short-term clinical and radiologic results using lesser distal femoral resection. If joint stability is maintained, preoperative hyperextension and implant/insert type do not impact clinical results.

Abstract no.: 47088

HIGH ENERGY DISTAL RADIUS FRACTURES IN YOUNG ADULTS AT A MAJOR TRAUMA CENTRE: EXPERIENCE AND SHORT TERM OUTCOMES

John EDWIN, Ramon TAHMASSEBI, Amr SAAD, James TEBBY, Shahbaz AHMED, Aditya SINHA
Kings College Hospital, London, London (UNITED KINGDOM)

Fractures of the distal radius in adults are among the most common fractures of the upper limb. A large body of evidence exists regarding outcomes following surgical and non-surgical management or the implant used (DRAFT trial). The majority of available data has focused on older patients with fragility fractures in osteoporotic bone most likely to sustain distal radius fractures (DRFs). The strategies employed to manage DRFs in an older population may be less applicable to a younger cohort of patients due to the increased functional demands of the young from both a professional and recreational perspective. We present our experience and short term outcomes of managing complex distal radius fractures in a younger population at a Major Trauma Centre in the UK. Many of these injuries were sustained as part of a wider spectrum of injury as seen in the polytrauma setting and we describe the challenges in treating DRF's in this cohort. We retrospectively analysed the outcomes of 25 young adults with DRF's with associated significant polytrauma between the ages of 18-50 with AO type B and C injuries. We assessed the outcomes using PRWE and DASH scores, radiological restoration, return to pre-injury work and the complications. Our outcomes suggest patients who had early and a single definitive fixation method with fragment specific fixation technique did better as compared to those with delayed surgery and additional carpal surgery. Also, using our philosophy, most of the patients recovered to return back to their pre-injury work with satisfactory outcomes.

Abstract no.: 47091

SURGICAL TREATMENT OF HUGE LUMBAR DISC HERNIATION

Sho TOMOZAWA
Department of Orthopaedic Surgery, Japan Community Health Organization Uwajima Hospital, Uwajima (JAPAN)

Introduction: Huge lumbar disc herniation (LDH) present sometimes severe neurological symptoms, therefore surgical treatment is necessary. This study aimed to evaluate the characteristics of the huge LDH. Patients and method: 17 patients (12males, 5 females) of the huge central LDH that occupied in spinal canal 60% or more on MRI were evaluated. The percentage of huge LDH patients was 6.3% in all operated LDH. The average age was 46 years old (25-68). The level of LDH was L4/5; 11 patients, L5/S; 3 patients, L3/4; 2 patients, L2/3; 1 patient. We investigated about clinical symptoms, image, surgical findings and clinical result (JOA score) retrospectively. Results: The average duration from onset of symptom to operation was 23 days. Emergency operation was performed in 2 patients. Lower extremity symptoms (pain, numbness) were presented in all patients (one leg; 10 patients, both legs 7 patients). Motor weakness were presented in 9 patients, bladder disturbance in 9 patients. 4 patients could not walk due to pain. The average of LDH occupied in spinal canal was 74% on MRI. The degeneration of vertebral endplate was shown in 11 patients (Modic type 1; 2 patients, type 2; 9 patients).15 patients were performed discectomy by laminectomy, 2 patients by hemilaminectomy. Surgical findings: extrusion type; 7 patients, the cartilage endplate avulsion; 6 patients. The symptoms were improved in all patients after operation (JOA score: from 7 to 23). Conclusion: We recommend that the discectomy of huge LDH is performed by laminectomy due to avoid neurological complication.

Abstract no.: 47092

IMAGING IN VARUS KNEE OSTEOARTHRITIS – ARE WE ABLE TO IDENTIFY ACL INSUFFICIENCY?

Wenzel WALDSTEIN[1], Maximilian KASPAREK[1], Kilian RUECKL[2], Friedrich BOETTNER[2]

[1]Medical University Vienna, Vienna (AUSTRIA), [2]Hospital for Special Surgery, New York City (UNITED STATES)

Introduction: A functional anterior cruciate ligament (ACL) is an important requirement for successful unicompartmental knee replacement. Objective: This prospective study evaluates the clinical value of lateral radiographs and corresponding MRIs in the assessment of the functional status of the ACL. Methods: The study included 100 knees in 84 patients undergoing primary total knee replacement for varus osteoarthritis. Images were available in 93 knees (78 patients, mean age 67 years (49-89), mean body-mass-index 25.6 kg/m2 (17-47)). Posterior bony erosion was assessed on lateral radiographs. On MRI, the integrity of the ACL and the percentage of intact posterior cartilage in relation to the overall anteroposterior tibia dimension in the medial compartment were assessed. Results: MRI showed an intact ACL in 23 knees, evidence of ACL degeneration in 54 knees and a torn ACL in 16 knees. All knees with an intact ACL showed ≥14% intact posterior cartilage on sagittal MRI scans, except for 1 knee. All knees with a torn ACL demonstrated <14% intact posterior cartilage. Of the 54 knees with ACL degeneration, 8 knees had <14% intact posterior cartilage similar to the wear pattern of knees with torn ACLs. Out of the 24 knees with a torn or degenerated ACL and <14% intact posterior cartilage on MRI, 23 knees demonstrated posterior bony erosion on corresponding lateral radiographs. Conclusion: The assessment of ACL morphology with consideration of associated cartilage wear patterns in the medial compartment on MRI as well as the assessment of lateral radiographs may help to identify functionally insufficient ACLs.

Abstract no.: 47093

THE ROLE OF MULTI-DIMENSIONAL COMPUTERISED TOMOGRAPHY IN PRE-OPERATIVE PLANNING OF PERCUTANEOUS SCREW FIXATION OF LATERAL COMPRESSION TYPE 2 PELVIC FRACTURES

John EDWIN, Paul HARNETT, Shahbaz AHMED, Dinnish BASKARAN
Kings College Hospital, London, London (UNITED KINGDOM)

Percutaneous surgical fixation of the Lateral Compression Type 2 (Young-Burgess Classification) fractures (LC-II) with screws using fluoroscopic guidance are placed in the corridor of bone between anterior inferior iliac spine (AIIS) and the posterior superior iliac spine (PSIS), perpendicular to the fracture line. It is technically challenging to obtain an accurate length of the screws using intraoperative fluoroscopy imaging due to artefacts and pelvic anatomy. Long screws can cause local pressure, chronic pain, ulceration and sacral nerve injury. We describe a method of preoperative templating using multidimensional CT scan of the uninjured side that accurately estimates the length of the screw to be placed in the AIIS to PSIS corridor. Materials and Methods: We included 6 patients with CT scans of the pelvis with LC-II injuries who underwent percutaneous fixation using screws. Using Multiplanar Reformatting (MPR) function, 1mm axial images were reformatted on SECTRA-PACS image viewing software. Our measurements were standardized and independently recorded by 3 clinicians to observe for interobserver variability and subsequently compared to the actual length of the LC2-screws used. There was excellent correlation between the measurements obtained from the CT reformats and the actual screws used. The mean accuracy amongst all three clinicians was 96.2% of actual screw used (95 % C.I. was 89.2 -99.1% or 4.3mm-95% C.I. 7.2mm – 1.3mm).No screw penetration of the cortex was noted. As the screws come in 5mm increments, the knowledge that the templating method is within this threshold provided excellent pre-operative and intra-operative information to the surgeon.

Abstract no.: 47098

ROBOTIC ASSISTED UNICONDYLAR KNEE REPLACEMENT - A CASE SERIES

Andrew CLARK[1], Alberto GREGORI[2], Dawn MCLEAN[2]
[1]Hairmyres Hospital, Glasgow (UNITED KINGDOM), [2]Hairmyres Hospital, East Kilbride (UNITED KINGDOM)

Unicondylar knee arthroplasty (UKA) is now a recognised treatment for single compartment knee osteoarthritis. Outcomes for this surgery are dependent upon; the accuracy of component implantation, balance of soft tissues and surgeon experience. We examined a single surgeon series of robotic assisted UKA, measuring outcomes at one year post surgery. The robotic system used was the NAVIO Surgical System. The implants used were the Tornier and Journey unicondylar implants. 51 procedures were performed from Oct 2012 – Oct 2016 in a single centre. Age range was 41–77, there were 10 bilateral procedures. Follow-up ranged from 3–48 months (mean 31.3). One year outcomes were measured with the Oxford Knee Score and the WOMAC score. OKS data for 31 of 51 demonstrated an average increase of 25.87 points, to an average of 40.03 (range 4-41). WOMAC pain data for 26 out of 51 demonstrated an average decrease of 11.42 to an average of 2.5 (range +1 to -20). WOMAC stiffness data for 26 out of 51 demonstrated an average decrease of 3.69 to an average of 2.23 (range +1 to -8). WOMAC ADL data for 26 out of 51 demonstrated an average fall of 36.27 to 8.96 (range -3 to -60). One UKA was revised to TKR in the follow-up period. This series demonstrates; the effectiveness of robotic assisted UKA, a significant increase in OKS, placing patients in the “excellent” category. There were significant decreases in 1 year WOMAC pain and stiffness scores. The revision rate was 1.96% (1 of 51).

Abstract no.: 47099

PERIPROSTHETIC FRACTURES AFTER TOTAL KNEE ARTHROPLASTY

Katsuyuki KONISHI[1], Tuyoshi NAKAI[2]
[1]itami city hospital, Senbokugunn Tadaokatyou (JAPAN), [2]itami city hospital, itami Hyougo (JAPAN)

Introduction: Periprosthetic fractures around total knee arthroplasty (TKA) pose a significant surgical challenge. The techniques of fixation of these fractures and revision surgery have evolved and so has the assessment of outcome. The purpose of this study is to report nine cases of periprosthetic fractures after TKA. Methods: Between January 2013 and June 2016, nine patients suffered periprosthetic fractures due to simple fall. There were two men and seven women, with a mean of 78.3 years. The location of the fracture was six supracondylar femoral, two patella and one avulsion fracture of the tibial tubercle. Regarding the classification described by Lewis and Rorabeck, Type II was five and Type III was one. Five Type II fractures were performed open reduction and internal fixation with a plate Locking Compression. One revision of the prosthesis using long stemmed revision implant underwent for type III fractures. Both methods have shown improved overall function without of complications. With regard to system to classify patellar fractures is that proposed by Ortiguera and Berry, there were two Type II fractures. Both of two fractures performed internal fixation with tension-band technique. Poor results have been demonstrated, one infection and one non-union. According to The Mayo classification described by Felix et al., there was one type IV fractures, such as avulsion injuries of the tibial tubercle. This patient was operated using suturing wire and artificial ligament and has good outcomes. Results: These results suggest that management of patella fractures after TKA can be especially challenging in periprosthetic fractures.

Abstract no.: 47100

INTRAOPERATIVE AND POSTOPERATIVE COMPLICATIONS OF THE ANTERIOR MINIMALLY INVASIVE SURGERY (AMIS) FOR TOTAL HIP ARTHROPLASTY

Panagiotis LEPETSOS, Anastasios GKETSOS, Christos MILARAS, Ioannis GIANNARIS, Dimitrios TZEFRONIS, George KARAGIANNIS, George MACHERAS
KAT Hospital, Kifissia (GREECE)

Introduction: Total hip arthroplasty is a successful procedure for treatment of painful hip arthritis. The aim of the study is to describe intra-operative and post-operative complications using the anterior minimally invasive surgery (AMIS) technique for total hip arthroplasty. Methods: We investigated all cases of patients that were treated with AMIS total hip arthroplasty in our department during years 2012 - 2015. A traction table and an image intensifier were used. The technique includes a 8 - 10 cm incision, centered over the tensor fasciae latae and directed laterally toward the lateral aspect of the distal femur. The approach utilizes anterior internervous and intermuscular plane, and has been described as a modified Hueter approach. Patients were allowed for full weight bearing at the 1st postoperative day, and returned to their daily activites 4 weeks after surgery. Results: The study included 333 patients (211 women - 122 men) with a mean age of 65.7 years (range 34-91 years). The mean duration of hospitalization was 4.9 days (range 2-15 days) and the mean follow up was 22 months. The mean duration of surgery was 57 minutes. Complications included: Greater trochanter fractures (4.5%), intraoperative periprosthetic fractures (1.8%), dislocations (1.2%), aseptic loosening (0.9%), heterotopic ossification (1.5%), superficial infections (0.9%), sciatic nerve injuries (0.3%) and lateral femoral cutaneous nerve injuries (1.8%). There were no deep infections or major thromboembolic events. Conclusions: The AMIS technique is a safe method for total hip arthroplasty. The decision on the choice of method should be individualized for each patient.

Abstract no.: 47102

PROSPECTIVE EVALUATION OF THE SONICATION METHOD FOR THE DIAGNOSIS OF PERIPROSTHETIC INFECTIONS

Panagiotis LEPETSOS[1], Sofia TANI[1], Antonios STYLIANAKIS[1], John VLAMIS[1], Konstantinos BIRBAS[2], Ioannis KAKLAMANOS[3]
[1]KAT Hospital, Kifissia (GREECE), [2]"Agioi Anargyroi" General Oncology Hospital, Kifissua (GREECE), [3]"Agioi Anargyroi" General Oncology Hospital, Kifissia (GREECE)

Background: Despite its incidence, decreasing to 1% nowadays, prosthesis-related infections remain a research, diagnostic, therapeutic and cost-related problem. Our study aim was to compare the diagnostic accuracy of conventional periprosthetic tissue culture and culture of fluid derived from vortexing and bath sonication of the explanted hardware. Methods: We enrolled 114 patients undergoing revision hip or knee arthroplasty because of loosening of the prostheses, at our institution, between July 2012 and July 2016. Patients' medical history and demographic characteristics were recorded. The explanted hardware were separated in sterile containers and sonicated under sterile conditions. At least 5 samples of periprosthetic tissue were sent for culture and histological examination. We compared the culture of samples obtained by sonication of explanted hip and knee prostheses with conventional culture of periprosthetic tissue for the microbiological diagnosis of prosthetic-joint infection. Infectious Diseases Society of America (IDSA) Guidelines were used for the definition of prosthetic-joint infection. Results: Sixty-one patients had periprosthetic infection and 53 aseptic loosening (73 hip prostheses and 41 knee prostheses). The sensitivity of sonication fluid culture was 77.04% and the sensitivity of conventional tissue cultures was 55.73% (p-value = 0.012). The specifities of the two methods were 98.11% and 94.34% respectively. The sensitivity of the histopathological examination of the periprosthetic tissue was 72.10%. Conclusions: The sonication method represents a reliable test for the diagnosis of prosthetic – joint infections with a greater sensitivity than the conventional periprosthetic tissue cultures.

Abstract no.: 47104

DETERMINATION OF IDEAL BIOABSORBABLE MG–35ZN–XCA ALLOY DEPENDING ON CA CONCENTRATION

Dong Gun SHIM[1], Kwang-Bok LEE[2]
[1]Department of Orthopaedic Surgery,Chonbuk National University Hospital, Jeonju (SOUTH KOREA), [2]Department of Orthopaedic Surgery,Chonbuk National University Hospital, jeonju (SOUTH KOREA)

Introduction:Magnesium (Mg) is used in implants, but pure Mg exhibits a rapid corrosion rate and low mechanical strength. To overcome these drawbacks, various Mg-Zn-Ca alloys were developed, but there but it is not known which of these has superior mechanical and anti-corrosion properties. The aim of this study was to determine the ideal Mg-35Zn-xCa alloys with different Ca concentrations (x). Microstructural, chemical, and mechanical properties were evaluated by X-ray diffraction, optical microscopy, scanning electron microscopy (SEM), and the Vickers hardness test. Materials and Methods: The electrochemical and immersion corrosion behavior of the alloys were examined in simulated body fluid; and cytotoxicity was assessed with the water-soluble tetrazolium salt assay and crystal violet staining after culturing MC3T3-E1 cells. Results: The SEM analysis showed that the Mg–35Zn–xCa alloys had a dendritic composition. The volume fractions of the second phases (Mg2Ca and Ca2Mg6Zn3) in the alloys increased with Ca concentration. The Mg–35Zn–xCa (x = 2, 3) alloys showed higher hardness values ($p < 0.05$) and better corrosion resistance than the others; the Mg–35Zn–2Ca showed the highest Ecorr and lowest Icorr value. All of the groups showed spreading from single cells with many filopodia. At each time point, the number of attached cells was highest in the extracted media of Mg–35Zn–2Ca alloy, indicating that this material has good osteoconductivity. Conclusions : Based on the mechanical, corrosion, and biological properties, the Mg–35Zn–2Ca alloy can be a useful orthopedic and craniofacial implant biomaterial.

Abstract no.: 47106

EFFECT OF TENOLYSIS FOR GLIDING RESISTANCE BETWEEN TENDON AND PULLEY FOLLOWING FLEXOR TENDON SUTURE: A BIOMECHANICAL STUDY IN A CANINE MODEL IN VIVO

Jun NISHIDA[1], Yoshikuni MIMATA[2], Takashi KOYAMA[1], Toshiyuki TATEIWA[1], Taro NAGAI[1], Kengo YAMAMOTO[1]
[1]Tokyo Medical University, Tokyo (JAPAN), [2]Iwate Medical University, Morioka (JAPAN)

To elucidate the effect of tenolysis, evaluation of adhesion and measurement of gliding resistance between tendon and annular pulley of the fore-paw of canine following tenosuture were performed in following five different groups. In automatic movement group, modified Keslller procedure was done after cutting the flexor digitorum profundus tendon. Then an automatic movement started three weeks after the tenosuture and euthanasia was done after additional three weeks. In tenolysis in vivo groups (tenolysis group I and II), tenolysis was performed in third or sixth weeks after tenosuture and euthanasia was done three weeks after tenolysis. In in vitro group, only tenosuture was performed after euthanasia. An intact normal tendon of the contralateral fore-paw was measured as a control. Adhesion evaluation followed the method of Rothkoph et al. and gliding resistance measurement followed the method of An et al. Adhesion was observed in automatic movement and both in vivo groups. The gliding resistance of tenolysis groups I and II was significantly lower than that of automatic movement group. The gliding resistance of tenolysis group II was significantly lower than that of tenolysis group I. In accordance with these results, we concluded that sixth week was a more favorable term for tenolysis to improve the gliding resistance between the tendon and pulley than that of the third week, in which sutured tendon may have not been completely repaired yet in canine.

Abstract no.: 47107

COMPLETE REDUCTION FOR PILON FRACTURE CAN MAKE COMPLETE FAILURE

Dong Gun SHIM, Kwang-Bok LEE
Department of Orthopedic Surgery, Chonbuk National University Hospital, Jeonju (SOUTH KOREA)

The surgical management of distal intraarticular comminuted fracture of tibia (Pilon fracture) is difficult because complications are frequently developed. Recently, minimally invasive plate osteosynthesis (MIPO) techqniue is generally accepted for this type of fracture. This study shows that complications developed after open reduction and internal fixation using multiple miniplates for accurate reduction of small fracture fragments. Therefore, when we use this technique, we need to pay attention to development of the complications such as nonunion, avascular necrosis, and osteomyelitis by the disruption of both endosteal blood supply by fracture and periosteal blood supply during approach or reduction.

Abstract no.: 47110

DO CLINICAL SIGNS OR INVESTIGATIONS INFLUENCE PATIENT REPORTED OUTCOMES FOLLOWING CARPAL TUNNEL DECOMPRESSION?

Fahd MAHMOOD, Helen BETTS
Golden Jubilee National Hospital, Glasgow (UNITED KINGDOM)

Carpal tunnel syndrome (CTS) is the commonest compressive peripheral neuropathy. Numerous signs, investigations and symptoms are thought to be predictive of CTS. However there is limited evidence with regard to the value of such signs in predicting patient satisfaction. The Boston carpal tunnel questionnaire (BCTQ) explores symptoms and outcomes from the patients' perspective, allowing the patient's outcomes following carpal tunnel release to be measured. We reviewed a consecutive series of 315 patients who had undergone carpal tunnel decompression. The average age was 54 years, 70.1% of patients were female. Preoperative sensory loss, muscle wasting, Durkan's and Tinel's signs were recorded. Nerve conduction studies were performed in 184 (57.6%) patients. Variables measured preoperatively were investigated for their prognostic value by dividing the cohort into two categories based on the value of the variable in question. Student's t-test was used to compare BCTQ scores for these categories. The BCTQ was administered preoperatively and at an average 79 days postoperatively. There was a statistically significant fall in the average BCTQ score across both symptom and function domains for all patients. None of the variables measured preoperatively predicted a significant change in the BCTQ score. Furthermore, no significant difference was observed between the mean scores of patients with mild/moderate neuropathy demonstrated on nerve conduction studies as compared to those with severe neuropathy. Although clinical signs and investigations are of diagnostic value in the assessment of CTD, they do not appear to be predictive of improvement in the BCTQ.

Abstract no.: 47111

EXTENSIVE EXTRA-ARTICULAR SOFT TISSUE CALCIFICATION AFTER BURN INJURY

Kwang-Bok LEE[1], Dong Gun SHIM[2]
[1]Department of Orthopaedic Surgery, Chonbuk National University Hospital, Jeonju (SOUTH KOREA), [2]Department of Orthopaedic Surgery,Chonbuk National University Hospital, Jeonju (SOUTH KOREA)

Soft tissue calcifications after burn injury are commonly involved periarticular region, especially elbow joint. It can easily recognize to patients, because calcification in joint limit range of motion and bring about tingling sensation due to compression of ulnar nerve. However, extra-articular soft tissue calcification after burn injury has rarely been reported. And it was necessary to be detected with long latency period more than 20-year cause by non-healing ulcer around burn scar. We present patient of massive soft tissue calcification in extra-articular burn scar with non-healing ulcer after long latency periods of 40 years. We recommended wide excision and skin graft, because preventing of re-calcification and recurrence of ulceration, which can transform the malignant. And, we proposed that the patient who had had burn injury in extra-articular need following up in outpatient clinic and X-ray evaluation.

Abstract no.: 47113

OPTIMAL ADMINISTRATION METHOD OF TRANEXAMIC ACID (TXA) IN TOTAL HIP REPLACEMENT WITH ANTERIOR MINIMALLY INVASIVE SURGERY (AMIS)

Panagiotis LEPETSOS, Christos MILARAS, Anastasios GKETSOS, Ioannis GIANNARIS, Nikolaos MANOLIS, Dimitrios TZEFRONIS, George MACHERAS

KAT Hospital, Kifissia (GREECE)

Introduction: Our aim was to compare the efficacy of two different protocols of tranexamic acid (TXA) administration in total hip replacement with anterior minimally invasive surgery (AMIS) Methods: We prospectively enrolled 216 patients undergoing AMIS total hip replacement, separated in 2 groups. In patients of group A (n=76), 1 gr of TXA was administered intravenously 30 minutes preoperatively and 3 hours postoperatively. In patients of group B (n=140), 1 gr of TXA was administered intravenously 30 minutes preoperatively and 2 gr of TXA were administered through the drain, intraoperatively. Transfusion rates and levels of hematocrit (Hct), hemoglobin (Hb), red blood cells (RBCs) and platelets (PLTs), were recorded pre- and post-operatively. Results: Mean change of Hct was 10.06% for Group A and 9.78% for Group B (p-value=0.069). Mean change of Hb was 3.15 gr/dl for Group A and 2.99 gr/dl for Group B (p-value=0.7). Mean reduction of RBCs was 1277/mm3 for Group A and 1146/mm3 for Group B (p-value=0.97). Mean reduction of PLTs was 60240/mm3 for Group A and 57193/mm3 for Group B (p-value=0.8). The rate of transfusion was 23.7% for Group A (mean transfusion 71 ml) and 5.7% for Group B (mean transfusion 17 ml) (p–value=0.006). Conclusions: Combined topical and intravenous administration of TXA in patients subjected to THR with the AMIS technique seems to have an advantage over intravenous administration alone in terms of blood transfusion needs. It has no significant advantage in levels of Hct and Hb and the number of RBCs and PLTs.

Abstract no.: 47116

PATELLAR RESURFACING AND DENERVATION VERSUS DENERVATION IN BILATERAL TKA IN CHINESE POPULATION: A PROSPECTIVE RANDOMIZED STUDY

Xisheng WENG, Yulei DONG, Yanyan BIAN
Peking Union Medical College Hospital, Beijing (CHINA)

Introduction:There is no standard procedure in dealing with the patellar surface in total knee arthroplasty. We carried out a prospective randomized study to compare patellar resurfacing plus denervation versus denervation alone in the single staged bilateral TKA in Chinese population.. Methods: 105 patients who received single staged bilateral TKA were screened and finally 56 patients were included. Most of the patients were excluded as a result of thin patella.All patients received the same posterior cruciate-stabilizing total knee prostheses. Patients were randomized to resurfacing plus denervation or denervation alone of the patella for the first total knee arthroplasty, and the second knee received the opposite treatment. All patients were followed at a minimum of 2 years. Results: No differences were found with regard to range of motion, Knee Society Score, satisfaction, revision rates, or anterior knee pain. 48% of patients preferred the resurfaced knee, 20% the nonresurfaced knee, and 32% had no preference. one patient (1.8%) in the resurfaced group underwent revision for a patellofemoral-related complication. Conclusion: The patella was too thin to receive patella resurfacing for a large proportion of Chinese population.Equivalent clinical results for resurfacing plus denervation and denervation alone of the patellae in total knee arthroplasty were demonstrated in Chinese population.

Abstract no.: 47119

HINGED EXTERNAL FIXATION FOR THE SEVERE UNSTABLE ELBOW JOINT

Sakae SANO[1], Shinobu SAITO[2], Yoshihiro ABE[3], Satoshi IIDA[4]
[1]Department of orthopedic surgery, Matsudo City Hospital, Matsudo city, Chiba (JAPAN), [2] Department of orthopedic surgery,Tokyo Joto Hospital, Tokyo (JAPAN), [3] Department of orthopedic surgery, Chiba Rosai Hospital, Ichihara (JAPAN), [4]Department of orthopedic surgery, Matsudo City Hospital, matsudo (JAPAN)

Hinged external fixation of the elbow joint can play an important role in managing complicated fractures - dislocations, joint instability after extensive contracture release etc. From 2010 to 2016, five patients with severe unstable elbow were treated by open reduction and internal fixation with hinged external fixation. Five patients were treated: one with comminuted supra-intercondylar fracture in the presence of marked instability; three with unreduced or reduced severe unstable dislocation of the elbow including “the terrible triad;”, one with instability due to mobilized operation for the contracture after trauma surgery. Fluoroscopic localization was useful for the proper placement, but multiple drilling attempts were needed. An average arc of motion of 115 degrees was achieved in the frame. The average arc of motion was 95 degrees at the final follow-up. Frames were removed at an average of 5.5 weeks. (4–6 weeks) No patient who developed transient palsy of the radial nerve, but one patient who developed pin track infection and was treated with oral antibiotics. We suggest that treating complex injuries of the elbow with the external fixator in patients where the internal fixation would not be stable enough to permit safe early joint mobilization postoperatively; or where joint instability could occur after extensive contracture release may lead to better results for patients with severe unstable elbow. However, further experiences will be required.

Abstract no.: 47124

COEXISTED RATE OF MUSCULO-SKELETAL DISEASE IN JAPANESE PATIENTS WITH DOWN SYNDROME

Tetsuhito OKUDA
Kanazawa Seriyo University, Ishikawa (JAPAN)

Coexisted rate of musculo-skeletal disease in patients with Down syndrome has reported to be about 20%. These epidemiological studies have been conducted just in the U.S. and Europe, however, the coexisted rate in Japanese patients with Down syndrome has not been surveyed. Therefore, we report on results of our large-scaled survey conducted this time. Methods Randomly extracting 500 of each male and female Down syndrome patients at the age of 7 or older from among registered members of Japan Down Syndrome Society, prevalence of 11 diseases was examined by sending questionnaire to the patients by mail. Results Of 428 patients who responded (collection rate of 42.8%), 217 and 208 patients were male and female with the average age of 19.0 (from 7 to 44) and 19.8 (from 7 to 50), respectively. With a significantly high coexisted rate of musculo-skeletal Disease of 57.9% (246 / 425), ①atlantoaxial dislocation,②Os odontoideum,③atlanto-axial rotatory fixation, ④scoliosis, ⑤hip dislocation / subluxaton, ⑥arthritis / arthrosis, ⑦Perthes disease,⑧patellofemoral instability, ⑨metatarsus primus varus and ⑩hallux valgus were observed in 8.9%, 0.7%, 0.2%, 5.2%, 0.9%, 0.9%, 0.2%, 2.6%, 17.4% and 44% of patients, respectively, without any capital femoral epiphysis recognized.

Abstract no.: 47135

SURGICAL TREATMENT OF LONG-STANDING CHRONIC RECURRENT INSTABILITY OF THE SHOULDER JOINT

Andrey KOPYLOV
Nizhniy Novgorod Research Institute of Traumatology and Orthopaedics, Nizhny Novgorod (RUSSIA)

INTRODUCTION: In the surgical treatment of recurrent instability of the shoulder joint generally accepted at the present time are the following methods: 1 - open the transposition of the tendon of the long head of the biceps by Krasnov in various modifications; 2 - arthroscopic stabilization of the shoulder joint with anchor clamps; 3 - open osteoplastic reconstruction of the glenoid cavity. METHODS: During the period from 2012 to 2015 operated on 148 patients aged 14 to 65 years for recurrent instability of the shoulder joint using arthroscopic techniques and anchor clamps (116 patients - group 1) and Bristow- Latarzhe operation (32 patients - group 2). RESULTS: Among patients of group 1 in 6 people had a recurrence of a dislocation of the shoulder joint: from 4 - as a result of incorrectly chosen method of treatment (once the operation has been shown Bristow-Latarzhe), in 2 - as a result of repeated sports injuries. Among patients 2 groups recurrence of dislocation was not observed, but the remaining four developed a contracture of the shoulder joint, and at 2 autograft lysis occurred, which required the implementation of the revision reconstruction. CONCLUSION: In the surgical treatment of long-standing chronic recurrent instability of the shoulder joint treatment of choice should be considered minimally invasive arthroscopic stabilization with anchor clamps. In marked bone defect of the anterior edge of the articular process of the blade, constituting more than 25% of its circumference, is shown open osteoplastic reconstruction of the glenoid cavity - Bristow-Latarzhe operation.

Abstract no.: 47139

SURGICAL SITE INFECTION PREVENTION PROTOCOL FOR PEDIATRIC SPINAL DEFORMITY SURGERY: DOES IT MAKE A DIFFERENCE?

R Justin MISTOVICH[1], Connie POE-KOCHERT[2], Jochen SON-HING[2], Christina HARDESTY[2], George THOMPSON[2]

[1]University Hospitals Rainbow Babies and Children's Hospital, Cleveland Heights (UNITED STATES), [2]University Hospitals Rainbow Babies and Children's Hospital, Cleveland (UNITED STATES)

Introduction: Can a standardized care bundle result in decreased infection rate for pediatric spinal deformity surgery? Methods: We performed a retrospective review of our primary scoliosis surgeries between 2001-2014. In 2008, we implemented a standardized infection reduction bundle. Interventions included preoperative nares screening for Methicilin-resistent Staphylococcus aureus and treatment with intranasal mupirocin when positive, preoperative chlorohexidine scrub, timing of standardized antibiotic administration, standardized intraoperative re-dosing of antibiotics, limiting OR traffic, and standardized postoperative wound care. Our inclusion criteria were patients ≥21 years of age who carried a diagnosis of idiopathic, neuromuscular, syndromic, and congenital scoliosis who had undergone posterior spinal fusion with segmental spinal instrumentation of 6 levels or more, and a minimum of one year postoperative follow-up. We excluded staged procedures, anterior only procedures, growing rod procedures, and instrumentation of 5 levels or less. We compared the incidence of early (within 90 days of surgery) and late (>91 days) wound infections before these interventions. Results: There were 661 patients who met inclusion criteria: 334 in Group 1 (2001-2007) and 327 in Group 2 (2008-2014). Postoperatively, there were 21 infections (6.3%) in Group 1: 9 early (2.7%) and 12 late (3.6%) while there were only 8 infections (2.4%) in Group2: 4 early (1.2%) and 4 late (1.2%). The reduction in overall SSIs was statistically significant (p=0.01). There was a trend toward decreased infection rate for early infections, but this did not reach statistical significance (p=0.14). Conclusion: Our infection reduction bundle demonstrated a statistically significant reduction in all infections.

Abstract no.: 47143

SYNOVIAL C-RP AS INFLAMMATORY MARKERS FOR DIAGNOSIS OF PERIPROSTHETIC JOINT INFECTION

Anup KHARE
RAINBOW HOSPITALS, AGRA (INDIA)

Infection is serious complication after TKR.Timeley diagnosis is important.Various diagnostic tools available have some limitations in terms of sensitivity and specificity.Serum CRP,ESR widely to monitor postop progress but they are acute phase reactants and indirectly measures the acute phase response after stimulus and are easy to monitor and also cost effective.However precise application of serum CRP,ESR change is usually not easy because of their nonspecific nature and wide variation in per-ioperative level.They are raised in even multiple inflammatory conditions also without infection,therefore specific Biomarker is required to diagnose PJI which are cost effective too.Synovial fluid marker like Cytokins,,TNF are more specific but are not cost effective.More specific Synovial fluid biomarker include synovial CRP ,IS COST EFFECTIVE AND EASY TO DO .Our finding demonstrate that measurement of CRP level in Synovial fluid increases the accuracy for diagnosing PJI along with other related investigations and clinical findings.This is prospective study of 70 selected cases ,in all routine in vestigations done with serum CRP, ESR besides this we also conducted estimation of Synovial CRP by asoirating Synovial fluid before giving incision which gives base line value of synovial CRP Eassy of Serum CRP was estimated postop on 2,4,7,10,14,42&90th day after surgery.Most of cases had Typical CRP pattern with peak on 2nd day coming to pre-op lavel by 90th day.In case of Atypical Serum CRP pattern ,we performed Synovial CRP ESTIMATION ALSO , and found in PJI it was high and not high if no PJI INSPITE OF HIGH SERUM CRP & ESR

Abstract no.: 47145

THE VALIDITY OF THE THORACOLUMBAR INJURY CLASSIFICATION SYSTEM IN THORACOLUMBAR SPINE INJURIES

Sung Kyu KIM[1], So Hyun MOON[2]
[1]Chonnam National University Hospital, Gwangju (SOUTH KOREA),
[2]Department of Nursing, Chosun University, Gwangju (SOUTH KOREA)

Study Design: A retrospective study. Objectives: This study evaluates the validity of TLICS when making treatment decisions to agroup of thoracolumbar fracture patients. Summary of Literature Review: There are only few number of studies which evaluates the validity of TLICS in consecutively treated patients, among the numerous literatures about the applying the TLICS to the thoracolumbar injuries. Materials and Methods: Retrospective study was performed among the 330 patients that were treated from 2000 to 2016 in our hospital for thoracolumbar injuries. Evaluation was done on clinical outcome and radiologic result and each case was analysed and scored according to the ASIA scale, Magerl/AO classification, TLICS classification (by 2 spine surgeons.) Results: 139 patients out of 330 patients (42.1%) received conservative treatment and 191 patients out of 330 patients (57.9%) received surgical treatment. 128 patients out of 139 patients (92.1%) who received conservative treatment showed correspondence to treatment recommended by TLICS. The conservative treatment failed for 5 out of 10 patients (4.7%) that did not correspond with TLICS and they required surgical treatment. On the other hand, 160 patients out of 191 patients (83.8%) with surgical treatment showed correspondence with the treatment recommended by TLICS. Conclusions: TLICS classification showed high validity for conservative treatment of thoracolumbar injuries.

Abstract no.: 47146

WHAT IS THE FACTOR AFFECTING THE EFFICACY OF CERVICAL SELECTIVE NERVE ROOT BLOCK?

Sung Kyu KIM[1], So Hyun MOON[2]
[1]Chonnam national university hospital, Gwangju (SOUTH KOREA), [2]Chosun University, Gwangju (SOUTH KOREA)

INTRODUCTION: Cervical selective nerve root block (SNRB) may be considered as alternative treatment when patients suffering from painful cervical radiculopathy have not benefited from conservative therapy. The aim of current study is to evaluate the demographic factors affect the efficacy of cervical selective nerve root block. MATERIALS AND METHODS: We present result of retrospective 1-years follow-up study of 72 patients with radiculopathy due to cervical disc disease and spondylosis. Patients with myelopathy, gross motor weakness or any other pathology were excluded. Cervical nerve root blocks were administered every 2weeks, up to 3 times. The clinical outcomes including Visual Analogue Scale (VAS) scores, Neck Disability Index (NDI), and patient satisfaction were assessed before the procedure with those at 1, 3, 6 months, and last F/U after the procedure. RESULTS: At follow-up, the clinical outcomes showed no significant differences between old age (age ≥ 60) and young age group (age < 60). Also, there were no significant differences between male and female group. However, acute group (symptom duration ≤ 3 months) and disc herniation group showed statistically better than chronic group (symptom duration > 3 months) and cervical spondylosis group on the clinical outcomes ($p < 0.05$). CONCLUSION: Among multiple demographic factors, the symptom duration and etiology was most significant variable affecting the effect of cervical selective nerve root block.

Abstract no.: 47154

DENOSUMAB IN THE TREATMENT OF HYPERCALCEMIA SECONDARY TO HYPERVITAMINOSIS D WITH RENAL IMPAIRMENT

Gopi Krishna Reddy GADDAM[1], Sarada VEMPATY[1], Sreedhar Reddy ALERI[2]

[1]SRI SRI HOLISTIC HOSPITAL, HYDERABAD (INDIA), [2]SRI SRI HOLISTIC HOSPITAL, hyderabad (INDIA)

Introduction: A case of symptomatic hypercalcemia due to Hypervitaminosis D with renal impairment was successfully treated with Denosumab. Denosumab is a human monoclonal antibody against RANKL, inhibits the function of osteoclast in bone. Case presentation: 61 yr old female presented with bone pains, muscle cramps, fatigue, excessive thirst, excessive urination, constipation and weight loss. She is known case of type 2 Diabetes mellitus on regular medication. She is on calcium and vitamin D supplementation for her osteoporosis. Laboratory investigations revealed high serum calcium: 13.3mg/dl (8.5 - 10.1) and high serum creatinine: 3.5mg/dl (0.6 - 1), other routine blood reports were found to be within normal limits. On further evaluation to know the underlying cause of hypercalcemia, serum paratharmone was low: 9.2 pg/ml (15 - 68.30),serum protein electrophoresis: negative, urine for bence jones protein: negative and her serum vitamin D level were > 164.70ng/ml. She was treated with saline hydration with furosemide. In view of raised serum creatinine bisphosphonates were contraindicated, hence a newer agent denosumab 120 mg subcutaneously was administered which showed a successful clinical response in addition to a remarkable biochemical improvement in serum calcium levels. Conclusion: Denosumab is promising new agent in treating hypercalcemia secondary to Vitamin D toxicity with renal impairment.

Abstract no.: 47161

BONE MORPHOLOGY, DEFORMITY AND ALIGNMENT ASSOCIATED WITH THE ROTATIONAL MISMATCH BETWEEN FEMUR AND TIBIA IN THE PATIENTS WITH KNEE OSTEOARTHRITIS

Hiroshi KOYAMA[1], Masaaki TAKAHASHI[1], Mitsuru HANADA[2], Mitsuhiro NANBA[2], Yukihiro MATSUYAMA[2]

[1]Jyuzen Memorial Hospital, Hamamatsu (JAPAN), [2]Hamamatsu University School of Medicine, Hamamatsu (JAPAN)

Introduction: Assessment of pre-operative rotational mismatch between femur and tibia in patients with knee osteoarthritis (OA) is crucial, as this will result in post-surgical rotational mismatch after TKA. We investigated the factors associated with the rotational mismatch in knee OA patients. Methods: We reviewed plain CT images of 61 patients with medial knee OA (17 male and 44 female, average age: 75 years old, Kellgren-Lawrence grade 3-4). Utilizing the software of the preoperative three-dimensional planning for TKA, we measured femoral rotation angle by trans-epicondylar axis, tibial rotation angle by Akagi line, talar rotation angle by the perpendicular line of talus in CT coordinate. We also measured femoral neck anteversion angle, rotational mismatch (the angle between trans-epicondylar axis and Akagi line), Hip-knee-ankle angle (HKA), knee flexion angle in femoral coordinate. We investigate the correlation between the rotational mismatch angle and the other measurement items. Results: The average of each measurements values were as follows: femoral rotation: external rotation (ER) 9.2°, tibial rotation: ER 4.0°, talar rotation: ER 29.7°, femoral neck anteversion: 6.6°, rotational mismatch: internal rotation 4.5°, HKA: 191.2°, knee flexion: 8.6°. The significant correlation was observed between rotational mismatch and HKA (r = -0.45). Conclusion: In severe medial knee OA patients, the femur was rotated externally against to the tibia. The rotational mismatch between femur and tibia was not associated with femoral morphology and knee flexion, but associated with the alignment change due to knee OA.

Abstract no.: 47169

CAMERA COVER PERFORATION AFTER ARTHROSCOPIC SURGERY

Benjamin Fu Hong ANG, Henry SOEHARNO, Kong Hwee LEE, Shirlena Tieu Kwee WONG, Denny Tjiauw Tjoen LIE, Paul Chee Cheng CHANG
Singapore General Hospital, Singapore (SINGAPORE)

Background: Glutaraldehyde soaking of arthroscopic cameras had been a common method for sterilization. Concerns regarding potential of post-operative infection by spore forming bacteria resulted in a move towards the use of sterile arthroscopic camera covers, which are believed to offer a safe, cheap and reliable alternative. Aim: To determine the perforation of arthroscopic camera covers post-arthroscopy. Methods: 43 arthroscopic camera covers were analyzed. Covers were immediately removed from the camera post-arthroscopy and filled with water to 70 cm. Leaks at the junction between the built-in camera adapter and plastic sleeve were designated as Zone C. Zone B and A marks the level from the adapter-plastic junction to 25 cm and from 25 to 50 cm respectively. The area above the 50 cm mark was labeled as the Pre-Zone. Perforations were documented as 'small' where leakage was detected with no visible perforations, 'medium' for perforations up to 1mm and 'large' for perforations larger than 1mm. 15 unused covers were analyzed as controls. Results: 81% (35 out of 43) of covers analyzed post-arthroscopy had 1 to 3 perforations. Zone A = 14%, Zone B = 41%, Zone C = 43%. 1 cover had 1 perforation in ‘pre-zone’. No correlation was found between the duration of arthroscopy and the number and size of perforations. None of the 15 unused covers in the control group had perforations. There were no cases of post-operative infections. Conclusion: The alarmingly high rate of perforations found in arthroscopic camera covers raises concern regarding its reliability in clinical practice.

Abstract no.: 47170

RISK FACTORS FOR OVERCORRECTION FOLLOWING OXFORD UNICOMPARTMENTAL KNEE ARTHROPLASTY

Boonchana PONGCHAROEN
Thammasat university, Patumthani (THAILAND)

Introduction: The Oxford unicompartmental knee arthroplasty (UKA) has shown good long term results. The lateral osteoarthritis (OA) is one of cause of failure, and associated with overcorrection. The incidence of lateral OA was 1%-2% at 10 years. However, it was very low incidence from study of designer. Therefore, the surgical technique and patient selection are the important thinks for prevention overcorrection. The purpose of this study is to determine the risk factors for overcorrection following Oxford UKA. Patients and Methods: We enrolled the 176 medial Oxford Oxford UKAs from January 2011 to November 2014 in 161 women and 15 men. The mean age was 65.30 years (43-83). No patients lose to follow up. The mean of follow up was 37.66 months (24-70). Multivariate logistic regression was performed to identify the risk for overcorrection. Results: The 21 medial Oxford UKAs (21/176) were developed overcorrection. The factors that were different between patients who had overcorrection and those without were the varus deformity < 5° (odds ratio (OD)= 4.155; CI= 1.449-11.918), genu recurvatum(OD= 2.825; CI= 1.131-7.057), and female (OD= 1.149; CI= 1.083-1.219). Conclusion: This study has found that risk factors for overcorrection following medial Oxford UKA were varus deformity < 5°, patient with preoperative genu recurvatum, and female. However, our study did not fine patients who had overcorrection more than 10°. The tibiofemoral angle was 8.52° (8-10; ±0.81°) and all patients has shown good clinical outcome.

Abstract no.: 47172

DISTAL FEMORAL JUXTA ARTICULAR BONE LOSS TREATED BY BONE TRANSPORT- A RETROSPECTIVE STUDY

Cherry Cheriyan KOVOOR, Jibin GOPI
ERNAKULAM MEDICAL CENTRE, KOCHI (INDIA)

AIM: To present the results of forty one patients with distal femoral bone loss who were treated with bone transport with Ilizarov ring fixator .MATERIAL & METHODOLOGY: Forty one patients were retrospectively studied. The mean age was 35.2 yrs. All injuries occurred in the distal 1/3 of the femur including supracondylar and inter condylar region . There were 39 males and two female patients . The mean bone defect was 5.7 centimeters. Infection was present in twenty three cases. Except in three cases the frame was extended across the knee. RESULTS:The average period in ring fixator was 13.8 months. One patient was lost to follow up. Union on frame removal occurred in thirty four patients. Fifteen patients had a stiff knee while remaining patients had knee flexion ranging from 10 to 110 degrees. There were other complications including extension lag, reccurvatum deformity, re-fracture, premature consolidation of corticotomy, persisting infection, shortening and non- union. Twenty six returned to their old occupations, ten changed occupations and four could not do any work. CONCLUSION: In distal femur injuries with bone loss bone transport with Ilizarov ring fixation gives reasonable results in spite of complications

Abstract no.: 47173

CAN PATELLAR FACET HEIGHT BE USED TO ESTIMATE THE LEVEL OF THE KNEE JOINT LINE?

Boonchana PONGCHAROEN
Thammasat university, Patumthani (THAILAND)

Introduction: Restoration of the knee joint line (KJL) following revision total knee arthroplasty (TKA) is important for clinical outcome. Elevation of KJL following revision TKA can decrease the range of motion (ROM), increased the incidence of maltracking of patellofemoal joint and pain, and mid-flexion instability. The KJL estimated from the medial and lateral epicondyle, femoral width (FW) and the transepicondylar axis width (TEAW), but These parameters can not use in patients with severe bone loss and extended to epicondyle of femur. The purpose of this study is to assess a new technique for estimating the knee joint line (KJL) from a regression equation between the patellar facet height (PFH) and the adductor tubercle to joint line distance (ADJL). Materials and methods: One hundred anteroposterior (AP) and lateral radiographs of knees were measured for PFH and ADJL from patients with mild knee osteoarthritis. The relationships between The PFH and ADJL was determined by linear regression and regression equations generated for males and females. Results: The PFH correlated positively with ADJL in males, females individually. All mean measurements were significantly longer in males versus females. The ADJL-PFH regression equations were: (i) ADJL=0.83xPFH + 16 (males) and (ii) ADJL=0.70xPFH + 20 (females). Conclusion: The PFH correlated well with the ADJL. The PFH may be a very useful parameter for estimating the KJL during revision TKA, especially in patients with severe bone loss.

Abstract no.: 47174

BIOMORPHOMETRIC ANALYSIS OF SACRAL DYSMORPHISM FOR A SECURE ILIOSACRAL SCREW FIXATION OF POSTERIOR PELVIC RING LESIONS

Henry WENDT[1], Heiko GOTTSCHLING[2], Manuel SCHRÖDER[2], Ivan MARINTSCHEV[3], Gunther HOFMANN[3], Rainer BURGKART[2], Florian GRAS[3]
[1]Dept. of Trauma-, Hand- and Reconstructive Surgery, University Hospital Jena, Germany, Jena (GERMANY), [2]Clinic of Orthopaedics and Sportorthopaedics, Klinikum rd Isar, Technische Universität München, Germany, München (GERMANY), [3]Dept. of Trauma-, Hand- and Reconstructive Surgery, University Hospital Jena, Germany, Jena (GERMANY)

Objectives: For secure Iliosacral-screw placement, 15-45% prevalence of sacral dysmorphism (SD) has to be recognized, preoperatively. Therefore intra-osseous corridors in SD were analysed to answer: I.) How are the prevalence of Miller´s six-criteria for SD? II.) Is SD predictable by the sacral triangle-ratio according to Mendel? Material&Methods: 594 CT-scans were reviewed for SD (no intra-osseous corridor of at least 7.5mm diameter in axial images on the level of S1). 55 CT-scans were included and segmented manually to generate a mean-shaped pelvis for the determination of cylindric S1- and S2-corridors. Each pelvis was registered to the template-pelvis using a free-form registration algorithm to measure the corridor parameters semi-automatically. Results: The prevalence of sacral dysmorphism was gender-independent (female: 31%, male: 34%). Among Miller´s six criteria the descending order of frequency was found: 97% acute alar slope, 81% upper sacral segment not recessed in pelvis, 79% mammillary bodies, 76% misshapen sacral foramen, 50% promotorium on the level of iliac crest and 47% residual discs. The mean□sd sacral triangle-ratio was 1.45□0.26 (subgroup analysis: <1.5 = dysmorphic type: 57%, 1.5-2.0 = medium type: 41% and >1.5 = capacious type: 2%). The total number of Miller´s criteria was negative correlated with S1-, but not S2-corridor diameters. Conclusion: With increasing prevalence of miller´s criteria on fluoroscopic outlet projection and/or decreasing triangle-ratios in true lateral views according to Mendel, the S1-, but not S2-corridor diameters getting smaller and preoperative three-dimensional CT analysis and screw planning is highly recommended to determine the optimized screw trajectory.

Abstract no.: 47178

HYDRODILATATION FOR THE TREATMENT OF POST-OPERATIVE CAPSULITIS FOLLOWING ARTHROSCOPIC SUBACROMIAL DECOMPRESSION SURGERY (SAD) AND DISTAL CLAVICLE EXCISION

Caroline DOVER[1], Stuart HAY[2]
[1]Royal Shrewsbury Hospital, Shropshire, Craven Arms (UNITED KINGDOM),
[2]The Robert Jones and Agnes Hunt Orthopaedic Hospital, Oswestry (UNITED KINGDOM)

Introduction: Adhesive capsulitis is a recognised complication of shoulder surgery, affecting 5.8-9.5% of patients following arthroscopic procedures. Studies have shown an improvement in symptoms following hydrodilatation for primary adhesive capsulitis amongst diabetic patients, and for secondary symptoms following arthroscopic rotator cuff repairs, but with little data on its use following SAD. Methods: Patients who had developed a capsulitis following primary SAD surgery and distal clavicle excision, in the last three years, were included within the study. All patients were asked to complete an Oxford Shoulder Score, and to rank their pain out of a maximum score of twenty. They were provided with the same questions following hydrodilatation, and the results were compared using a paired t-test for significance. Results: Thirty-four patients underwent hydrodilatation for post-arthroscopic SAD capsulitis between 2013 and 2016. The mean pre-operative Oxford score was 19.58 ± 7.17 out of a maximum score of 48. The average post-operative score was 42.73 ± 4.25, with an average increase in 23.15 points ($p < 0.001$). The mean pre-operative pain score was 15.85, and post-operatively 2.12. Conclusion: All our patients saw an improvement in outcome following hydrodilatation, with a statistically significant increase in function scores and a considerable reduction in pain. This procedure is simple to perform, requiring only a short period of anaesthesia. All patients reported a noticeable benefit following surgery, and we saw no complications. The authors conclude that hydrodilatation is an effective treatment for post-operative adhesive capsulitis, following primary arthroscopic subacromial decompression and distal clavicle excision surgery.

Abstract no.: 47184

PATIENTS' BELIEFS AND PERCEPTIONS ABOUT ORTHOPAEDIC IMPLANTS AFTER FRACTURE HEALING

M R AHAMED NIHAJ[1], K.P.N.G RANASINGHE[2], Dilshan MUNIDASA[2]
[1]National Hospital, Sri Lanka, Colombo-14 (SRI LANKA), [2]National Hospital, Sri Lanka, Colombo (SRI LANKA)

Introduction: The population bearing Orthopaedic Implants (OI) is increasing due to higher rates of open reduction and internal fixation (ORIF) for extremity fractures. Their beliefs and perceptions about OI influence their demand for OI removal and their satisfaction about surgery. Methods: An 18-item questionnaire distributed to the follow-up patients who were treated by ORIF for limb fractures in a tertiary trauma care center. All such fractures healed without major complications. Results: The response rate was 82.6% (830 /1004). The mean follow-up was 17.23 months. Seven-hundred and thirty-five (88.5%) participants believed that they received ideal treatment for their fracture and 86.3% believed that OI helped them for healing. If needed 662 (79.7%) of them were happy to undergo ORIF and 82.5% of them will recommend ORIF to their relatives. Three-hundred and sixty-seven (44.2%) participants believed that they have high risk for lightening attack and 18% believed they have high risk for malignant tumors due to OI. Five-hundred and forty-four (65.5%) participants wanted to be removed their OI, 48% have pain in the surgical site, 54% have limitation of movement and 24% think it's unnatural to have OI inside their body. Forty-nine percent participants said they didn't get enough information regarding OI prior to surgery. Conclusions: Majority of the study population were satisfied with OI. Reasonable percentage of patients had misbeliefs on OI and wanted the OI to be removed. Half the population perceived that they were not informed well about OIs and proper patient education may help to minimize patient misbeliefs.

Abstract no.: 47188

RESULTS AND COMPLICATIONS AFTER ANKLE FRACTURE IN ELDERLY PATIENTS

Mónica FERNÁNDEZ ÁLVAREZ, Sergio GARCIA GRANJA, Laura ALONSO VIANA, Maria Dolores PEREZ AGUILAR, Maria Asunción PASCUAL CARRA, Jesús HERNANDEZ ELENA
Hospital Universitario Marqués de Valdecilla, Santander (SPAIN)

Introduction: Ankle fractures in elderly patients have higher percentage of complications. Objective: To analyze results and complications associated in patients older than 65 years. Material-Methods: Retrospective study of 403 patients, who were treated between 2010-2015. We excluded 27 patients because they were wrong classificated by fracture type. We included those who were hospitalized for 4 or more days and those who were hospitalized again because of complication. Results: 43% cases had any type of cardiovascular disease. Other comorbilities had low prevalence: DM 18%, COPD 4%, CKD 7%. Anticoagulant therapy in 12,5 % and antiplatelet in 20,58%. According to AO classification, subtype 44.B2 was the most common and followed by 44.C1 with 16,91% and 44.B3 in 11,02%. Associated dislocation occured in 42,64%. Non operative treatment in 11,76%. Definitive osteosynthesis in 51,47%, external fixation and posterior osteosynthesis in 9,55% and definitive external fixation in 4,41%. We performed immediately surgery in 66,17 %. The average length of stay was 13 days. Associated complications appeared in 30,14% of cases,skin defect was the most common, followed by soft tissue problems 24,39% and infection 17,07%. Functional outcome was worse than previous function in 48,52% of cases and similar in 38,23%. There were no significant differences between complications and DM, neither between complications and anticoagulant therapy. Conclusion: It is important to know associated comorbidities and previously treatments in these patients, before making decisions about how to treat them. A multidisciplinary approach and good planing, as well as good perioperative care will provide us higher success rates.

Abstract no.: 47190

BILATERAL STRESS FRACTURES OF THE DISTAL FIBULA: A CASE REPORT AND REVIEW OF THE LITERATURE.

Mónica FERNÁNDEZ ÁLVAREZ, Carlos GARCÉS ZARZALEJO, Sergio GARCIA GRANJA, Ricardo Manuel BOLLOQUE GONZALEZ, Luis Alejandro GIRALDO VEGAS, Francisco CUADRADO ABAJO, Michel FAKKAS FERNÁNDEZ

Hospital Universitario Marqués de Valdecilla, Santander (SPAIN)

INTRODUCTION: Stress fractures are common injuries because overuse and they include fatigue and insufficiency fractures. CASE PRESENTATION: A 62-year old woman, complained about pain in the lateral malleolus of her right ankle. Her symptoms started one month before without any previous trauma. Previously she has had two osteoporotic vertebral fractures (T12, L3). She was prescribed alendronate, calcium and vitamin D. The physical examination revealed swelling and pain without limitation of ankle motion. Radiographs showed signs of stress fracture of the distal fibula. We decided conservative treatment with a Walker boot. One month later, new radiographs showed bone callus formation. We removed the Walker boot, and we order to use two crutches. One month later, the radiographs appeared to show healing, so we recommended rehabilitation and used one crutch. At three months, with complete clinical recovery, she described the same pain in contralateral malleolus. Radiographs of her left ankle showed again signs of stress fracture of the distal fibula. We decided same treatment and she was immobilized for 6 weeks. Because of these osteoporotic fractures we started teriparatide treatment. DISCUSSION: After have made a review of the literature, bilateral distal fibular fractures are very rare. These fractures depend not only on bone mineral density, but also on many factors: obesity, recurrent contraction of the long toe flexors, tension in the interosseous membrane, glucocorticoids and antiresorptive treatments for long time and diet. The knowledge of these fractures as well as their related risk factors would improve the diagnosis of this missed injury.

Abstract no.: 47192

NON-VERTEBRAL FRACTURES IN UKRAINIAN WOMEN WITH OBESITY AND METABOLIC SYNDROME IN POSTMENOPAUSAL PERIOD

Vladyslav POVOROZNYUK[1], Larysa MARTYNYUK[2], Nataliia DZEROVYCH[1]
[1]D.F. Chebotarev Institute of gerontology NAMS Ukraine, Kyiv (UKRAINE), [2]I. Hobachevsky Ternopil State Medical University, Ternopil (UKRAINE)

The aim of this study was to determine peculiarities of non-vertebral fractures in women with obesity and metabolic syndrome (MS). Methods: 590 women aged 50-79 years (mean age – 64,0±8,0 yrs; mean weight –75,8±13.6 kg, body mass index (BMI) – 29.4±5.3 kg/m2, mean duration of menopause – 14,6±8,4 yrs) were examined. The women were compared into the three groups: A included 298women without obesity (BMI) ≤ 29,9 kg/m2), B involved 177 patients with obesity (BMI ≥ 30,0 kg/m2). MS was diagnosed in women of the C group (115 people). Women were considered to have the MS according to IDF criteria (2005 yr). Results: Non-vertebral fractures were found in 37,92% of the A group patients, 29,94% of B group women and 35,56% of the C one. We estimated that patients without obesity have significantly lower bone mineral density (BMD) of lumbar spine (A – 0,931±0,168g/cm2, B –1,091±0,191g/cm2, C –1,082±0,190g/cm2), femoral neck (A–0,772±0,113 g/cm2, B–0,858±0,132 g/cm2, C–0,861±0,135g/cm2) and ultradistal forearm (A– 0,347±0,073g/cm2, B – 0,428±0,083g/cm2, C –0,418±0,088g/cm2) in comparison with women of the groups B and C. We didn't found significant differences among BMD of the B and C group patients (p>0,05). The results of the study showed significant better BMD of the C group patients without fractures compared to those with fractures. Differences of BMD in patients with and without non-vertebral fractures in other groups of the women were not found. Conclusion: BMD is better in women with obesity and MS. Non-vertebral fractures are more common in patients without obesity.

Abstract no.: 47194

BONE MINERAL DENSITY AND TRABECULAR BONE SCORE IN MEN WITH VERTEBRAL FRACTURES

Vladyslav POVOROZNYUK, Anna MUSIIENKO
D.F. Chebotarev Institute of gerontology NAMS Ukraine, Kyiv (UKRAINE)

The aim of this study is to evaluate the trabecular bone score (TBS) and bone mineral density (BMD) in men with osteoporotic vertebral fractures. Materials and methods. We've examined 197 men aged 45-89 years, divided according to the gerontologic classification: 45-59 yrs (n=83), 60-74 yrs (n=86), 75-89 yrs (n=28). Group A – consists of 44 men with vertebral fractures (mean age – 63.7±10.8 yrs) and group B – 153 men without fractures (mean age – 62.3±10.2 yrs). The BMD of lumbar spine L1-L4, femoral neck and total body were measured by DXA (Prodigy, GEHC Lunar, Madison, WI, USA). The TBS L1-L4 was assessed by the TBS iNsight® software package installed on our DXA machine (Med-Imaps, Pessac, France). Results. In total group we found that men with osteoporotic vertebral fractures have significantly lower TBS L1-L4 (A–1.027±0.210, B–1.185±0.170; F=25.54; p<0.001) and BMD of lumbar spine (A – 1.009±0.172 g/cm2, B–1.150±0.130 g/cm2; F=33.74; p<0.001), femoral neck (A–0.821±0.143 g/cm2, B–0.908±0.135 g/cm2; F=13.62; p<0.001) to compared with men without fractures. When we analyzed BMD depending on age, we found the significantly differences in group A: TBS L1-L4 – 45-59 yrs – 1.025±0.248 vs 1.226±0.156 (p<0.001), 60-74 yrs – 1.083±0.170 vs 1.150±0.175 (p=0.195), 75-89 yrs – 0.951±0.170 vs 1.183±0.174 (p=0.002) and BMD of lumbar spine – 45-59 yrs – 1.027±0.18 vs 1.154±0.13 (p=0.001), 60-74 yrs – 1.014±0.16 vs 1.148±0.14 (p=0.002), 75-89 yrs – 0.950±0.17 vs 1.182±0.17 (p=0.003). Conclusion. Subjects with vertebral fractures have significantly lower TBS and BMD parameters than the healthy men.

Abstract no.: 47195

DIFFERENT TYPES OF PHYSICAL ACTIVITIES AND RISK OF VERTEBRAL FRACTURES IN POSTMENOPAUSAL WOMEN

Vladyslav POVOROZNYUK, Nataliia GRYGORIEVA, Helen RYBINA
D.F. Chebotarev Institute of gerontology NAMS Ukraine, Kyiv (UKRAINE)

There are conflicting views about the role of different types and modes of exercise trainings in the prevention and treatment of osteoporosis. In addition, there are mixed results about the influence of resistance, aerobic training, weight-bearing impact exercise or their combination in childhood on bone mineral density and risk of osteoporotic fractures in postmenopausal women. The aim of the study was to examine the relationship between types of exercise trainings in the past and present and the risk of vertebral fractures in postmenopausal women (VF). We examined 115 postmenopausal women aged 50-87 years divided into two groups: the first group included 84 women without any osteoporotic fractures, and the second consisted 31 women with previous VF. We used the questionnaire about types and modes of exercise trainings and their duration. Vertebral fractures were confirmed by VFA-method (DXA). Statistical analysis was performed using relative-risk calculator. Our study did not find any significant association between types and modes of exercise trainings in the childhood and the risk of VF (RR=0.80, 95% CI=0.38-1.67, p= 0.55), including cyclic training (RR=0.69, 95% CI=0.25 - 1.91, p= 0.48), coordinating training (RR=1.81, 95% CI=0.73 -4.53, p= 0.20) and playing types in sports (RR=0.65, 95% CI=0.17 - 2.48, p= 0.53). However, it was shown the significant relationship between the VF and regular training exercises in present time (RR=2.73, 95% CI=1.45-5.14, p= 0.001). Conclusion. Our study found the significant correlations between VF in postmenopausal women and current physical training however not with exercise training in the childhood.

Abstract no.: 47199

OUTCOME OF MODIFIED ANKLE FUSION IN CHARCOT NEUROARTHROPATHY USING REGULAR NARROW PLATE THROUGH ANTERIOR APPROACH

Essam ELSHERIF, Hossam ABUBEIH
Assiut University Hospitals, Assiut (EGYPT)

Introduction: Charcot neuroarthropathy (CN) is a common cause of morbidity in diabetic patients, with the foot and ankle the most commonly affected sites. Arthrodesis by internal or external fixation reserved for Eichenholtz's stage II&III. Methods: A retrospective study of 17 patients (12 men) with CN of the ankle who had undergone ankle arthrodesis with modified use of a regular Narrow plate through an anterior approach from January 2010 to January 2016. Surgery was done for disabling deformity and or instability of the ankle and contraindicated when there was an active infection, ulceration, and critical peripheral vascular disease. The mean age was 57.6 years and mean body mass index was 32. Neither tendo-Achillis lengthening nor bone graft was needed. The average follow-up time was 36 months. Results: The mean operative time was 45 minutes. Limb salvage was achieved in all patients. Fusion was achieved radiologically in 9 of 17 feet with a mean time to union of 4.8 months; the remaining patients had a stable painless fibrous union. The average VAS significantly improved from 7.8 to 5.3, and AOFAS were poor in 2, fair in 5, good in 7, and excellent in 3 cases. Complications include one minor wound infection, one prominent screw, and one deep infection at 3 years after clinical and radiologic union. Conclusions: Ankle fusion in CN with regular narrow plate is a simple, economic method with less soft tissue disruption by using a single anterior incision with ease of deformity correction and high rate of patient satisfaction.

Abstract no.: 47200

THE TIKHOFF-LINBERG PROCEDURE: RECONSTRUCTION OPTIONS - REPORT OF 3 CASES

Pedro Manuel SERRANO, Luis COUTINHO, João ESTEVES, Luis BARROS, Marta SANTOS SILVA, Vânia OLIVEIRA, Pedro CARDOSO
Centro Hospitalar do Porto, Porto (PORTUGAL)

The majority of patients with soft tissue or bone sarcomas of the upper extremity can be treated today with limb-saving procedures using combined modality therapies. For patients with a tumor of the shoulder ares, sometimes an interscapulothoracic amputation is the only radical surgical treatment. The Tikhoff-Linberg procedure is a limb sparing surgical option to be considered for bony and soft tissue tumours in and around the proximal humerus and shoulder girdle. Careful selection of patients whose tumor does not involve the neuromuscular bundle in the axilla is required. The distal clavicle, upper humerus and a part or the entire scapula are resected. In patients with tumours of the proximal humerus a custom prosthesis is used to maintain length and stabilise the distal humerus. Elbow flexion plus stability of the shoulder without the need of an orthosis may be achieved with muscle transfers. Function of the hand and forearm after Tikhoff-Linberg surgery should be near normal. In this work treatment and reconstruction options are discussed and three case histories are reported.

Abstract no.: 47202

SINGLE INCISION FLEXOR HALLUCIS LONGUS TENDON TRANSFER IN CHRONIC ACHILLES TENDON RUPTURE

Hossam ABUBEIH, Waleed SALEH, Wael EL-ADLY, Kamal EL-GAAFARY, Ahmed BADRI
Assiut University Hospitals, Assiut (EGYPT)

Introduction: Chronic Achilles tendon rupture can cause prolonged morbidity and disability unless treatment is appropriate. Flexor Hallucis Longus tendon transfer is the gold standard modality for the management of chronic Achilles tendon rupture. The aim of our study is to evaluate results of single incision Flexor Hallucis Longus tendon transfer in chronic Achilles Tendon Rupture. Methods: A Prospective study of a series of cases chronic Achilles Tendon Rupture from April 2015 to June 2016. The study included 15 patients (eleven men) with mean age 40.3±17.5 years. The average follow-up time was 6 months. Flexor Hallucis Longus transfer was done in patients with Chronic Achilles Tendon Rupture and the gap more than 4 cm. Results: The average operative time was 105.3±16.2 minutes. The AOFAS hindfoot score was significantly improved from the mean pre-operative value of 56.9±8.6 to mean 6 months value of 94.3±5.1 (P value <0.001). There was No effect on the big toe function. Complications included three superficial wound infection which had a complete resolution by dressing and appropriate antibiotic coverage. All patients were satisfied with the results of surgery. Conclusions: Single incision Flexor Hallucis Longus in chronic Achilles tendon ruptures has many advantages including simple economic method with minimal morbidity and complications. The technique resulted in great patient's satisfaction and return to pre-injury daily life activities.

Abstract no.: 47203

METAL ON METAL HIP REPLACEMENTS 10 YEARS FOLLOW UP

Ahmed BAKR, Arif RAZAK, Harriet KENNEDY, Rama MOHAN, Aslam CHOUGLE

North Manchester General Hospital, Manchester (UNITED KINGDOM)

Background: Patients with metal on metal hip replacements are currently reviewed according to the Medicines and Healthcare products Regulatory Agency (MHRA) guidelines. Certain implants such as ASR system have been found to have higher revision rates than others. We present the results of multiple brands of metal on metal hip replacement implants used at our institution since 2001. Methods: We retrospectively reviewed all the records of patients who had metal on metal hip replacements at North Manchester General Hospital. Their metal ions level (cobalt and chromium) and MRI scans were also looked at. Results: There were 215 patients. Majority were males (162 patients). 50 patients had resurfacing implants. Most implants used were Zimmer Durom hip systems (85 patients). Other brands included Smith & Nephew BHR, Biomet Recap Magnum and Depuy ASR hip systems. 45 patients (21%) have had revision surgery due to raised metal ions level, positive MRI scans or clinical symptoms. The revision rate in each brand or system was comparable to each other. We have now stopped doing metal on metal hip replacement surgery. The last surgery was in 2011. Conclusion(s): The revision rate is high (21%) in patients with metal on metal hip replacements done at our institution. The lack of significant difference in revision rates between brands of implants implies metal on metal bearings as a common denominator in causing metallosis. Implications: Regardless of brands or hip systems, metal on metal hip replacements have higher revision rates than other types of hip replacements at our institution.

Abstract no.: 47204

A RARE AND CHALLENGING DIAGNOSIS OF MALIGNANT PERIVASCULAR EPITHELIOID CELL NEOPLASM (PECOMA) OF THE CALCANEUS WITH TFE3 EXPRESSION

Pedro Manuel SERRANO, Luis COUTINHO, Helder FONTE, Claudia RODRIGUES, Marta SANTOS SILVA, Vania OLIVEIRA, Pedro CARDOSO
Centro Hospitalar do Porto, Porto (PORTUGAL)

Introduction:Recently, a subset of Perivascular-epithelioid cell neoplasms (PEComas) harbouring TFE3 translocations was described, with evidence of a different pathogenic mechanism that does not involve the TSC2gene, which seems to have a role in the regulation of the mTOR pathway and is usually lost on conventional PEComas. Clinical-Case:A 63-year-old female with normal initial x-rays underwent symptomatic treatment for right talocrural pain. One year after, returned for persisting pain, tumefaction and function loss. Magnetic-resonance-imaging (MRI) revealed a solid destructive 7cm tumour of the calcaneus with soft-tissue component. Ipsilateral secondary foci on the astragalus, navicular, cuneiform and tibial diaphysis were also present. Core-biopsy was performed, revealing a malignant tumour with expression of melanocytic-markers, narrowing the possibilities to Clear-Cell Sarcoma, PEComa or, less likely, metastatic-Melanoma. Analysis of V600 mutations of BRAFgene and translocations of 22q12 (EWSR1) gene were negative, supporting PEComa diagnosis. Since bone-scintigraphy and computed-tomography(CT)scan did not reveal other lesions, transfemural amputation was proposed. On the surgical specimen, besides melanocytic-markers, the neoplastic-cells were also TFE3 positive on immunohistochemistry technique, diagnosing a Malignant PEComa of TFE3-positive-subset. After 5 months, and no adjuvant therapy, a CTscan revealed a 5cm right ischiopubic ramus lytic-lesion, confirmed by Positron-Emission-Tomography(PET)-CT, and more metastasis. Systemic-therapy started, currently with mTOR-inhibitor(temsirolimus). Conclusion:Although mTORinhibitors have benefits in patients with metastatic PEComas, it is still unknown if it applies for TFE3 positive tumours. The studies on this distinctive subtype suggest that patients may not respond, but this knowledge doesn’t yet translate into clinical-practice. This report adds data to TFE3-positive PEComas with an aggressive course.

Abstract no.: 47206

RARE PRESENTATION OF BILATERAL SUBTALAR OSTEOARTHRITIS. PREVIOUS LEFTSIDED SUBTALAR ARTHRODESIS GONE TO NON-UNION

Anantha Krishnan RAGHUPATHI[1], Syed RAZA[2]
[1]Southend University Hospital, Ilford (UNITED KINGDOM), [2]Southend University Hospital, Southend On Sea (UNITED KINGDOM)

Bilateral subtalar joint arthritis is extremely rare and there is not a single literature with a similar case presentation. 47 year old lady presented with pain both ankles and unable to walk properly. She walks with a limp and unable to place her foot on medial side both foot. Previously she had left sided subtalar arthrodesis last year which has not consolidated and going towards nonunion. Examination - She has a malaligned foot bilaterally and unable to place her foot plantigrade. She was tender over midfoot area and no subtalar joint movements both sides. Xray showed severe degenerative changes subtalar joint both sides with one screw left subtalar joint. She had another screw removed few weeks after arthrodesis due to screw moving into talonavicular joint.She had multiple injection both foot in painful areas for diagnostic purposes. She had no pain relief following this procedure. She is sent for biomechanical assessment and for surgical shoes for temporary symptom management. Our definitive plan is to perform primary arthrodesis right subtalar joint and revision right subtalar joint arthrodesis if conservative measures have not worked. Subtalar arthritis can develop due to degenerative arthritis, hind foot deformity, rheumatoid arthritis and post intraarticular calcaneal fractures. Indications for subtalar arthrodesis consist of functional disability and persistent pain in hindfoot which is not responding to conservative measures such as analgesics, cortisone injections, modification of foot wear and use of walking aids.

Abstract no.: 47208

POSTERIOR CONDYLAR OFFSET RATIO IN FEMORAL ANATOMY EVALUATION AFTER TOTAL KNEE ARTHROPLASTY WITH ANTERIOR AND POSTERIOR REFERENCE PROSTHESIS

Pedro Manuel SERRANO, Pedro ALMEIDA, Marta SANTOS SILVA, Pedro BARREIRA, Pedro NEVES, Adélio VILAÇA
Centro Hospitalar do Porto, Porto (PORTUGAL)

Introduction: The preservation of joint anatomy is one of the key aspects in total knee arthroplasty. The potential effect of the prosthesis' referencing system in femoral anatomy has not been studied. Our aim is to determine if femoral anatomy following total knee arthroplasty is better maintained using either anterior referenced or posterior referenced prosthesis. The PCOR (posterior condylar offset ratio) was employed for preoperative and postoperative radiologic comparison. Methods: Sixty-six patients submitted to total knee arthroplasty with anterior referenced Zimmer® NexGen® LPS prosthesis and ninety-one with posterior referenced Tornier® HLS Noetos® were divided into two groups according to prosthetic model and compared retrospectively. PCOR was calculated dividing the distance between the posterior condylar border and the tangent to the posterior cortex of the femoral diaphysis, and the posterior condylar border and the tangent to the anterior cortex of the femoral diaphysis. PCOR was determined preoperatively and postoperatively and compared within each group and between both groups. Results: It was observed an increase in the PCOR (p<0,0001) following surgery in both anterior referenced and posterior referenced models. However, no such difference was noted when the postoperative PCOR was compared between both groups (p=0,61). Conclusion: Both anterior and posterior referencing prosthesis lead to a similar increase in the PCOR following total knee arthroplasty.

Abstract no.: 47211

THE 'FAT BONE INDEX': A NOVEL MEASURE OF LIMB OBESITY RELEVANT TO KNEE REPLACEMENT SURGERY

Neil CHOTAI[1], Sarah MCMAHON[1], Martin HARRIS[1], Mark LOEFFLER[2]
[1]Barts Healthcare- Royal London Hospital, London (UNITED KINGDOM),
[2]Colchester general hospital, Colchester (UNITED KINGDOM)

Aim: Obesity is a significant contributor to the requirement for Total Knee Replacement (TKR), as well as a cause for concern for surgeons. Increased rates of complications have been reported in the literature in obese patients. Many Clinical Commissioning Groups are now rationing TKR on the basis of Body Mass Index (BMI). The aim of our study was to identify whether 'limb obesity' is an independent factor to BMI, and whether this is a more useful way to identify whether a knee replacement will be technically challenging. Methods: We used theatre logbooks to retrospectively identify all TKRs performed by two consultant surgeons in 2015. The Theatre database was used to note the length of procedure for each case. We calculated the 'FBI' based on standing antero-posterior radiographs; by dividing the width of the leg by the width of the bone, through the trans-epicondylar axis. Results: In our series of 69 primary TKRs, the mean FBI was 1.70 and the mean length of procedure was 62 minutes. Our results showed a stronger positive correlation between FBI and length of operation, than between BMI and length of operation, although both were statistically significant ($p<0.05$). Conclusion: We introduce the 'Fat Bone Index' as a simple new way to measure surgically relevant limb obesity, which correlates with length of surgery in knee replacement.

Abstract no.: 47213

OSTEOID OSTEOMAS - PERCUTANEOUS RADIOFREQUENCY ABLATION OUTCOMES

Pedro Manuel SERRANO, Luis COUTINHO, Helder FONTE, Claudia RODRIGUES - MADEIRA, Marta SANTOS SILVA, Vania OLIVEIRA, Pedro CARDOSO, DR.
Centro Hospitalar do Porto, Porto (PORTUGAL)

Introduction:Percutaneous radiofrequency ablation (RFA) has been considered, in recent years, the standard treatment for osteoid osteoma (OO), regardless of anatomic location. The aim of this work is to report our experience in treating osteoid osteomas and to assess the efficacy of RFA as the standard treatment method. Methods:Fourty-eight patients (30 males, 18 females; mean age 22years; range 9-43years) with OO were treated in the same institution between 2003 and 2015. Seven OO located in the upper limb (proximal humerus 2; elbow 3; radial shaft 1; ulnar shaft 1); 37 in the lower limb (proximal femur 19; distal femur 9; acetabulum 2; iliac crest 1; tibia 6) and 4 in the spine (D8 vertebral body, L2 pediculum, L4 pediculum, second sacral-vertebra) were enrolled. A CT-guided RFA was performed, using a cool-tip electrode without cooling system, heating the lesion up to 90 °C for 6 minutes. Clinical success, assessed at a minimum follow-up of 1 year, was defined as complete pain relief. Pain and clinical outcomes were scored pre-operatively and during follow-up with the visual-analogue scale (VAS). Early and late complications as well as local recurrences were recorded. Results:Clinical success was achieved in 45 patients (93.75%). After RFA, mean VAS score improved from 7±1 to 1±1 ($p<0.05$). Most patients referred pain relief in the first 48 hours. Local recurrence was found in one patient. Two patients with tibial shaft OO developed osteomyelitis after RFA. Two other patients had minor complications. Conclusion: CT-guided RFA of osteoid osteomas is a safe and effective procedure.

Abstract no.: 47220

SURGERY FOR EXTREMITY SCHWANNOMA

Evrim SIRIN[1], Baris YILMAZ[2], Bulent EROL[1]

[1]Marmara University Pendik Research and Teaching Hospital Istanbul, Istanbul (TURKEY), [2]FSM Research and Teaching Hospital, Istanbul (TURKEY)

Schwannomas also known as neurilemmoma usually originate from Schwann cells located in the peripheral nerve sheaths. They usually appear as slowly growing subcutaneous masses that are well circumscribed with good lateral mobility and limited axial mobility on palpation .The diagnosis relies on clinical and radiological findings . The ratio of occurrence in the upper limbs to lower limbs is 2:1 and the tumor is usually seen in 30 to 60 years old patients. There is no sex or race predominance . Between 2013 and 2016, we operated 9 patients diagnosed with extremity Schwannoma. The indication for surgery was pain and compressive nerulogic symptoms on the affected site. The diagnosis was made according to clinical examination and the magnetic resonance image. One patient with a bizarre MRI view underwent preoperative biopsy for confirmation of diagnosis. All tumors were arising from a major peripheral nerve except one digital nerve lesion. 4 patients had the tumor in the posterior tibial nerve, one patient had popliteal schwannoma. The remaining 4 tumors were found in the upper extremity, 2 in the ulnar nerve , 1 radial nerve and one digital nerve respectively. This distribution was not consistent with the literature. All patients were free of their symptoms short time after surgery. No neurologic damage was observed no recureence occured during the follow up period. To conclude , a Schwannoma arising from a major peripheral nerve can be excised with a small risk of nerve injury nevertheless a meticulous surgical technique should be always performed.

Abstract no.: 47222

PREVALENCE OF HEPATITIS 'B' & 'C' & IMPORTANCE OF COAGULATION PROFILE IN PATIENTS PRESENTING TO ORTHOPAEDIC WARD OF A TERTIARY CARE HOSPITAL

Junaid KHAN[1], Riaz AHMED[2]
[1]Rawalpindi Medical College, Rawalpindi, Rawalpindi (PAKISTAN),
[2]Rawapindi Medical College, Rawalpindi, Rawalpindi (PAKISTAN)

Background: Hepatitis B and C infections are emerging as a challenge world over due to the wide spread clinical spectrum and complications associated with these infections leading to a high morbidity and mortality rate. This study was carried out to determine the prevalence of HBV and HCV infections in patients presenting to the Orthopaedic Department.Methods: This prospective study was conducted on a total of 1991 patients who underwent elective surgical procedure. Age and sex were not specified in the inclusion criteria. Qualitative Immunochromatography was done to screen the serum of patients and determine presence of Hepatitis B surface antigen (HBsAg) and Anti Hepatitis C virus antibodies (Anti HCV antibodies). Results: 30 (1.51%) patients tested positive for HBsAg and 59 (2.96%) patients were found to have Anti HCV antibodies. 48.98% male and 50% female patients with these infections had prolonged prothrombin time requiring transfusion of Fresh Frozen Plasma (FFPs) pre-operatively. Bleeding was observed from the surgical wound site in only 4.81% of the patients with these infections.Conclusion: Patients who present to Orthopaedic wards have high prevalence of Hepatitis B and C. Adequate screening should be carried out in all these patients so that measures can be taken to prevent its transmission. Treatment of these infected patients and prophylaxis in high-risk groups can be carried out so they no longer pose a threat. Importance of transfusing blood products especially Fresh frozen plasma pre-operatively in these patients cannot be denied.

Abstract no.: 47223

THERMOABLATION IN OSTEOID OSTEOMAS OF THE SPINE - OUR EXPERIENCE

Pedro Manuel SERRANO, Arnaldo SOUSA, Francisco LEITE, Andre CARVALHO, Marta SANTOS SILVA, Pedro NEVES, Pedro BARREIRA, Vania OLIVEIRA, Pedro CARDOSO
Centro Hospitalar do Porto, Porto (PORTUGAL)

Introduction:Osteoid osteoma (OO) affects the spine in 10 to 25% of the cases and especially the posterior elements. Percutaneous radiofrequency ablation under CT guidance is the treatment of choice. Proximity to the neurological structures, however, is seen by many as a limit to this approach. With this in mind, new protective techniques have been described. We aim to report our experience in treating OO of the spine and new techniques used near neurological structures. Methods: Revision of literature and report of 8 cases of OO of the spine treated successfully in our Hospital. 4 were treated with thermoablation (D8 vertebral body, L2 pediculum, L4 pediculum, second sacral vertebra) and 4 underwent surgical resection (L2 pediculum, L2 lamina, L3 lamina, superior articular facet of L4). Gas injection in the epidural space because neurological structures proximity was performed in one case. Results:All patients refer complete nocturnal pain relief. One patient submitted to unilateral posterior pedicular instrumentation referred discomfort in the late follow up. Other minor complications were solved without sequels. Conclusion:Complete resection although historically considered treatment of choice for OO with very good success rates, can present complications. To minimize surgical damage a precise location is crucial. Percutaneous radiofrequency ablation under CT guidance is both efficient and safe being less invasive, performed under local anesthesia and allowing for faster recovery, lower costs and shorter hospital stays. The post-operative complications are similar in both methods. New protective techniques allow thermoablation of OO located near neurological structures with increased confidence and safety.

Abstract no.: 47225

NOVEL DYNAMIC STABILISATION METHOD FOR MEDIAL INSTABILITY OF THE FIRST METATARSOPHALANGEAL JOINT

Zoltan KOOS
Kaposi Mor Teaching Hospital, Pecs (HUNGARY)

Introduction: Medial collateral ligament injury of the first metatarsophalangeal joint is quite rare. Hence, it could be often overlooked. Conservative treatment could only work after early diagnosis. However, mostly chronic instability and later on traumatic hallux valgus deformity develops requiring surgical treatment, which could be done in several ways. A novel method of strong dynamic stabilization is presented, which has not been reported so far to our knowledge. Case Report: A 23-year-old handball player sustained valgisation trauma to his right hallux. After 6 months failed conservative treatment, he developed great toe instability. Consequently, he was unable to play. On examination the first metatarsophalangeal joint was swollen, its movements were painfully restricted. The metatarsal attachment of the medial collateral ligament was tender. Medially the joint showed abnormal laxity with positive valgus stress. X-rays were negative. MRI confirmed rupture of the medial collateral ligament. He underwent a medial stabilization procedure using Mini TightRope fixation in conjunction with medial capsulorraphy. A corrective bandage was applied in a heel-weight-bearing shoe for 6 weeks. Physiotherapy was commenced afterwards. He returned to play after 4 months. At the one-year follow-up he was complaint free. Conclusion: The rarely occurring first metatarsophalangeal collateral ligament rupture could be treated conservatively in acute stage. For chronic metatarsophalangeal instability, the presented procedure compared to other methods has the advantage of requiring no tendon graft. Furthermore, it provides immediate appropriately strong fixation allowing fast rehabilitation, needing no plaster cast. Mini TightRope fixation has not been reported for this indication so far.

Abstract no.: 47227

COMORBID PSYCHIATRIC DIAGNOSES ARE ASSOCIATED WITH POOR OUTCOMES OF ADULT CERVICAL SPINE SURGERY AT 2 YEAR FOLLOW UP

Qais NAZIRI[1], Carl PAULINO[1], Bassel DIEBO[1], Joshua LAVIAN[1], Peter PASSIAS[2], George BEYER[1], Frank SEGRETO[1], Greg POORMAN[2], Denis CHERKALIN[1], Barrett TORRE[1], Dennis VASQUEZ-MONTES[2], Ashish PATEL[3], Daniel CUKOR[1], Daniel MURRAY[1], William URBAN[1]

[1]SUNY Downstate Medical Center, Brooklyn (UNITED STATES), [2]Hospital for Joint Diseases at NYU Langone Medical Center, New York (UNITED STATES), [3]Methodist Hospital, Chicago (UNITED STATES)

Introduction: Psychological burden of cervical radiculopathy (CR) and myelopathy (CM) is established. The impact of this burden on long term outcomes after surgery is poorly understood. Methods: A retrospective review of NY State Department of Health database (SPARCS) was performed. ICD-9 codes identified CR or CM patients (pts) admitted from 2009-2011 who underwent anterior or posterior cervical surgery, minimum 2 year follow-up. Pts who had a clinical psychiatric diagnosis based on DSM IV were grouped (Psych). Univariate analysis compared demographics, complications, revisions and readmissions. Multivariate binary logistic regression models identified independent predictors of outcomes. Age, gender and Deyo score were covariates. Results: 20,342 pts (Psych, n=4,819, 23.7% vs. NoPsych, n=15523, 76.3%) were included. Age (52.4 years) was similar, Psych had more females (58.6 vs 47.8% p<0.001). Psych Disorders were Depressive (57.8%), Anxiety (28.1%), Sleep (25.2%), and Stress Disorder (2.9%). Percentages of anterior, posterior, primary and/or revision surgeries were similar between groups. With minimum 2yr FU, Psych had significantly higher complication rates (13.9 vs 10.3%, p<0.001), specifically device related (5.6% vs 3.7%, p<0.001), and infection (2.0 vs 1.3%, p<0.001). Psych patients had higher revision surgeries (11.9 vs 9.4%) and re-admittance rates (47.1 vs 39.0%), all P < 0.001. Regressions revealed that Psych had increased risk of any complication [OR: 1.39 (1.26-1.54)], revision surgery [OR: 1.25 (1.13-1.39)], and any readmission [OR: 1.36 (1.27-1.46)]. Conclusion: Nearly 1 in 4 CM/CR surgical candidates were psychologically impaired, and more likely to have surgical complications, readmission or revision after surgery. Psychological screening/support may benefit CM/CR treatment.

Abstract no.: 47228

COMORBID PSYCHIATRIC DIAGNOSES ARE ASSOCIATED WITH POOR OUTCOMES OF ADULT SPINAL DEFORMITY SURGERY AT 2 YEAR FOLLOW UP

Qais NAZIRI[1], Carl PAULINO[1], Bassel DIEBO[1], Joshua LAVIAN[1], George BEYER[1], Frank SEGRETO[1], Lee BLOOM[1], Dennis VASQUEZ-MONTES[2], Louis DAY[1], Douglas HOLLERN[1], Samantha HORN[2], Ashish PATEL[3], Daniel CUKOR[1], Peter PASSIAS[2], William URBAN[1]

[1]SUNY Downstate Medical Center, Brooklyn (UNITED STATES), [2]Hospital for Joint Diseases at NYU Langone Medical Center, New York (UNITED STATES), [3]Methodist Hospital, Chicago (UNITED STATES)

Introduction: Recent research revealed that 1 in 3 patients (pts) admitted to the hospital to undergo surgical treatment for Adult Spinal Deformity (ASD) are psychologically impaired. However, previous data was limited to the hospital course only. Methods: A retrospective review of NY State Department of Health database (SPARCS) was performed. ICD-9 codes identified ASD pts admitted from 2009-2011 who underwent ≥4 levels of thoracolumbar fusion, minimum 2yr follow-up. At admission, pts who had a clinical psychiatric diagnosis based on DSM IV were grouped (Psych). Univariate analysis compared demographics, complications, revisions and readmissions. Multivariate binary logistic regression models identified independent predictors of outcomes. Age, gender and Deyo score were covariates. Results: 4,691 pts (Psych, n=817, 17.4% vs. NoPsych, n=3874, 82.6%) were included. Age (59.51 years) and gender (58.4%) were similar between groups. Within Psych, frequencies were 57.4% Depressive Disorder, 33.4% Sleep Disorder, 33.2% Anxiety Disorder, and 6.2% Stress Disorder. At minimum 2yr follow-up, Psych had significantly higher complication rates (47.1 vs. 32.5%), specifically device related complications (19.3 vs. 10.8%), sepsis (4.3 vs. 0.9%), infection (8.3 vs. 3.8%), hematoma (4.0 vs.1.4%), and DVT (4.5 vs. 2.0%). Psych had higher readmission rates (85.6 vs. 49.6%) and higher revision rates (34.5 vs. 16.0%), ($p<0.001$). Regressions revealed that Psych had increased risk of any complication: [OR: 1.59 (1.36-1.86)], revision surgery [OR: 2.54 (2.14-3.03)], and any readmission [OR: 4.32 (3.48-5.36)], all ($p<0.001$). Conclusion: Despite similar demographics, ASD pts with psychiatric diagnoses were more likely to experience surgical complications and revision. Psychological screening/support may benefit ASD treatment.

Abstract no.: 47230

COMPARISON BETWEEN INTRAVENOUS AND INTRA ARTICULAR TRANEXAMIC ACID APPLICATION IN PRIMARY UNILATERAL KNEE JOINT REPLACEMENT

Rahman Rasool AKHTAR, Junaid KHAN
Rawalpindi Medical College, Rawalpindi, Rawalpindi (PAKISTAN)

Introduction:To compare the pros and cons of intra articular and intravenous Tranexamic acid (TXA) administration and determining that which route of administration is more beneficial and advantageous.Methods: This randomized controlled study was conducted for 1 year duration. Patients were divided into 2 groups; A & B. Group A patients were given TXA intravenously while those in B received intra-articular TXA. Both the groups were observed immediately, 12 and 24 hours post-operatively for volume of drain output, fall in haemoglobin and amount of blood transfused.RESULTS: A total of 48 patients who had undergone total knee replacement were included in the study. 24 patients were placed in group A while 24 in group B. Mean age of patients was 60.77± 7.99 years. Mean duration of surgery in patients of Group A was 83.71± 4.07 minutes while that of group B was 82.54±4.14 minutes. Mean of immediate, 12 hour post-operative (post-op) and 24 hour post-op volume of drain output in group A and B was not significant ($p>0.05$). Mean of immediate, 12 hour post-op and 24 hour post-op fall in haemoglobin level in group A and B was not significant ($p>0.05$). 4 patients in group A while 3 patients in group B were transfused 1 pint of blood post-operatively ($p>0.05$).CONCLUSION: Intravenous and intra articular methods are equally effective in reducing blood loss after complete knee replacement procedure. The only aspect that may give superiority to the intra articular administration is the ease of administration, local application and lack of systemic side effects.

Abstract no.: 47232

DEPENDENCY OF ACCURACY OF MARKER-BASED RADIOSTEREOMETRIC ANALYSIS (RSA) IN PHANTOM EXPERIMENTS ON THE FIXATION OF MARKERS TO THE IMPLANT OR TO THE JIG

Han CAO[1], Jing XU[2], Yutong HONG[2], Raimund FORST[2], Stefan SESSELMANN[2]

[1]Department of Orthopaedic Surgery University of Erlangen-Nuremberg, Erlangen, Bayern (GERMANY), [2]Department of Orthopaedic Surgery University of Erlangen-Nuremberg, Erlangen (GERMANY)

Introduction: Phantom experiments are used in radiostereometric analysis (RSA) to assess the accuracy of specific RSA setups. Applying marker-based analysis, the spatial position of the implant is defined by markers attached to the implant surface. Measuring implant movements in the range of microns, devices connecting the implant to micrometers (such as jigs) might have a negative influence on RSA results, caused by bending, deformation, etc. Quantifying this influence on RSA results was the main topic of this study. Methods: RSA phantom experiments were conducted using a fixed (Multix RD 82477-01 Vertix ACS, Siemens, Berlin, Germany) and a mobile x-ray tube (Mobilett Plus, Siemens, Berlin, Germany). Radiographs were analyzed using RSA software MBRSA 3.4 (MedisSpecials, Leiden, Netherlands). To conduct marker-based analysis, four tantalum markers were fixed to the implant surface and four markers (1.0mm in diameter) to the polyetheretherketone (PEEK) jig connecting the implant (tibial component of BPK-S TKA – Peter Brehm, Weisendorf, Germany) to the micrometers of a RSA phantom (Peter Brehm). To assess the influence of possible bending or deformation of the jig on RSA accuracy, results derived from implant markers were compared to results derived from jig markers, using paired-samples t-test. Results: No statistically significant differences were found in results of marker-based RSA phantom experiments derived from markers fixed to the tibial component compared to markers attached to the fixation device. Conclusions: Based on these findings, the influence of bending or deformation of the PEEK fixation device of the Peter Brehm RSA phantom is negligible.

Abstract no.: 47236

PREDICTIVE VALUE OF ULTRASOUND SCANNING IN HAND AND WRIST CONDITIONS

Khalid AL-HOURANI[1], David GAMBLE[2], Paul ARMSTRONG[3], Greg O'NEILL[3], Jim KIRKPATRICK[3]

[1]University Hospitals Bristol, Bristol (UNITED KINGDOM), [2]Guy's and St Thomas' hospital, London (UNITED KINGDOM), [3]Glasgow Royal Infirmary, Glasgow (UNITED KINGDOM)

Introduction: Fast and accurate diagnosis of conditions of the hand and wrist is essential in guiding management. We aimed to analyse the predictive value of ultrasound in identifying different pathologies in the hand and wrist by correlating pre-operative ultrasound findings with per-operative surgical findings. Methods: We retrospectively reviewed case notes of patients under the care of the senior author on whom a hand/wrist ultrasound had been performed between January 2007-May 2013. Of these, patients who proceeded to surgery were included as this was the correlating endpoint. Positive and negative predictive values (PPV/NPV) and sensitivity and specificity were calculated for ultrasound in identifying (i) post-repair complete tendon ruptures (versus intact repairs with scar adherence), (ii) ganglionic cysts, (iii) soft tissue masses and (iv) nerve injuries. Results: Of 70 patients who underwent ultrasound, 36 proceeded to surgery. Fifteen patients were post-traumatic and the remaining 21 were elective. The median age was 38 (Range 14-87) with a 1.25:1 male to female ratio. All results had a 95% confidence interval. Ultrasound had a 100% PPV for identifying post-repair complete tendon ruptures and for ganglionic cysts (sensitivities 75% and 87% respectively). Of 6 soft tissue masses, ultrasound also showed a 100% PPV. For the two nerve injuries, PPV was 100%. Conclusions: Our study shows that ultrasound is diagnostic for post-repair tendon ruptures and ganglionic cysts, and shows promising results for benign soft tissue masses and nerve injuries. We propose the use of ultrasound as an extension to physical examination in a dynamic clinic setting.

Abstract no.: 47238

APPLICATION OF CRYOALLOGRAFT IN ORTHOPEDICS AND TRAUMATOLOGY

Nedelcho TZACHEV[1], Nikolay IVANOV[2], Vladimir STOICHKOV[2], Nikola HARISKOV[2]

[1]Military Medical Academy, - (BULGARIA), [2]Military Medical Academy, Sofia (BULGARIA)

Aim: Surgical transplantation of bone, according to literature references, is at least 10 times more often than the transplantation of any other organ. The aim of this report is to share our experience with the use of cryoallograft in certain orthopedic cases and as a treatment outcome for traumatic patients. Materials and Methods: Over a period of 10 years we have used frozen bone allograft in 10 cases. Patients were aged between 25 and 68. We have used the cryograft in the following clinical cases: 4 patients with primary bone tumors (3 at the proximal end of the femoral bone, and 1 at the distal femur); 3 cases with non-coalescence (2 of the tibia and 1 of the humerus); 2 cases of primary bone defect of the distal radius after an open fracture of the forearm, and in 1 case of primary tumor of proximal humerus. Processing of the frozen bone has been also performed in relation to the required length and the contact area to own bone. Results: In all cases, the use of cryoallograft by itself did not lead to intra- or post-operative complications. We have achieved bone concrescence of the allograft to the bone in eight clinical cases, which we radiographically recorded between the 6th and the 10th postoperative month.In the case of chondrosarcoma in the area of the proximal humerus, due to recurrence of the disease, necessitated the removal of the graft and disarticulation of the limb. Conclusion: We reported good functional results.

Abstract no.: 47239

TOTAL HUMERAL REPLACEMENT WITH BIARTICULAR PROSTHESIS AFTER EXTENSIVE CHONDROSARCOMA RESSECTION. FUNCTIONAL ASPECTS OF LIMB PRESERVATION

Pedro Manuel SERRANO, João ROSA, Luis COUTINHO, Pedro MOTA, Marta SANTOS SILVA, Hugo VASQUES, Vania OLIVEIRA, Pedro CARDOSO

Centro Hospitalar do Porto, Porto (PORTUGAL)

Introduction:Complete ressection of large humerus sarcomas is challenging in regard to reconstruction. Total replacement of the humerus (THR), with shoulder and elbow arthroplasty is the only solution, when major nerves and vessels are not involved. Our aim is to present a rare clinical case, that required difficult planning and surgery, with satisfactory functional outcomes. Clinical-case: 33-year-old male, with Ollier's disease, complaining of right shoulder pain and swelling for 1 year, worsened in the last 3 months. Exams suggested a massive proximal humerus chondrosarcoma, with soft tissue invasion and distal canal extension, leaving only 8 centimetres of humerus intact. Diagnosis was confirmed by biopsy and staging was negative. Main neurovascular bundles were not involved, and since there was not enough remaining distal humerus to anchor a shoulder prosthesis, modular prosthetic replacement of the whole humerus with inverted-arthroplasty of the shoulder was performed. Results:No important complications were registered. The anatomopathological study confirmed the diagnosis and tumour free margins. At 3-months follow-up, the patient presents, as expected, a limitation in shoulder active mobility, regained satisfactory elbow function and presents full wrist and hand function. The functional score (MSTS) is 17/30. Discussion:Despite the short follow-up, evolution so far is satisfactory, and the patient, who had been confronted with a possible amputation before MRI, is satisfied with the functional outcome. Conclusion:Recurrence and metastasis are high in chondrosarcomas, even when margins are adequate. Despite the short follow-up the only reconstructive option available to preserve the limb was a considerable success. Amputation would not guarantee greater survival.

Abstract no.: 47240

EVALUATION OF FEATURE POINT MOVEMENT IN CADAVER EXPERIMENTAL STUDY BASED ON MODEL-BASED RADIOSTEREOMETRIC ANALYSIS (RSA)

Han CAO[1], Jing XU[2], Yutong HONG[2], Raimund FORST[2], Stefan SESSELMANN[2]

[1]Department of Orthopaedic Surgery University of Erlangen-Nuremberg, Erlangen, Bayern (GERMANY), [2]Department of Orthopaedic Surgery University of Erlangen-Nuremberg, Erlangen (GERMANY)

Introduction: Model-based radiostereometric analysis (mbRSA) is used to assess micromotions of orthopaedic implants. 3D models, composed of thousands of triangles, are matched to radiographic projections of these implants and correlated to the position of the bone, represented as rigid body by tantalum beads, for migration calculation. The so called maximum total point motion (MTPM) represents the one triangle of the 3D model having moved the most, but without reporting any detail about the position of this triangle. Feature points represent specific triangles in relevant positions of the 3D models, thus, providing detailed information about migration of certain implant parts. In this study the precision of the use of feature points mbRSA was assessed for the first time in cadaveric experiments. Methods: Four pairs of cadaveric tibiae and femurs were equipped with eight bone markers (1.0mm in diameter) according to the clinical procedure and a total knee arthroplasty (TKA) BPK-S (Peter Brehm GmbH, Weisendorf, Germany). Radiographs were taken using a fixed (Multix RD 82477-01 Vertix ACS, Siemens, Berlin, Germany) and a mobile x-ray tube (Mobilett Plus, Siemens, Berlin, Germany). Analysis was performed using MBRSA 3.4 software (MedisSpecials, Leiden, Netherlands). Precision was calculated for comparison. Results: Micromotions of feature points on the surface of femoral and tibial TKA components could be analyzed with high precision by using mbRSA. Conclusions: This mbRSA cadaver study proves that tracking of micromovements of feature points provides reproducible results, thus, giving valuable additional information regarding migrations of specific implant parts.

Abstract no.: 47241

INFLUENCE OF BONE MARKER DISTRIBUTION IN MODEL-BASED RADIOSTEREOMETRIC ANALYSIS (RSA) PHANTOM EXPERIMENTS

Han CAO[1], Jing XU[2], Yutong HONG[2], Raimund FORST[2], Stefan SESSELMANN[2]

[1]Department of Orthopaedic Surgery University of Erlangen-Nuremberg, Erlangen, Bayern (GERMANY), [2]Department of Orthopaedic Surgery University of Erlangen-Nuremberg, Erlangen (GERMANY)

Introduction: Phantom experiments are used in radiostereometric analysis (RSA) to assess the accuracy of specific RSA setups. Phantoms for this purpose normally are manufactured with fixed markers in a rigid body representing the bone. According to the RSA guidelines, the stability and distribution of marker beads within a rigid body will influence the accuracy of the motion calculation. However, this influence has not been quantified yet. Thus, evaluating diverse configurations of bone markers in phantom studies is the primary objective of this trial. Methods: Five displaceable bone markers (1.0mm in diameter) were inserted into imitative bone devices of a RSA phantom with B-PKS® TKA (both Peter Brehm GmbH, Weisendorf, Germany). The position of five markers in stationary tunnels inside the imitative bone was changed according to a certain protocol. The position of the implant was changed stepwise in the same way for each bone marker configuration. Radiographs were analyzed using MBRSA 3.4 (MedisSpecials, Leiden, Netherlands). Accuracy in dependency of different marker positions was calculated for comparison. Results: The position of bone markers had no significant influence on accuracy in phantom experiments using model-based RSA with the Peter Brehm RSA phantom. Conclusions: The distribution of bone markers in the five tunnels of the Peter Brehm RSA Phantom has no statistically significant influence on RSA accuracy. Further experiments assessing other marker configurations with a more expanded marker distribution around the implant have to be conducted in future to learn more about this influence.

Abstract no.: 47242

CEMENTLESS VERSUS CEMENTED BIPOLAR ARTHROPLASTY IN FEMORAL NECK FRACTURES: A SYSTEMATIK REVIEW WITH META-ANALYSIS.

Khaled Hamed SALEM[1], Ahmed Fikry ELMENSHAWY[2], Markus TINGART[2]
[1]Department of Orthopaedic Surgery, Faculty of Medicine, Cairo University, Cairo (EGYPT), [2]Department of Orthopaedic Surgery, RWTH Aachen University, Aachen (GERMANY)

Introduction: The management of femoral neck fractures remains controversial. Treatment options include a wide variety of fixation methods, unipolar or bipolar hemiarthroplasty or total hip replacement. The case for arthroplasty has been strengthened by the use of bone cement that allows early patient mobilization. New studies showed promising results using cementless fixation. The aim of this work is to detect statistical differences between cemented and cementless bipolar protheses in treating femoral neck fractures in elderly patients. Methods: We searched PUBMED, EMBASE, Cochrane Library and MEDLINE from inception till 31.12.2015 for English papers comparing cemented to uncemented bipolar hip prostheses in treating femoral neck fracture in the elderly. Results : Eleven studies involving a total of 1561 bipolar hemiarthroplasties were eligible for meta-analysis. There were 770 cemented and 791 uncemented implantations. Uncemented hemiarthroplasty was associated with significantly lower blood loss (p=<0.0001), shorter operative time (p=<0.0001) and less risk of heterotopic ossification (p=0.007). On the other hand, patients treated with cemented bipolar hemiarthoplasty had less thigh pain (p=<0.0001) and an overall lower reoperation rate (p=0.02). No difference was seen as regards the total hospital stay, postoperative mortality, myocardial infarction, pneumonia, pulmonary embolism, infection, dislocation or periprosthetic fractures. Conclusions: Compared with cemented implantation, the existing evidence indicates that uncemented bipolar prostheses are associated with a shorter operative time, less blood loss and less risk of heterotopic ossification with no significant difference in the incidence of systemic and local complications. Thigh pain and reoperation rate remain, however, a concern in cementless fixation.

Abstract no.: 47243

MUELLER WEISS SYNDROME - CASE REPORT

Pedro Manuel SERRANO, André CARVALHO, Arnaldo SOUSA, Francisco LEITE, Marta SANTOS SILVA, Daniel SOARES, Luis COSTA, José MURAS GEADA

Centro Hospitalar do Porto, Porto (PORTUGAL)

Background: Spontaneous osteonecrosis of the tarsal navicular bone is a rare entity, known as Müller-Weiss syndrome, and it's etiology remains unclear. Our aim is to present a brief review of this disease and report a difficult case that required revision surgery to achieve optimal results. Methods:Presentation of the case of a 66-year-old woman with classic radiographic findings consistent with Müller-Weiss disease. The patient was treated initially with a triple arthrodesis of her right foot. At 6 months, postoperatively radiographs demonstrated a successful medial arch fusion but the patient presented ankle instability with a varus axis. External ligament repair surgery was refused by the patient, at this time. The following months several consultations were missed and the patient returned only at 2 years post-op. The disease had progressed, with evident osteoarthritis, an important varus deformity and instability. Ankle fusion was performed. Results: At 2 years' follow-up, the patient was asymptomatic. The American Academy of Orthopaedic Surgeons Ankle Hindfoot (AOFAS) score was 87, compared with a preoperative score of 36. Conclusion: This complex case, with an evolution not as linear as expected, may raise awareness, provide a better understanding of how to manage this type of deformities and be helpful for surgeons when choosing the most appropriate operative procedure.

Abstract no.: 47246

SPONTANEOUS TIBIALIS ANTERIOR TENDON RUPTURE: TREATMENT AND OUTCOMES

Pedro Manuel SERRANO, João ROSA, Helder FONTE, João ESTEVES, Luis BARROS, Marta SANTOS SILVA, Luis COSTA, André GOMES
Centro Hospitalar do Porto, Porto (PORTUGAL)

Background: Non-traumatic tibialis anterior (TA) tendon rupture is a rare injury that has been documented primarily in case reports. It is more frequent in males over 50 years of age, associated with recurrent tendinitis of the extensor tendons. A late diagnosis is common because of compensatory mechanisms that help maintain active dorsiflexion. If left untreated, this lesion is associated with high functional deficit. Our aim is to present two clinical cases of chronic ruptures of TA tendon and discuss treatment options and outcomes. Methods: Two clinical cases are presented, treated with different surgical techniques, both with good functional outcomes (measured objectively using the AOFAS scale). Tenoplasty was performed, in one of the cases, with interposition of a 4th toe long extensor autograft, and in the other case a tendon reconstruction was performed with plantaris tendon autograft interposition. Results: Functional results were excellent in both cases (97 points in the AOFAS scale in the 1st case and 93 in the 2nd). Subjectively both patients were very satisfied with the procedure and would accept to repeat it. Conclusion: There are no clear guidelines for treating chronic ruptures of this tendon, it is argued however, that the option should in most cases be surgical. Primary repair is often used for ruptures less than 3 months old, and autograft for older ruptures. Since the diagnosis is often late, clinical suspicion is advised. Surgical treatment leads to successful outcomes in most patients and the operative technique should consider timing of injury and intraoperative assessment findings.

Abstract no.: 47249

SURGICAL TREATMENT FOR HAGLUND'S DEFORMITY

Pedro Manuel SERRANO, João ESTEVES, Luis BARROS, Marta SANTOS SILVA, Pedro NEVES, Pedro BARREIRA, Luis COSTA, Andre GOMES
Centro Hospitalar do Porto, Porto (PORTUGAL)

Background: Haglund's deformity is a prominence of the posterio-superior calcaneal tuberosity that contributes to inflammation of the overlying tissues and the Achilles' tendon. It is most common in women and associated with the use of high heels. Patients usually complain of a posterolateral prominence and tenderness. Our aim is to present 26 cases, treated surgically after unsuccessful non operative treatment. Methods: During a period of 11 years 26 patients were operated, with a mean follow-up of 3 years. The mean age was of 29 years (14.1 to 50.1). 5 patients had bilateral surgery. The surgical technique used was excision of the Haglund prominence usually by a lateral approach and sometimes associated with a retrocalcaneal bursectomy and/or valgization osteotomy. Radiological results were registered. Pain was evaluated using the visual analog scale (VAS) and functional outcomes using the AOFAS score. Results:Mean hospitalisation time was of 1.5 days. Patients were satisfied with the results and would accept to repeat surgery. AOFAS and VAS scores improved significantly and a decrease in the Fowler angle was observed. The complications registered were two superficial wound infections and a scar tissue neuroma. Conclusion: This work shows that in cases where conservative treatment fails, surgery has good clinical, functional and radiological outcomes. An adequate surgical indication and surgical technique are essential. Open surgery is undemanding, fast, and results in low morbidity. Residual complications associated with skin healing may occur.

Abstract no.: 47251

CLINICAL RESULTS OF OSTEOSARCOMA PATIENTS OF LOWER EXTREMITY UNDER 12 YEARS-OLD

Kenichiro HAMADA, Norifumi NAKA, Satoshi TAKENAKA, Hideki YOSHIKAWA
Osaka University Graduate School of Medicine, Suita (JAPAN)

Osteosarcoma is one of the most common primary bone tumor and occurs predominantly in children and young adults. The 5 year survival of the non-metastatic patients has increased with the development of multiple therapeutic strategies including imaging, surgery, chemotherapy, and radiotherapy. Historically, amputation was the procedure of choice for primary lesion, however, improved oncologic outcome have made limb salvage therapy a valuable treatment option. For skeletally immature osteosarcoma patients, they need to reconstruct affected limbs after resection of osteosarcoma with a least length discrepancy because contralateral normal extremity continues to grow. We analyzed 21 osteosarcoma patients arising from lower extremity under 12 years old with a minimum follow up of 5 years during the period 1962-2012. The patients were in the age group of 5-12. Limb salvage surgery (expandable endoprosthesis, modular endoprosthesis, biological reconstruction and spacer replacement) was performed 19 patients and amputation was in two patients. Complication, such as fracture, deep infection and aseptic loosening was occurred in 8 patients. Limb lengthening surgery performed in 14 patients. Contralateral epiphysiodesis was performed in one patient. At last follow up, limb length discrepancy with more than 4cm was 3 patients. The patients under 12 years old need for multiple surgery to minimize limb length discrepancy with frequent complication, but in some patients provides an effective alternative to amputation.

Abstract no.: 47252

ANTERIOR DISLOCATION OF THE SHOULDER WITH IPSILATERAL HUMERUS SHAFT FRACTURE: A CASE REPORT

Nadhir MERAGHNI[1], Fouad AGABI[2], Nadji AIT AMARA[2], Ahmed BOUTINE[2], Riad BENKAIDALI[2], Mohamed KIHAL[2], Zoubir KARA[2]
[1]Orthopedic Department, CHU Mustapha Bacha, Algiers (ALGERIA),
[2]Orthopedic Department, CHU Mustapha Bacha, algiers (ALGERIA)

Introduction: Anterior dislocation of the shoulder joint with ipsilateral humerus shaft fracture is a very rare injury. Authors report a case of this rare lesion. Methods: A 34-year-old male patient presented to our Emergency department after a road traffic accident. Clinical examination showed a swollen and deformed left arm. There were no open wounds and no neurovascular deficit. Radiographic evaluation showed a fracture in the mid shaft of the left humerus and an anterior dislocation of the ipsilateral shoulder. Patient was taken up under general anaesthesia. Closed reduction of the dislocation was performed successfully and the humeral shaft fracture was treated by open reduction and internal fixation with a dynamic compression plate and screws. Results: With a nine months follow up, good evolution. Fracture union was achieved at 12 weeks and full function of the shoulder was achieved at fourth months follow up. Discussion: Anterior dislocation of the shoulder associated with fracture of ipsilateral humeral shaft is a rare orthopedic injury. The first case was reported in 1940 by Winderman. It usually occurs as a result of a major trauma. The management is always challenging in cases with ipsilateral shoulder dislocation along with the humeral shaft fracture as the traction force applied to reduce the shoulder is not effectively transmitted to the dislocated joint. Conclusion: A diaphyseal fracture of the humerus with an anterior shoulder dislocation is a very rare injury. With prompt treatment and a diligent rehabilitation protocol, near normal function was restored.

Abstract no.: 47253

ELBOW CUBITAL COMPRESSIVE NEUROPATHY: IN SITU NEUROLYSIS VERSUS ANTERIOR TRANSPOSITION – A COMPARATIVE STUDY

Pedro Manuel SERRANO, Luis BARROS, João ESTEVES, Marta SANTOS SILVA, Alexandre PEREIRA, Miguel TRIGUEIROS, César SILVA
Centro Hospitalar do Porto, Porto (PORTUGAL)

Compression of the cubital nerve at the elbow is the most common form of cubital compression and is the second commonest compression neuropathy of the upper limbs. Our aim is to compare the results from two of the most commonly used surgical techniques: in situ decompression and subcutaneous transposition. Methods: The files of patients treated surgically in our Hospital between January 2004 and December 2011 were reviewed. Cases of proximal compression of the nerve, angular deformity of the elbow and systemic diseases associated with non-compressive neuropathy were excluded. Ninety-seven cases were included (96 patients). According to the modified McGowan score, 14.4% of the patients presented grade Ia, 27.8% grade II, 26.8% grade IIb and 30.9% grade III. In situ neurolysis of the cubital was performed in 64 cases and subcutaneous anterior transposition in 33. Results: According to the modified Wilson and Knout score, the results were excellent in 49.5%, good in 18.6%, only satisfactory in 17.5% and poor in 14.4%. In comparing the two techniques, we observed similar numbers of excellent and good results. Grades IIb and III were associated with more results that were less satisfactory or poor, independent of the surgical technique. Conclusion: Both techniques were shown to be efficient and safe for treating cubital tunnel syndrome.

Abstract no.: 47254

SURGICAL OUTCOMES OF INTRAMEDULLARY NAILING FOR DIAPHYSEAL ATYPICAL FEMUR FRACTURES

Ji Wan KIM[1], Jung Jae KIM[2], Ki Chul PARK[3]
[1]Haeundae Paik Hospital, - (SOUTH KOREA), [2]Asan Medical Center, University of Ulsan, Seoul (SOUTH KOREA), [3]Hanyang University Guri Hospital, Guri (SOUTH KOREA)

Introduction: The purpose was to determine surgical outcomes of intramedullary nailing in diaphyseal atypical femoral fractures (AFFs) and to evaluate clinical outcomes of nail entry modification technique. Materials and Methods: We retrospectively reviewed diaphyseal AFFs treated with IMN at 9 institutions. In total, 82 patients were included. Surgical outcomes involved complication, union time, and femoral bowing were evaluated. We modified nail entry of straight nail from piriformis fossa to the tip of greater trochanter in bowed femur, and compared surgical outcomes between original group and modification group. Results: The average union time was 20.1 weeks, and the union rate was 89.0%. The average union time was 13.1 weeks and 21 weeks in incomplete and complete AFFs, respectively. There were no nonunion in incomplete AFFs, while 13.8% in complete AFFs. Complete AFFs had 86.2 % of union rate. There were 46 cases of group 1 with original entry point and 19 cases of group 2 with modified entry. In group 2, the union rate was similar to group 1 and union time was shorter. Conclusion: The technique of nail entry modification showed good clinical outcomes without complications. In severely varus femur, lateral entry of straight nail can be a useful.

Abstract no.: 47257

DISSEMINATED INTRAVASCULAR COAGULOPATHY IN PEDIATRIC SCOLIOSIS SURGERY: A SYSTEMATIC REVIEW

Qais NAZIRI[1], Carl PAULINO[1], Bassel DIEBO[1], Patrick MIXA[1], Frank SEGRETO[1], Lee BLOOM[1], Karen PALTOO[1], James MESSINA[1], Samantha HORN[2], Greg POORMAN[2], Ashish PATEL[3], Virginie LAFAGE[4], William URBAN[1], Peter PASSIAS[2]

[1]SUNY Downstate Medical Center, Brooklyn (UNITED STATES), [2]Hospital for Joint Diseases at NYU Langone Medical Center, New York (UNITED STATES), [3]Methodist Hospital, Chicago (UNITED STATES), [4]Hospital for Special Surgery New York-United States, New York (UNITED STATES)

Introduction: Disseminated intravascular coagulation (DIC) is an extremely rare comorbidity of scoliosis surgery. Limited literary reports create a need for data on causality and prevention. Methods: A comprehensive search of Medline (PubMed), EMBASE, and Ovid databases was performed. Pediatric patients who experienced DIC with corrective scoliosis surgery were included. Patients were characterized based on demographics, past medical history, surgery performed, clinical course, probable causes of DIC, and outcomes. Results: 11 studies met the inclusion criteria and 13 patients (mean age 15.5±4.4 years, 72% F) were identified, from 1974-2012. They included 7 neuromuscular (54%), 2 congenital (15%), 2 idiopathic (15%), 2 tumor-induced (15%) scoliosis patients. There were no histories of a prior bleeding disorder. Procedures included 7 posterior segmental fusions (54%), 4 Harrington rods (31%), 1 Cotrel-Dubousset (8%), and 1 unit rods (8%). 8 patients experienced DIC during the intraoperative period, 5 patients during the post-operative period. DIC was associated with coagulopathy after re-infusion of intra-operatively retrieved blood, infection from transfusion, rhabdomyolysis, and application of hemostatic matrix, heparin use, and hypovolemic shock. The most common complications were increased intraoperative blood loss (8 cases) and hypotension (7 cases). The mortality rate was 7.69%; one reported fatality in the acute post-operative period. Conclusion: 13 cases of DIC associated with scoliosis surgery were reported in the literature. Despite the lack of prior bleeding disorders in the patients' past medical histories, associative variables between DIC and corrective scoliosis surgery were identified in pediatric patients. Further studies are needed to determine predictive factors for DIC events.

Abstract no.: 47258

DIFFUSE CHONDROSARCOMA OF THE FIBULA: A CASE REPORT

Nadhir MERAGHNI[1], Mohamed KIHAL[2], Riad BENKAIDALI[2], Hafida LADOUANI[2], Mhamed NOUAR[2], Zoubir KARA[2]
[1]Orthopedic Department, CHU Mustapha Bacha, Algiers (ALGERIA),
[2]Orthopedic Department, CHU Mustapha Bacha, algiers (ALGERIA)

Introduction: chondrosarcoma is a cartilaginous malignant tumour, characterized by the absence of bone formation by the cartilaginous elements. The authors report a case of a primary grade 1 chondrosarcoma of the upper part of the fibula operated with a conservative surgical treatment. Methods: we report the case of a 20-year-old female with increased leg volume since 3 months. The clinical examination found a 25 cm diameter postero-superior mass which is firm, poorly limited and deep. X-rays, CT scans and MRI showed a large lytic tumor, occupying the entire upper part of the fibula with invasion of the surrounding soft tissues. Pathological examination of the tumour biopsy confirmed the diagnosis of chondrosarcoma (grade I). The patient underwent a large tumour resection, carrying more than half the upper fibula with the surrounding tissues and the external popliteal sciatic nerve. The tibia was unscathed and respected. Results: with a 6 months follow-up, there is no local or regional recurrence. We will propose a palliative surgical treatment for the nerve palsy. Discussion: chondrosarcoma grade I is very well differentiated, and can pose a diagnosis problem with benign chondroma. Its stroma is normal and only binuclear cells can make the difference. It has an essentially local or regional evolution. Conclusion: chondrosarcoma of the fibula is a rare localization. It is a generally low grade malignant tumour that responds very well to surgical carcinological treatment. It is chemo and radio resistant, but a large and early surgical excision gets a certain healing.

Abstract no.: 47259

RETROGRADE INTRAMEDULLARY NAILING FOR THE HUMERUS FRACTURE IN A SUPINE POSITION - PERFORMING AN UNFAMILIAR PROCEDURE IN A FAMILIAR POSITION –

Jin Woong YI, Tae Gyun KIM
Konyang university, Daejeon (SOUTH KOREA)

Intramedullary nailing for humeral shaft fracture has provided excellent outcomes in fracture biology and in cosmetic appearance because of the relatively small incision involved. But antegrade nailing causes issues such as iatrogenic rotator cuff injury. Retrograde nail fixation method could avoid cuff injury, but has shortcomings such as prone or lateral decubitus position during surgery. The authors report that the retrograde intramedullary nail fixation technique with the supine position and some ancillary techniques for minimizing scar or complication provide the advantages of both retrograde nailing and supine position during surgery.

Abstract no.: 47261

COMPARISON OF CLINICAL AND RADIOGRAPHIC OUTCOMES BETWEEN SHORT, CURVED STEM AND TAPERED, WEDGED STEM OF CEMENTLESS TOTAL HIP ARTHROPLASTY

Kyung-Soon PARK[1], Chee-Ken CHAN[2], Dong-Hyun LEE[3], Taek-Rim YOON[3]
[1]Center for Joint Disease, Chonnam National University Hwasun Hospital, Gwangju (SOUTH KOREA), [2]Center for Joint Disease, Chonnam National University Hwasun Hospital, Kwangju (MALAYSIA), [3]Center for Joint Disease, Chonnam National University Hwasun Hospital, Kwangju (SOUTH KOREA)

INTRODUCTION: Short, curved stem and tapered, wedged stem are frequently used to cementless total hip arthroplasty (THA). Functional design and biomechanics of stem can influence primary stability and cause different results. The purpose of this study is to compare the radiologic and clinical outcomes between short, curved stem and tapered, wedged stem. MATERIALS &METHODS: Between October, 2012 and June, 2014, retrospective study was conducted for primary THAs using the Fitmore® femoral stem(128 hips, 122 patients) and M/L taper® femoral stem (195 hips, 187patients). Preoperative and postoperative Harris Hip Score (HHS) and Western Ontario and McMaster Osteoarthritis Index (WOMAC) score were used to evaluation for clinical outcome with minimum 2 year follow-up. RESULTS: In the Fitmore®group and M/L taper®group, mean HHS respectively improved from 52.4 and 48.9 preoperatively to 93.3 and 94.5 at final follow-up. Mean WOMAC scores also improved from 73.3 and 76.8 preoperatively to 22.9 and 25.6 at final follow-up, respectively. HHS and WOMAC showed no significant difference in two groups ($p>0.05$). On radiographic results, there were a radiolucent line in 9 hips of Fitmore®group and in 17 hips of M/L taper®group ($p>0.05$). However, no other complications, such as aseptic loosening, osteolysis, infection and periprosthetic fracture, were observed. CONCLUSIONS: Short, curved stem and tapered, wedged stem showed similarly good clinical and radiographic outcomes. The complication and survival rate had no significant difference between two groups with minimum 2 years follow-up. Further clinical and radiologic follow-up is necessary to identify possible different, long-term outcomes of two cementless femoral stems.

Abstract no.: 47262

DYNAMIC, THREE-DIMENSION ANALYSIS OF GAIT PATTERNS BEFORE AND AFTER ADOLESCENT IDIOPATHIC SCOLIOSIS (AIS) SURGERY.

Qais NAZIRI[1], Carl PAULINO[1], Bassel DIEBO[1], Jeffrey VARGHESE[2], Frank SEGRETO[1], Harleen KAUR[1], Westley HAYES[1], Renaud LAFAGE[2], Ziad BAKOUNY[3], Ellen GODWIN[1], William URBAN[1], Frank SCHWAB[2], Ashish PATEL[4], Virginie LAFAGE[2]

[1]SUNY Downstate Medical Center, Brooklyn (UNITED STATES), [2]Hospital for Special Surgery New York-United States, New York (UNITED STATES), [3]Faculty of Medicine, University of Saint Joseph, Beirut (LEBANON), [4]Methodist Hospital, Chicago (UNITED STATES)

Introduction: Surgeons can manipulate the spine in all 3 planes during AIS surgery; however the postoperative dynamic impact on gait patterns is poorly understood. Methods: Patients underwent gait assessment and full spine radiographs. Gait analysis was performed in a 6-DOF motion analysis laboratory, sampling frequency was 100 Hz. 34 reflective markers were placed on each patient, who underwent straight-line walking trials. BL and 1yr FU Demographics, radiographic and gait parameters were compared using parametric and non-parametric tests. Results: 25 patients were included. Mean age 15.1 y/o, 78% female, mean BMI 22.1. Patients had significantly lower curve magnitudes at 1yr FU (UT: 26.7 vs. 18.2, TH: 5.8 vs. 21.1, TL: 45.9 vs. 16.8, LL: 28 vs. 7.3°). Surgical corrections of curve vs. hip, and knee+ankle 3 plane range of motions, had significant correlations. Univariate analysis showed patients had increased time of knee flexion in swing (70.4 vs. 71.84), increased mean hip internal/external rotation in the stance phase (4.2 vs. 11.02), and increased hip flexion at heel strike (28.2 vs. 35.2), all $p<0.05$. Patients had increased ROM of hip internal/external rotation in the horizontal plane (25.7 vs. 36.7°), and increased ROM pelvic variation in the frontal plane (6.9 vs. 7.4°), $p<0.05$. Mean plantar flexion/dorsiflexion increased (20.7 vs. 23.4°). Patients had increased walking speed (1.07 vs. 1.13, ms), $p<0.05$. Conclusion: Dynamic changes of the hip, knee, and ankle occurred in all 3 planes after posterior spinal fusion in our cohort. Future efforts will focus on developing a pragmatic approach to predicting these changes.

Abstract no.: 47263

MIDTERM FUNCTIONAL OUTCOME AND COMPLICATIONS AFTER CONVERSION OF FAILED BIPOLAR HEMIARTHROPLASTY TO TOTAL HIP

Kyung-Soon PARK[1], Chee-Ken CHAN[2], Dong-Hyun LEE[3], Taek-Rim YOON[3]
[1]Center for Joint Disease, Chonnam National University Hwasun Hospital, Gwangju (SOUTH KOREA), [2]Center for Joint Disease, Chonnam National University Hwasun Hospital, Kwangju (MALAYSIA), [3]Center for Joint Disease, Chonnam National University Hwasun Hospital, Kwangju (SOUTH KOREA)

Background: This study evaluated the midterm functional outcome and complications, especially dislocation associated with femoral head diameter, after conversion of failed bipolar hemiarthroplasty(HA) to total hip arthroplasty(THA). Materials and Methods: 48 hips with conversion of bipolar HA to THA were followed-up for an average 6.2 years (range, 2.0-11.5). 21 hips had conversion surgery to THA using metal-on-metal articulation (28 or 32mm head). Nine hips used ceramic-on-ceramic (28-40mm) and eighteen hips used large head metal-on-metal bearing(>40mm). Outcome was evaluated using HHS and WOMAC score. The radiographs were analyzed for evidence of osteolys is and/or loosening. The complications were evaluated, especially dislocation with different femoral head diameter. Results: Average HHS significantly improved from 42 preoperatively to 86 postoperatively and the average WOMAC score also significantly improved from 47 to 22 postoperatively. Radiological evaluation showed all the femoral components were stable. There was one acetabular component loosening, which required revision 9 years after conversion to THA. One dislocation and one recurrent dislocation were recorded in isolated acetabular revision hip; whereas one dislocation, one recurrent dislocation and one trochanteric nonunion occurred in the hips with revision of both components. All dislocations occurred in hips with a femoral head size of 28 mm(p=0.052). The cup and femoral head interval length was the most significant factor contributing to dislocation(p=0.013). Conclusion: Conversion THA after failed bipolar HA offers a reliable pain relief and functional improvement. To prevent dislocation, it is highly recommended to use a larger diameter femoral head, especially where the cup size is big.

Abstract no.: 47264

SHOULD DECISION MAKING FOR LOWER INSTRUMENTED VERTEBRA GO BEYOND TRADITIONAL AIS CLASSIFICATION? A DYNAMIC 3D GAIT ASSESSMENT OF ADOLESCENT IDIOPATHIC SCOLIOSIS

Qais NAZIRI[1], Carl PAULINO[2]
[1]., Brooklyn (UNITED STATES), [2], Brooklyn (UNITED STATES)

Prior to their surgical treatment, pts underwent gait assessment and full spine radiographs. Gait analysis was performed in a 6-DOF motion analysis laboratory at a sampling frequency of 100 Hz. Thirty-four reflective markers were placed on each patient who then underwent straight-line walking trials at their own selected self-speed. Pts were grouped based on lower instrumented vertebra (LIV) into: Cephalad (LIV: T12, L1 or L2) and Caudal (LIV: L3 or L4). Demographics, radiographic and gait parameters were compared between LIV groups at BL and 1yr FU. Logistic regression model

Abstract no.: 47266

OUTCOME ANALYSIS OF HIP OR KNEE ARTHROPLASTY IN PATIENTS WITH CIRRHOTIC LIVER DISEASE

Kyung-Soon PARK[1], Young-Jun SEOL[2], Taek-Rim YOON[2], Dong-Hyun LEE[2]
[1]Center for Joint Disease, Chonnam National University Hwasun Hospital, Gwangju (SOUTH KOREA), [2]Center for Joint Disease, Chonnam National University Hwasun Hospital, Kwangju (SOUTH KOREA)

Present helpful measures to prevent expected complications that occur in patients with liver cirrhosis undergoing arthroplasty 218 patients who underwent hip or knee arthroplasty were included in this study. Prognoses of patients with underlying disease of liver cirrhosis and those without are compared with measures. Significant negative results (including medical and surgical complications and mortality) occurred at a rate of 53.6% (59 of 110) in the cirrhotic group compared with a rate of 11.8% (13 of 110) in the control group. In THA group, 8.1% (3 of 37) of cirrhotic patients whereas 2.7% (1 of 36) of controls patients had medical compolications, 13.5% (5 of 37) of cirrhotic patients whereas 5.6% (2 of 36) of controls patients had joint-related complications(P = 0.84, P = 0.43). In TKA group, 35.2% (12 of 34) of cirrhotic patients whereas 5.5% (2 of 36) of controls patients had medical compolications, 17.6% (6 of 34) of cirrhotic patients whereas 2.8% (1 of 36) of controls patients had joint-related complications(P = 0.03, P = 0.05). In urgent group, 43.6% (17 of 39) of cirrhotic patients whereas 10.5% (4 of 38) of controls patients had medical compolications. 15.3% (6 of 39) of cirrhotic patients whereas 7.8% (3 of 38) of controls patients had joint-related complications(P = 0.01, P = 0.21).The risk of arthroplasty on patients with liver cirrhosis is higher than normal patients. Surgeons should carefully assess all cirrhotic patients pre- and postoperatively.

Abstract no.: 47272

SCREW TRAJECTORY AFFECTS SCREW CUT-OUT RISK AFTER FIXATION FOR NONDISPLACED FEMORAL NECK FRACTURE IN ELDERLY PATIENTS

Yu-Pin CHEN

Department of Orthopaedic Surgery, Wan Fang Hospital, School of Medicine, College of Medicine, Taipei Medial University, Taipei (TAIWAN)

Introduction: Screw fixation using triangular configurations and calcar placement are still the preferred treatment for nondisplaced femoral neck fracture, to reduce the risk of loss of reduction and nonunion. However, this method is still controversial in terms of the effects of screw trajectory, including parallel or nonparallel configurations, on fixation of femoral neck fractures. This study aimed to compare the incidence of complications between patients who have undergone fixation with a parallel or a nonparallel screw trajectory. Methods: We retrospectively analyzed 55 patients who were older than 60 years and diagnosed with nondisplaced femoral neck fracture from March 2014 to March 2016, and who were treated with cannulated screws fixation in our institution. Patient demographics, radiographic parameters including reduction quality, screw trajectory, and complications during the follow-up period were all evaluated. Results: The overall complication rate for screw fixation in elderly patients was 23.6%, and screw cut-out was the most common complication, occurring in 14.5% of all enrolled patients. Also, we found that screw cut-out occurred in more osteoporotic patients, and all screw cut-outs were in groups treated with a nonparallel screw trajectory. However, parallel screw fixation was inclined to back out more after fracture healing and had a lower risk of postoperative screw cut-out. Conclusions: Our results suggested that fixation with nonparallel screws for nondisplaced femoral neck fracture in elderly and osteoporotic patients might interfere with shortening of the femoral neck along with fracture healing, leaving patients at risk of postoperative screw cut-out from the femoral head.

Abstract no.: 47278

CLINICAL OUTCOMES OF TOTAL HIP ARTHROPLASTY IN PATIENTS WITH SEVERE HIP CONTRACTURE

Yutaka KINOSHITA[1], Shunji NAKANO[2], Shinji YOSHIOKA[2], Masaru NAKAMURA[2], Koichi SAIRYO[3]

[1]Tokushima Municipal Hospital, Tokushima-City (JAPAN), [2]Tokushima Municipal Hospital, Tokushima-city (JAPAN), [3]The University of Tokushima Graduate School, Tokushima-city (JAPAN)

Severe hip contracture causes neighboring joint disorders and makes operations difficult to perform. We retrospectively evaluated the clinical results of total hip arthroplasty (THA). Primary THA was performed in 6 patients with severe hip contracture (range of motion from extension to flexion, <45°) (group S) and 68 without severe hip contracture (group C) from October 2011 through September 2014. Variables evaluated were age, body mass index (BMI), follow-up duration, preoperative and postoperative Japanese Orthopedic Association (JOA) score, preoperative and postoperative range of motion, operative time, and amount of bleeding. Independent sample t-tests were used to analyze the data. There was no significant difference in age, BMI, follow-up duration, postoperative JOA score, preoperative and postoperative range of motion in extension, operative time, and amount of bleeding between the groups. Compared with group C, there was significant degradation in group S in the mean preoperative JOA score (group S and group C, respectively: 34.6 and 50.3), preoperative range of motion (flexion, 50° and 83.2°; abduction, 5.8° and 28.6°), and postoperative range of motion (flexion, 83.3° and 110°; abduction, 38.3° and 53.5°). This indicates that THA improved pain, the ability for walking, range of motion, and activities of daily living, although disturbance of excursion remained in group S. The clinical results of THA in patients with severe hip contracture were as good as those in patients without severe hip contracture.

Abstract no.: 47281

ANTIBIOTICS LOADED (ARTICULATING) FEMORAL HEAD CEMENT SPACER FOR THE TREATMENT OF ADVANCED PYOGENIC ARTHRITIS IN ADULT HIP

Yoon Je CHO[1], Chung Soo HAN[1], Young Soo CHUN[2], Kee Hyung RHYU[1], Bi O JEONG[1], Liang HU[1]

[1]Kyung Hee University Hospital, Seoul (SOUTH KOREA), [2]College of Medicine, Kyung Hee University, Seoul (SOUTH KOREA)

Purpose: Treatment of pyogenic arthritis with advanced degeneration of the hip joint is a matter of debate for many. It is a matter of concern for the patient because there are chances of infection, limb-length discrepancy and impaired function of the joint in spite of definitive treatment. The purpose of this study is to present a new cement spacer technique in advanced pyogenic arthritis of hip which causes less damage to the proximal femoral bone stock and makes the conversion to Total Hip Arthroplasty (THA) more convenient, while maintaining the advantages of older cement spacer techniques. Method: We retrospectively studied 5 cases of pyogenic hip with advanced degeneration from the surgical data at College of Medicine, Kyung Hee University, Seoul from September 2009 to June 2015. In these 5 cases, a head resection with a cement spacer in the shape of femur head resting on screws inserted in the femur neck was performed. Once the infection subsided, THA was performed in all cases. Results: Mean spacer time in the study was 91 days. All cases underwent uncemented THA as the final procedure. Mean modified Harris Hip score on final follow-up was 93.6. Conclusion: The femur head cement spacer technique for the treatment of advanced pyogenic arthritis helps significantly in reducing pain, preserving proximal femoral bone stock, controlling infection and improving function. Conversion to THA is also easier.

Abstract no.: 47285

TREATMENT OF COMPLICATED DISTAL FRACTURE BY DFN – A STUDY IN 43 CASES.

Ashok Kumar DAS
CALCUTTA MEDICAL RESEARCH INSTITUTE, KOLKATA (INDIA)

Introduction: Osteosynthesis by DFN, chosen to restore alignment, length, union and restore normal function. Aim: This study is to evaluate outcome of patients, operated for complicated Distal femoral fracture by DFN. Reconstruction of articular surface; Stable condylar fixation to femoral shaft; Maintenance of length, rotation, for early mobilization by DFN is the aim. Material and method: 43 patients with Distal femoral fractures between 21-62yrs, treated with DFN. All had C33 fracture. After articular-reconstruction, DFN introduced, locked proximally and distally. Static knee-exercises day-one. Knee-bending after 5-7days. Partial weight bearing after 6weeks. Full weight bearing after clinical union and radiologically sufficient callous formation. Followed up at six weeks, three months, six months and one year. Results: Follow-up at 6wks, 3months, 6months and 1year. Then results assessed in for knee movement, pain, angular deformity, shortening, infection, union status. Bone union usually took in average 10months time. Out of 43patients only 4 had shortening about half to one inch. 2 had infection and implant failure. 8 had medial defect where bone grafted. Even then union took place with some medial defect in 2cases. In 25cases fracture healed. 4cases resulted in nonunion due to malposition of DFN and not properly locked. Infective nonunion in 2cases (1open & 1closed). Post-operative stiffness in 9cases due to gross intra-articular involvement. Conclusion: Issues in treating these fractures include a short articular segment, bone loss and osteoporotic bone. This procedure aimed at limb-length restoration, articular reduction and early knee motion by newer version of DFN.

Abstract no.: 47287

MANAGEMENT OF OSTEOARTHRITIS KNEE JOINT BY VISCOSUPPLEMENTATION WITH NON ANIMAL STABILIZED HYALURONIC ACID : A RETROSPECTIVE STUDY IN 48 CASES.

Ashok Kumar DAS
CALCUTTA MEDICAL RESEARCH INSTITUTE, KOLKATA (INDIA)

Aim of Study : The aim is to evaluate the effectiveness of vascosupplementation with non animal stabilized hyaluronic acid in OA knee joint. Material methods: 48 patients (23 male, 25 female), age group between 55-80 years with OA knee (grade I, II, III) included. All fulfilled radiographic evidence of OA and documented pain on weight bearing. Intra-articular “Non- animal- stabilized- hyaluronic acid” (NASHA), 60mg /3 ml given as single dose, repeated 6 months after. Assessment done at 2nd and 4th weeks, then monthly for 6 months, yearly for 5 years. Results assessed: pain on weight bearing, at rest and intensity (VAS), stiffness, joint scores, Ritchie’s Articular index score and patients global assessment of treatment. Results assessed radiologically and arthroscopically. Results: 70% patients had pain-relief on walking, from 2nd weeks, with progressive decrease pain by 8 weeks. 45 pain free at-rest after 1st injection. ROM Improvement in 98%. Joint scores, Ritchie’s articular index scores and functional disability scores improved in all . Global assessment fair in 10%, excellent in 20% and good 70%. 3 patients developed rashes, another inflammation and one developed septic arthritis in this series. Conclusion: Viscosupplementation with NASA is an effective treatment option for patient with whom oral medications ineffective and arthroplasty unaffordable. This modality is cost effective and suitable for patient of 3rd world countries where sitting and squatting is basic demand in daily life.

Abstract no.: 47288

TENOTOMY VS TENODISIS OF THE LONG HEAD OF THE BICEPS IN REPARABLE ROTATOR CUFF TEARS- RETROSPECTIVE STUDY OF 110 CASES

André BARROS, Eduardo CARPINTEIRO, Sergio GONÇALVES
Hospital da Luz, Lisboa (PORTUGAL)

Background Rotator cuff tears are associated with long head of the biceps symptoms and pathology. Both long head of the biceps tenotomy and tenodesis are effective in relieving pain. Objectives Compare the clinical outcomes of patients submitted to rotator cuff repair with simultaneous long head of the biceps symptoms, submitted to either tenotomy or tenodesis. Methods: retrospective study, minimum follow up of 12 months. including 110 patients, 63 submitted to tenotomy, 47 to tenodesis. The patients were evaluated pre and post operatively with the normalized Constant score, elbow flexion and forearm pronation strength. Results The average follow up was 24 months. The mean age was 67 for the tenotomy group and 60 for the tenodesis group. In the tenotomy group the average pre op Constant score was 20 and the post-operative score was 72. In the tenodisis group the average Constant score was 29 pre operatively and 80 post operatively. There was no significant difference in the pre and post operatively Constant score between both groups. Tehre was no significant difference in the elbow flexion and forearm pronation strength. Yet, we found a significant statistical difference in pain, with the tenodesis group revealing less post op pain. Conclusions As with previous published papers, we found no significant statistical difference in both techniques regarding the Constant score, the elbow flexion and forearm supination strength. Contrary to previous papers, we found difference in the post-operative pain in the tenodesis group. We believe that this may be related to our technique.

Abstract no.: 47289

TREATMENT OF STERNO CLAVICULAR JOINT FRACTURE DISLOCATION BY OPEN REDUCTION & STABILIZATION BY THREADED K-WIRES

Ashok Kumar DAS
CALCUTTA MEDICAL RESEARCH INSTITUTE, KOLKATA (INDIA)

Aim of the study: The purpose of this study is to evaluate treatment option for SCJ Fracture-dislocation by “Threaded K wire fixation”. Material and method: 19 Cases both male and female (M: F:: 15: 4), age 11-42 yrs. with SCJ 3-5 days old fracture-dislocation included. Threaded K-wires 2, 2.5, 3 mm. introducer, ender.taken. Under GA, in supine position. Dissection carried down to the level of platysma. Expose medial end of clavicle. The fracture is then reduced by towel clips. Stabilization of reduction done with multiple K-wires under C arm control. The exposed K-wires bent to prevent migration. Arm-to-chest strapping for few weeks. Pendulum exercises after 3 weeks,graded abduction after 6 weeks and started working after 12 weeks Results analyzed in terms of pain, infection, range of shoulder movements, stability, recurrence and complication at the end of 6 wks, 3 m, 1 yr. Out of 19 cases 2 cases were pure dislocation of SCJ. Two patients had infection due to gross contamination & subsided after proper I.V. antibiotics therapy. Pain persistent till 6 wks in 8 patients, reduced to 4 after 2 wks, this is due to constant robbing of areas by patient. After 6 weeks one patient dislocated again due to premature movement. Conclusion: Open reduction & threaded K-wire fixation is very good modality of treatment of SCJ fracture-dislocation, because Cost effective, Easy availability, Less surgical trauma, Maintain stability, Need no second surgery, removal of implant easy.

Abstract no.: 47290

ARTHROSCOPIC TREATMENT OF ACROMIOCLAVICULAR JOINT DISLOCATION - CLINICAL AND RADIOLOGIC REVIEW

André BARROS, Eduardo CARPINTEIRO, Sergio GONÇALVES, Luís PIRES
Hospital da Luz, Lisboa (PORTUGAL)

Background Acromioclavicular joint dislocation is a relatively common lesion. . The surgical treatment is consensual in grades IV to VI, and conservative treatment in grades I and II. The best treatment for grade III is yet to be established. Early arthroscopic treatment with double button and suspension device yields equivalent or superior results when comparing to open surgery techniques, with less morbidity and fewer complications rates. Moreover, arthroscopic approach allows the diagnosis and treatment of concomitant intra articular lesions. Objectives Analyse and compare the clinical and radiological results of the arthroscopic treatment with double button and suspension device in lesions Grade III and V with previous published results. Report the associated intra articular lesions and its repair. Study Design Retrospective study, 47 shoulders in 47patients, with acute grade III and V lesions, same surgical technique The patients were evaluated post operatively by an independent evaluator with the Constant score. X-rays were compared with the contralateral shoulder, and loss or failure of reduction were registered. Results 47 patients, age 36 years. Average post-op Constantscore was 93. 4 cases with associated lesions, 3 PASTAS,1 OCD. Loss of reduction until 50 % the AC joint in 3 cases, and 100 % in 1 case. 1 failure intra operatively resolved with a new tunnel. No revision surgery. Conclusions We registered similar clinical outcomes and complications comparing published data. Arthroscopic treatment with suspension device yields good to excellent results, allowing diagnosis and treatment of intra articular lesions.

Abstract no.: 47300

ARTHROSCOPIC REPAIR OF TYPE-V SLAP LESION AGE AS A FACTOR & A NEW CLASSIFICATION SYSTEM & AN ANCHOR ABOVE THE GLENOID MID-EQUATOR CORRESPONDENCE AUTHOR AMR ABDEL-MORDY KANDEEL, MD LECTURE OF ORTHOPEDICS & TRAUMATOLOGY, FACULTY OF MEDICINE, MENOFIA

Amr KANDEEL
Faculty of Medicine, Menofia University, New Cairo (EGYPT)

Hypothesis: Based on a newly-proposed classification of type-V SLAP lesion; this study was conducted to investigate the outcomes of concurrent Bankart and type-IIA SLAP repair compared to isolated Bankart repair; hypothezing comparable postoperative results. Study Design: Randomized controlled clinical trial. Patient & Methods: 20 patients were divided into two groups. Group-S included 12 patients of concurrent Bankart and type-IIA SLAP three anchors-repair; one of them above the glenoid mid-equator. Group-B included 8 patients of isolated two anchors-Bankart repair. Patients' demographics, preoperative and 1-year postoperative shoulder range of motion, Rowe instability score, UCLA score, and instability recurrence were compared between both groups. Results: Preoperatively, group-S had a statistically-significant older mean age at 1st time of dislocation (24.7 vs.18.2 years) and highly-significant worse external rotation at 0o-abduction (52.1o vs. 82.5o). The postoperative external rotation at 0o-abduction was still highly-significant worse in group-S (58.7o vs. 80.0o); however, there was a statistically-insignificant difference between group-S versus group-B regarding the range deficits in external rotation at both of 0o- and 90o-abduction compared to the sound contralateral shoulder (10.0o vs. 5.00o) and (17.1o vs.12.5o) respectively. There was comparable postoperative loss in external rotation at 90o-abduction between both groups (8o vs.7.5o). Conclusion: Age at 1st time of shoulder dislocation can be a predictor for severity of labral detachment. This classification can aid in fine-tuning decision making and outcome assessment of type-V SLAP repair. Favorable outcomes of concurrent Bankart and type-IIA SLAP repair with use of an anchor above the anterior glenoid mid-equator can be anticipated.

Abstract no.: 47319

EFFECTS OF WEARING SHOES ON THE FEET: RADIOGRAPHIC COMPARISON OF MIDDLE-AGED PARTIALLY SHOD MAASAI WOMEN'S FEET AND REGULARLY SHOD MAASAI AND KOREAN WOMEN'S FEET

Jin Soo SUH[1], Jun Young CHOI[2]
[1]Inje University Ilsan Paik Hospital, Goyang-si (SOUTH KOREA), [2]W Hospital, Daegu (SOUTH KOREA)

Background: Maasai tribe members walk long distances daily either barefoot or wearing traditional shoes made from recycled car tires, without any foot ailments. To figure out the characteristic of their feet, we designed a radiographic comparative study of middle-aged partially shod Maasai women's feet and regularly shod Maasai and Korean women's feet. Methods: Weight bearing radiographs of bilateral foot and ankle joints from 20 healthy middle-aged bush-living partially shod (PS) Maasai women were obtained. Same number of radiographs from 20 urban-living regularly shod (RS) Maasai and 20 Korean women were obtained and compared. The hallux valgus angle, the first and second intermetatarsal angle, talonavicular coverage angle, talo-first metatarsal angle, Meary angle, naviculo-cuboidal overlap, and the medial cuneiform height were measured to establish the degree of pes plano-valgus and hallux valgus deformity. Results: On comparing PS and RS Maasai groups radiographically, the talonavicular coverage angle, talo-first metatarsal angle, and naviculo-cuboidal overlap were significantly greater in the PS Maasai group, whereas hallux valgus angle, the first and second intermetatarsal angle, Meary angle, and the medial cuneiform height were greater in the RS Maasai and Korean group. Conclusion: Regularly wearing shoes would protect the feet from pes plano-valgus deformity, despite potentially contributing to hallux valgus deformity.

Abstract no.: 47321

DOES SURGICAL DELAY EFFECT THE TEMPORAL EXPRESSION OF BONE TURNOVER MARKERS AFTER INTRAMEDULLARY NAILING OF ISOLATED FEMORAL SHAFT FRACTURE

Vivek TRIKHA[1], Buddhadev CHOWDHURY[2], Arulselvi SUBRAMANIAM[2]
[1]AIIMS, NEW DELHI (INDIA), [2]AIIMS, DELHI (INDIA)

Bone turnover markers are considered to play an important role in the process of bone healing. This study assessed serum levels of two osteoblastic and two osteoclastic markers in patients undergoing intramedullary nailing for isolated fracture shaft tibia operated at various time lag from injury. Blood samples was taken from all patients of 18-40 years age group at postoperative 1 week, two weeks, six weeks, twelve weeks and twenty four weeks. The serum levels of osteoblastic (BsALP & PICP) and osteoclastic (TRAP & CTX) markers were compared between the study group and the control group of normal volunteers. RESULTS: Out of the 30 patients, 13 patients were operated within the first 48 hours while the rest were operated within 2-7 days. Bone resorption markers TRAP and CTX increase in the first 2 weeks to a peak and then decreases substantially over a period of 3 months. The bone forming markers BsALP and PICP level increases gradually to reach the peak at 6 to 12 weeks then continues to remain at that level for few months till the bone remodeling is taking place. There is a specific trend in the expression level of bone forming (BsALP & PICP) and bone resorption (TRAP & CTX) markers over the bone healing period of 3 months irrespective of the timing of the surgery. We could not find any distinction between those who operated within 48 hrs and those who operated after 48 hrs in the levels of any of this marker measured.

Abstract no.: 47335

NEAR TOTAL CORPECTOMY FROM A POSTERIOR APPROACH FOR A4 COMPLETE BURST FRACTURES: SERIES OF EIGHT CASES (8), FROM A LEVEL 1 TRAUMA CENTER, NEW DELHI.

Kamran FAROOQUE[1], Vijay SHARMA[2]
[1]JPNATC, AIIMS,NEW DELHI, NEW DELHI (INDIA), [2]JPNATC, AIIMS, NEW DELHI, NEW DELHI (INDIA)

Eight Cases (8) of Complete Burst Fractures were treated at JPNATC, AIIMS, New Delhi, a level one Trauma Center from April 2013 to January 2017. All patients had complete burst fractures- AO type A4- with involvement of Superior and Inferior End plates. There were Six (6) males and Two (2) females with an average age of 27 years. All patients had Bilateral Postero-lateral Decompression from a posterior approach with complete corpectomy of the involved Vertebra. The discs above and below the injured vertebra were also removed. Reconstruction of the corpectomy defect was done with a Mesh Cage Six (6) or an Expandable Cage Two (2), along with pedicle screws two levels above and below the corpectomy. Results : - Follow up ranged from three months to four years with an average follow up of 15 months. There was no case of implant failure. There was an improvement of 2 ASIA grades in Five (5) cases, 1 ASIA grade in Two cases and no improvement in One case. There was no case of neurologic deterioration . Near Total Corpectomy from an all posterior approach using bilateral postero lateral decompression is a safe and effective procedure for complete A4 type Burst Fractures

Abstract no.: 47336

COST ANALYSIS ON VIRTUAL CLINIC FOLLOW UP AFTER PRIMARY JOINT ARTHROPLASTY

Mathias NAGY, Lara JAYATILAKA, James FOUNTAIN
Aintree University Hospital, Liverpool (UNITED KINGDOM)

Background: Virtual Clinic (VC) is seen as an effective, cost saving and productive way to manage the increasing need to review and monitor patients after primary joint replacement. The number of procedures is increasing steadily. Guidelines suggest reviewing patients in regular intervals with radiographs and patients reported outcome measures. Face to face review following routine uncomplicated primary joint arthroplasty can cost valuable resources. Methods: We have reviewed our experience with VC in a large teaching hospital. A single surgeon established this VC two years ago. We reviewed all clinical records, PROMs, patient satisfaction and outcome of VC at one year follow up. Additionally, we performed a cost analysis. Results: This study included 154 primary joints (70 total knee replacements and 84 total hip replacements) in 148 patients (89 female, 59 male). Average age at surgery was 65.3 years. 57% of patients were directly discharged following VC assessment, which included radiographs and PROMs. 39% of patients had additional face-to-face review following VC evaluation; the majority (66%) of these patients were seen for a new problem of a different joint. Evaluation of PROMs revealed results above national average. Cost analysis demonstrated an average cost saving of £ 9030 per year and consultant. Conclusions: VC follow up after primary joint replacement is a safe and cost effective option to manage post-operative follow up visits and determine which patient require face-to-face review and who can be safely discharged. This study demonstrated cost savings of over £ 9000 per year and consultant surgeon.

Abstract no.: 47337

CHALLENGES OF MANAGING ANTERIOR ACETABULAR FRACTURES WITH MODIFIED STOPPA APPROACH IN A DEVELOPING COUNTRY

Vivek TRIKHA[1], Buddhadev CHOWDHURY[2]
[1]AIIMS, NEW DELHI (INDIA), [2]AIIMS, DELHI (INDIA)

Introduction: Modified Stoppa approach has emerged in the last two decades as a promising approach for fixation of anterior acetabular fractures. This prospective study was conducted to analyse our results with this approach and suggest the indications for its rationale usage in our country.Materials and methods: All patients with acetabular fractures, which required anterior fixation were operated by Modified Stoppa approach and prospectively evaluated between October 2013 to July 2015. Mechanism of injury, fracture type, operative time, blood loss, complications, radiographic and functional outcomes was analysed in all patients. Modified Merle d'Aubigne scoring was used for clinical grading, while Matta's grading was utilized for radiographic reduction quality. Results: Twenty nine [90.62%] patients out of the total 32 patients had excellent to good grading's on functional and radiographic results. About 97% patients were able to resume pre-injury activities including socially demanding activities like ability to sit cross legged and squat. Patient's operated early had better articular reductions as compared to those operated late.Conclusions: This approach may be considered as a feasible alternative to the standard ilioinguinal approach especially in early cases of anterior fractures of the acetabulum. Cases which present late (after 2 weeks) may not be attempted through this approach as scarring or granulation tissue may lead to inadequate visualization.

Abstract no.: 47341

MANAGEMENT OF MOREL LAVALLEE LESION ASSOCIATED WITH PELVI ACETABULAR FRACTURES

Vivek TRIKHA[1], Buddhadev CHOWDHURY[2]
[1]AIIMS, NEW DELHI (INDIA), [2]AIIMS, DELHI (INDIA)

Introduction: Morel-Lavallee (ML) lesion is a common but uncommonly diagnosed soft tissue injury associated with pelvic and acetabular fractures. This study was undertaken to analyse the outcome of ML lesions associated with pelvi acetabular fractures managed by a protocol based intervention.Method:All patients with pelvi-acetabular fractures from Jan 2010-Dec 2014 were evaluated for soft tissue condition on arrival. On the diagnosis of ML lesion irrespective of the time lag from the injury, the lesions were treated initially by percutaneous drainage and suction drainage followed by evaluation of the skin and soft tissue damage. Cases developing skin necrosis or areas of eschar formation due to the high severity of the soft tissue injury were taken up for formal debridement and removal of the eschar and the debridement of the involved area. Results: Out of the total 35 patients, 14 patients had acetabular fracture while 17 patients had pelvic fracture. Surgical intervention for pelvi acetabular fractures was undertaken in 29 patients whereas 6 patients were managed conservatively. The formal procedure of percutaneous drainage was successful in nearly all cases except those cases which had deep abrasions which lead to eschar formation and required formal debridement with negative pressure wound therapy followed by Spilt skin grafting. The rest of the cases improved with average of 7-10 days of drainage. Conclusions:Management of ML lesions presents a challenging situation. We recommend that all cases should undergo percutaneous drainage irrespective of the duration of injury. Only exceptions are cases with deep soft tissue abrasion on presentation.

Abstract no.: 47345

FAT PAD EXCISION IN TOTAL KNEE ARTHROPLASTY DOES NOT AFFECT FUNCTIONAL OUTCOME OR ANTERIOR KNEE PAIN AT 1 YEAR FOLLOW-UP.

Nithin Krishna VADLAMUDI PURUSHOTHAM[1], I.V REDDY[2], Krishnaiah K[2], Sameer RATHORE[2], Raju YELLETI[2]

[1]Krishna Institute of Medical Sciences, Bangalore (INDIA), [2]Krishna Institute of Medical Sciences, Secunderabad (INDIA)

Background: In Total knee arthroplasty (TKA), excision of retropatellar fat pad is usually done to enhance exposure. But effects of this are not clearly understood. A few studies indicate that it may lead to increased incidence of anterior knee pain (AKP). This study was undertaken to determine the effect of excision of infrapatellar fat pad on incidence of AKP, change in patellar tendon length, Knee society score (KSS) and functional sub-score, and, Hospital for special surgery (HSS) patella score. Methods: 146 patients (162 knees) operated by two senior arthroplasty surgeons in the period of January 2014 to December 2015 were analysed. Group 1 consisted of 114 knees in which complete excision of fat pad was done and group 2 consisted of 48 knees in which minimal excision was done. Pre-operative KSS scores and radiograph were retrieved from the hospital data base. All the patients were called up for follow-up and knee ROM was assessed, HSS patella score, KSS and function score were recorded and recent radiographs were analysed to assess patellar tendon shortening.Results: Data on 151 knees could be collected. Minimum follow-up was of 1 year. At the final follow-up, no significant differences were observed in knee flexion, patellar tendon length, KSS, functional subscore and HSS patella score in either group. There was no significant difference in AKP in both groups (group 1=15%, group 2= 13.3%, p=0.39).Conclusions: Infrapatellar fat pad excision bears no difference in functional outcome at the end of 1 year follow-up.

Abstract no.: 47347

TWO DIFFERENT APPROACH TO MANAGE LARGE BONE GAP IN NON-WEIGHT BEARING LONG BONE.

Jahangir JABED
Chittagong General Hospital, Chittagong (BANGLADESH)

Background: Managing bone gap is always a challenging job in Orthopedics. It's more difficult when gap is large. There is scarcity of literature regarding bone gap management in non-weight bearing long bone. We present here two innovative approaches to deal with such situation. Methods: That was done using a monolateral frame and induced membrane technique using silicon chest drain tube as a spacer in 8 patients, 5 male and 3 female patients with an average age of 12 years.bone gap range 9 cm to 20 cm (average 12.6cm) Evaluation depended upon the achievement of the target length, angulations, pain, and satisfaction of the patient. Results: There were 6 excellent and two good results after an average follow up of 2 years. Aside from five cases of mild pin-tract infection, complications were few and minor. Conclusions: Distraction osteogenesis using small fixator and induced membrane technique using silicon tube is handsome tool to manage large bone gap. KEYWORDS: Large bone gap-non weight-bearing-long bone.

Abstract no.: 47358

A COMPARATIVE STUDY OF MINI INVASIVE RECONSTRUCTION OF NEGLECTED RUPTURED TENDOACHILLIS.

Jahangir JABED[1], Iqbal HOSSAIN[2]
[1]Chittagong General Hospital, Chittagong (BANGLADESH), [2]Chittagong Medical College, Chittagong (BANGLADESH)

Introduction:Though strongest tendon of the body the Achilles is among the most frequently ruptured tendons. In our scenario we often encounter neglected Achilles tendon ruptures which are debilitating. Optimal management of neglected TA is surgical. But complications of conventional surgery especially wound breakdown and infection are not infrequent, are probably related to the paucity of the soft tissue vascularity, and may require plastic surgical procedures to cover significant soft tissue defects. We present here long term (>5 years) results of mini invasive reconstruction of tendoachillis with flexor halluces longus and peroneus brevis. Methods: Between June 2011 and June 2016, total 31 patients, 23 men and 8 women aged 15 to 62 (mean, 36) years underwent reconstruction of neglected ruptured tendoachillis with either paroneus brevis (n=15 or flexor hallucis longus tendon (n=16). Pre- and post-operative American Orthopaedic Foot and Ankle Society (AOFAS) hind foot scores were compared. Wound healing, push-off, and patient satisfaction were also evaluated. Results: Preoperative mean AOFAS scores were 66 (range, 60–78) and were improved to 90 (range, 80–94) postoperatively. Twenty two patients had excellent and 6 had fair results. Twenty three patients graded their outcome as ‘very satisfactory’ and 5 as ‘satisfactory’. There was no major complication or sural nerve injury or no rerupture till date. Conclusions: Mini invasive reconstruction is safe and effective and satisfactory method for reconstruction of neglected ruptured tendoachillis. KeyWords: Mini invasive -Neglected rupture-Tendoachillis-Reconstruction.

Abstract no.: 47366

THE CLINICAL CHARACTERISTICS OF THE KNEE WITH THE ANTEROMEDIAL MENISCOFEMORAL LIGAMENT IN THE ANTERIOR HORN OF THE MEDIAL MENISCUS - A RETROSPECTIVE CASE STUDY -

Young Mo KIM[1], Yong Bum JOO[2], Woo Yong LEE[1]
[1]Chungnam National University School of Medicine, Department of orthopedic surgery, Daejeon (SOUTH KOREA), [2]Chunhnam National University, School of Medicine, Daejeon (SOUTH KOREA)

Purpose: To describe the clinical, arthroscopic, and radiological findings of an anomalous insertion of the anterior horn of the medial meniscus (AHMM) into the intercondylar notch (ICN) by the ligamentous structure known as anteromedial meniscofemoral ligament (AMMFL). Methods: retrospectively reviewed 13 knee of 12 patients that had an arthroscopically identified AMMFL. Medical records, arthroscopic findings were reviewed, and MRI were analyzed. Results: Preoperative knee pain was associated with the intraarticular lesions needing arthroscopic surgery. No significant extrusion of the mid-body of MM was found except for the MM 1 case (3.41mm). On MRI, the mean value of MM width measured in 7 of 13 cases was 9.79mm at mid-body of MM, 12.35mm AHMM, and 17.50mm PHMM. On arthroscopy, the three MMs (23.1%) were grossly large enough to be immediately diagnosed as incomplete discoid MM. The other five MMs (38.5%) were small to diagnose as incomplete discoid MM, but were significantly larger than the general MM size. Meniscus tear was found in 12 knees (92.3%), MM tear in 8 of 12 knees, LM tear in 6 of 12 knees. Conclusions: Considering that anterior knee pain was not associated with AMMFL in all cases, and meniscus with AMMFL does not have significant meniscal extrusion in most cases, AMMFL is expected to function as an anchor of AHMM. However, given that MM size is larger than normal, MM with AMMFL is expected to be slightly hypermobile overall, so it is associated with meniscal tear

Abstract no.: 47367

SKELETAL TUBERCULOSIS FOLLOWING FRACTURE FIXATION OF LONG BONE; A RARE ENTITY.

Jahangir JABED
Chittagong General Hospital, Chittagong (BANGLADESH)

Abstract - Though prosthetic joint infection following replacement arthroplasty well documented in literature it is extremely rare to find tuberculosis causing deep infection after a fracture fixation. It's a rare entity to occurring tuberculosis (TB) after a closed bone fracture in the patient with no history of TB and no evidence of TB infection at the time of initial fracture. We describe two such cases of skeletal tuberculosis that was treated at the two private Hospitals in Chittagong between March 2015 and January 2016. There was no history of clinical manifestations of tuberculosis and no evidence of a pulmonary primary focus of the infection in these patients at the time of initial fracture treatment. In both case femur fracture was internally fixed with plate screw. Postoperative period was uneventful. After a period of 4 months in 1st case and 9 months in 2nd case present with discharging sinus. Clinico-radiological feature give an impression of tubercular osteomyelitis which later confirmed by histopathological examination. Keyword: skeletal tuberculosis-fracture fixation-long bone.

Abstract no.: 47368

FEMORAL PROSTHESIS TRUNNION FRACTURE FOLLOWING LARGE METAL ON METAL UNCEMENTED TOTAL HIP ARTHROPLASTY: A CASE REPORT

Krishna Kiran EACHEMPATI[1], Chandra Sekhar DANNANA[2]
[1]., . (INDIA), [2]Max Cure Hospitals, Hyderabad (INDIA)

We report a rare complication of femoral prosthesis trunnion fracture in a 29-year-old male patient with Juvenile Idiopathic Arthropathy who underwent bilateral Total Hip Arthroplasty (THA) in 2006 with De Puy Johnson & Johnson Anatomical Medullary Locking (AML) fully porous coated stem and ASR large metal on metal (46mm) acetabular component. At about 10 years' post-surgery he felt a sudden pain in his left hip while walking, without any trauma and was unable to weight bear after that. The radiographs revealed a displaced fractured trunnion and well-fixed components. He underwent a revision THA with a Wagner SL uncemented long stem, uncemented Continuum multi-hole cup size 54 mm, ceramic 36mm head on UHMWPE liner (Zimmer) and a tantalum augment for a poster-superior acetabular defect. There was evidence of corrosion at the fractured trunnion site and no evidence of any adverse soft tissue mass or reaction in the hip. The reason for fracture could be the stem design with the AML having a small 9/10 taper coupled with a large metal on metal bearing (46 mm) leading to excessive torque forces at the trunnion and cyclic fatigue failure at the junction in addition to the corrosion. The unique features are rarity of the trunnion fracture, lack of adverse soft tissue reaction and normal metal ion levels. A large head bearing on small taper design should generally be avoided and large MoM THAs closely monitored.

Abstract no.: 47369

EFFECTIVENESS OF PAIN RELIEF USING ULTRASOUND-GUIDED NERVE BLOCK IN TOTAL KNEE ARTHROPLASTY

Young Mo KIM, Yong Bum JOO, Woo Yong LEE
Chungnam National University School of Medicine, Department of orthopedic surgery, Daejeon (SOUTH KOREA)

Introduction: This study evaluated the postoperative analgesic efficacy of ultrasound-guided nerve block in patients who underwent total knee arthroplasty(TKA). Materials and Methods: All participants underwent TKA at our hospital between May 2015 and April 2016 and were randomly assigned to the experimental(30 cases) or control group(30 cases). In experimental group, femoral and sciatic nerves were blocked under ultrasound guidance, and 25-30 cc of a mixture of normal saline and 0.75% ropivacaine (1:1) were injected epineurally. Both groups received intravenous patient-controlled analgesia (PCA) for 3 days following surgery. The visual analog scale (VAS) were compared. We also compared the total dose of oxycodone HCl infused through PCA as well as the number of times the patients pressed the PCA button. For patients who complained of pain with a VAS of 6 or greater, we administered oxycodone HCl 10 mg/naloxone HCl 5 mg as a combination drug a maximum of 4 times a day. Results: The mean VAS of the experimental group were significantly lower the control group until 18 hours after TKA. The total dose of oxycodone HCl administered through PCA until 24 hours after surgery was significantly lower in the experimental group than the control group. Similarly, the PCA button count until 24 hours after surgery was significantly lower in the experimental group. There was no statistically significant difference in oxycodone /naloxone intake in both groups. Conclusion: Preoperative ultrasound-guided nerve block after TKA is safe and effective for pain control in the acute phase, resulting in less narcotic analgesics.

Abstract no.: 47373

EFFECTIVENESS OF INTRA-ARTICULAR TRANEXAMIC ACID SOAKING ON BLOOD LOSS DURING TOTAL KNEE ARTHROPLASTY

Young Mo KIM, Yong Bum JOO, Woo Yong LEE
Chungnam National University School of Medicine, Department of orthopedic surgery, Daejeon (SOUTH KOREA)

Objectives To evaluate the effectiveness of intra-articular tranexamic acid (TXA) soaking on blood loss during total knee arthroplasty. Study Design & Methods We evaluated 85 patients who underwent primary total knee arthroplasty from January 2015 to March 2016. 85 patients were randomized to TXA group (43 patients) or control group (42 patients). In TXA group, 15ml of TXA in 100mL of normal saline was soaked for 5 minutes after prosthesis implantation but before capsule close. Drain was maintained with neutral pressure and turned on negative pressure three times a day for 30 minutes at a time. Drain was removed at 72 hours postoperatively. Hemoglobin, hematocrit, blood transfusion rate, drainage volume and lower extremity deep vein thrombosis (DVT) rate were evaluated in both groups. All patients underwent ultrasonography of the operative extremity at postoperative 7 days. Results Total drainage volume and blood transfusion rate were lower in the TXA group, and postoperative hemoglobin, hematocrit were higher in the TXA group than the control group. There was no significant difference in DVT rate and other complications between the two groups. Conclusions Intra-articular TXA soaking during total knee arthroplasty is effective method for decreasing blood loss and blood transfusion rate.

Abstract no.: 47374

ENDOPROSTHETIC RECONSTRUCTION FOR ATYPICAL FEMORAL FRACTURE IN CANCER PATIENTS WITH POOR PROGNOSIS

Hironari TAMIYA[1], Shigeyuki KURATSU[2], Norifumi NAKA[3]
[1]BellLand General Hospital / Osaka International Cancer Institute, Osaka (JAPAN), [2]BellLand General Hospital, Osaka (JAPAN), [3]Osaka International Cancer Institute, Osaka (JAPAN)

Background: Zoledronic acid and Denosumab therapy are used to reduce skeletal-related events in metastatic bone disease. However, several clinical studies have shown that long-term administration of these agents causes atypical femoral fracture (AFF) that is rare but serious complication in cancer patients. Case Report: A 48 year-old female with breast cancer underwent mastectomy. Six years after surgery, bone metastases were found and treated with radiotherapy and multiple series of chemotherapy. Zoledronic acid or Denosumab had been administered for eight years until AFF was detected by bone scintigraphy. A displaced femoral subtrochanteric fracture occurred after persisted left hip pain. Katagiri score was high (9 points), predicting poor prognosis. To obtain early pain relief and weight bearing, we performed bipolar modular proximal femoral replacement. Two weeks after surgery, she acquired the ability of walker-assisted gait. Four months after surgery, Enneking scores for pain and emotional acceptance were excellent, though the overall functional score was only 56% due to low function, supports, walking and gait score. Conclusion: Intramedullary nailing (IN) has been generally known as a treatment for clinical AFF, but the risk of delayed or non union is higher than that in typical femoral fracture. For clinical AFF in cancer patients with poor prognosis, endoprosthetic reconstruction can bring pain relief and improve gait ability faster than IN. This report suggests that endoprosthetic reconstruction should be considered as a first-line treatment to improve the quality of life against clinical AFF in patients with limited life expectancy.

Abstract no.: 47375

EDOXABAN AND TRANEXAMIC ACID USE IN TKA

Hiroyuki WADA
Kochi Hata prefectural Hospital, Sukumo (JAPAN)

Introduction: Many studies show in TKA, edoxaban is effective in preventing deep vein thrombosis (DVT) and tranexamic acid is effective in reducing blood loss. However, the effectiveness of both edoxaban and tranexamic acid use in TKA still remains unclear. The purpose of this study is to evaluate the effects of using both drugs in TKA. Methods: From September 2011 to March 2016,we retrospectively examined the medical records of 213 patients who underwent TKA. All patients were administrated edoxaban. Moreover, after April 2015, patients were intravenously administrated tranexamic acid. Sonographic examinations were performed before surgery, and on the second postoperative day. We evaluated the data on occurrence of DVT, intraoperative bleeding, total volume of drainage, transfusion rates and hemoglobin levels. Results: The incidence of DVT was 35.7% and 33.3% with and without tranexamic acid use, respectively. 63 patients received autologous blood transfusion and 6 patients received allogenic transfusion in non-tranexamic acid group. Meanwhile, patients administrated tranexamic acid don't have any transfusion. There were no significant differences in terms of age, Ccr, operation time, intra-operative blood loss and total volume of drainage between DVT group and non-DVT group. There was no significant difference in terms of the incidence of DVT regardless whether tranexamic acid was administrated or not. But, the drop in post-operative hemoglobin levels was statistically significant in non-tranexamic acid group. Conclusion: Edoxaban and tranexamic acid use don't increase DVTs and decrease postoperative bleeding in TKA.

Abstract no.: 47377

ACUTE FLEXOR TENDON INJURY FOLLOWING MID-SHAFT RADIUS AND ULNA FRACTURES IN A PAEDIATRIC PATIENT: CASE REPORT AND LITERATURE REVIEW

James WILLIAMS[1], Rupert WHARTON[2], Peter PEEV[2], Maxim HORWITZ[3]
[1]Department of Orthopaedics, Ealing Hospital, Bedford (UNITED KINGDOM),
[2]Department of Orthopaedics, Ealing Hospital, London (UNITED KINGDOM),
[3]Department of Orthopaedic Hand Surgery, Chelsea and Westminster Hospital, London (UNITED KINGDOM)

Acute flexor tendon injury following a forearm fracture is very rare, with only five cases reported in the literature to date. There are no previously documented cases of this injury in the paediatric population. A twelve year old female sustained an acute flexor tendon injury following mid-shaft fractures of the left radius and ulna. Intra-operatively the musculotendinous junction of flexor pollicis longus was found to be completely ruptured. This was repaired using a modified Krackow technique at the time of fracture fixation. Chronic extensor tendon ruptures are a recognised complication of distal radius fractures. Similarly, attritional flexor tendon ruptures from volar plating or the bony protuberance of mal-union are well documented in the literature. However, acute flexor tendon injury at the time of fracture is rare. The proposed mechanism of injury is direct trauma from a volar spike of bone. Therefore, forearm fractures resulting from high energy trauma with significant volar displacement of the bony fragment and clinical signs of flexor tendon injury should raise suspicion of this rare injury. Clinicians are advised to assess flexion at the interphalangeal joint of the thumb separately to neurovascular assessment to rule out this potentially devastating consequence. This will determine whether the fracture can be safely managed closed, or mandates open reduction and internal fixation using a volar approach to explore the flexor compartment. Ruptured tendons should be repaired at the time of fracture fixation.

Abstract no.: 47380

CADAVERIC STUDY ON THE FEMORAL FOOTPRINT FOR ANATOMICAL SINGLE-BUNDLE ANTERIOR CRUCIATE LIGAMENT RECONSTRUCTION

Young Mo KIM, Yong Bum JOO, Woo Yong LEE
Chungnam National University School of Medicine, Department of orthopedic surgery, Daejeon (SOUTH KOREA)

Purpose: the authors conducted a cadaveric study to present a clear center of insertion for the femoral tunnel formation during anatomical single bundle ACL reconstructions . Method: The procedure was performed on 29 adult cadavers. After visually confirming the status of the ACL, a guide pin (1.6 K-wire) was inserted at the center and the position was confirmed with the C-ram in order to identify the center of insertion of the femoral footprint. We observed the anatomical shape of the footprint by removing the ACL. Result: Femoral footprint was located in the space between the anterior boundary of the prominence portion of the Blumensaat's line and the femoral posterior cortex line. It was confirmed that the main bundle of the ACL started from the prominence portion of Blumensaat's line as its base. The center of insertion for the femoral footprint was also located in this space on the C-ram. The femoral footprint site that we observed after removing the ACL was a sloping semicircle located 2–3 mm from the cartilage boundary line. The center of insertion was located at an average of 1.5 mm in front and 1 mm above the point at which the lateral intercondylar ridge and the lateral bifurcate ridge intersect. Conclusion: The footprint of the ACL is located at where the anterior boundary of the prominence portion of Blumensaat's line and the femoral posterior cortex line intersect. The center of this area will be the guide point for the anatomical single bundle ACL reconstruction .

Abstract no.: 47383

TREATMENT OF PROXIMAL FEMUR FRACTURES IN ELDERLY PATIENTS BY CEMENTED HEMIARTHROPLASTY V/S PROXIMAL FEMORAL NAIL

Tarun KUKREJA
Dr DY Patil Medical College, Pune (INDIA)

Purpose: To study in detail the type of fracture patterns seen in proximal femur and compare cemented Hemi-arthroplasty with Proximal Femoral Nail (PFN) with respect to intra-operative parameters and post-operative outcome in order to determine which implant would be ideal for which fracture type. Methods: Thirty patients with trochanteric fractures were selected randomly for this study. Patients with Singh index > III and with traction X-ray showing satisfactory alignment in acceptable position were treated with PFN & patients with Singh Index < III and with traction X-ray showing loss of integrity of postero-medial cortex and inadequate alignment were treated with cemented bipolar hemiarthroplasty. Patients were followed up at regular interval and functional outcome was analyzed by Harris Hip Scoring system. Results: Majority of the patients were in the age group of 70-79 years, 16 being females and 14 males. Average duration of hospital stay for hemiarthroplasty was 14.3 days and 11.8 days for PFN. Average intra-operative blood loss was 516.6ml for hemiarthroplasty and 187.3ml for PFN. Average operating time for hemiarthroplasty was 80 minutes and 83.3 minutes for PFN. Mean Harris Hip Score after one year for Hemi-arthroplasty was 76.4 and 77.8 for PFN. Conclusion: PFN has an advantage of shorter operating time, less blood loss, lower hospital stay with no difference in functional outcome or general complications as compared to hemiarthroplasty. Major advantage with PFN is patients can squat and sit cross legged after fracture union. Hemiarthroplasty provides a stable, painless, and mobile joint with very low complication rate.

Abstract no.: 47392

A COMPARATIVE STUDY ON THE ACCURACY OF MAGNETIC RESONANCE IMAGING IN DETECTING ACL AND MENISCAL TEARS OF THE KNEE AT THE MEDICAL CITY

Ken Jeffrey MAGCALAS, Rafael CLAUDIO, Carlo Emmanuel SUMPAICO, Jose Eduardo LEGARDA
The Medical City, Metro Manila (PHILIPPINES)

Magnetic Resonance Imaging is a proven non-invasive diagnostic tool in detecting different knee pathologies. It has multi-planar capabilities in assessing the anatomy of the knee joint. In different studies that were previously done, the specificity and sensitivity of MRI in detecting various knee pathologies ranges from 80-90%. This study aims to determine the accuracy, specificity, and sensitivity of MRI done in a single tertiary hospital in the Philippines by correlating it with the intra-operative findings seen during knee arthroscopy. A total of 111 patients who had knee arthroscopy and knee MRI done from 2014 to 2016 were included. On analysis, 63 patients were arthroscopically proven to have an ACL tear with meniscal tear and 48 had isolated meniscal tears. Accuracy was calculated at 94% for ACL tears (sensitivity of 94% {CI 95%: 84%-99%}, Specificity of 92% {CI: 81% to 98%}), 65% for ACL with lateral meniscal tears (sensitivity of 50% {CI 95%: 44% to 92%}, specificity of 73% {CI 95%: 57% to 86%}), 73% for ACL with medial meniscal tears (Sensitivity of 94% {CI 95%: 71% to 100%}, Specificity of 97% {CI 95%: 50% to 90%}), 75% for medial meniscal tears (Sensitivity of 80% {CI 95%: 61% to 93%}, Specificity of 68% {45% to 86%}) , and 83% for lateral meniscal tears (Sensitivity of 73%{CI 95%: 44% to 92%}, Specificity of 88% {CI 95%: 71% to 96%}). This study showed that knee MRI has higher accuracy in detecting isolated knee pathologies compared to ACL with concomitant meniscal injury.

Abstract no.: 47393

TOTAL JOINT REPLACEMENT FOLLOWING FAILED HEMIARTHROPLASTY

Afshin TAHERIAZAM[1], Farshad SAFDARI[2]
[1]Tehran Medical Sciences Branch, Islamic Azad University, Tehran (IRAN),
[2]Bone, Joint and related tissues research center, Akhtar hospital, Shahid Beheshti University of medical sciences, Tehran (IRAN)

Introduction: There are some reports regarding the outcomes conversion total hip arthroplasty (THA) following failure of hemiarthroplasty. However, it is necessary to perform more studies to assure the acceptable outcomes of previous studies. In current study, we continued our previous study on these patients with more number of patients and longer follow up period. Methods: There were 63 enrolled in current study. The patients had been visited at one and six months and one year after the operation, and annually thereafter. Harris Hip Score (HHS) was completed for all of the patients. Patients were followed for 34±7.5 months. Results: As expected, the main indications for conversion arthroplasty were stem loosening of the stem and acetabular erosion. All of the patients had complaint about groin pain and limping. Infection was occued in 11 patients (21.7%). HHS score improved from 47.2±8 preoperatively to 92.6±2.6 postoperatively. Conclusion: We conclude that conversion of failed symptomatic hemiarthroplasty to THA is a safe option which can lead to good functional and short-term and mid-term outcomes; and patients should be informed of the possibility of incomplete relief of groin pain or other symptoms postoperatively. We also showed that time of primary operation to being symptomatic and infection in patients had poor prognosis in existence of pain postoperatively.

Abstract no.: 47395

THE CHOICE OF THE ACETABULAR COMPONENT PLACEMENT IN DYSPLASTIC HIP PATIENTS

Silvestris ZEBOLDS[1], Andris JUMTINS[2], Peteris STUDERS[2]
[1]Hospital of Traumatology and Orthopaedics, Riga (LATVIA), [2]Riga Stradins University, Riga (LATVIA)

Introduction: Total hip arthroplasty (THA) in patients with hip dysplasia is a challenging surgical operation. Many surgeons concur that the anatomical placement of the acetabular components of endoprostheses (AC-EPs) during THA yields the best result. However, there are advocates of the high rotation center of the hip joint after replacement surgery. In our study we compared the outcomes of THA based on the placement of acetabular cups to identify the most favorable site for AC-EP in patients with varying grades of dysplastic osteoarthritis. Methods: Our study included 88 patients with dysplastic hip osteoarthritis who underwent 106 THAs using cementless fixation endoprostheses. Functional results were assessed by Merle d'Aubigne and Postel's method and by instrumental gait analysis (IGA). Gait deviation index was calculated based on IGA to compare results in different acetabular component placement groups. Results: Functional assessment of patients by Merle d'Aubigne and Postel's grading method and IGA showed no significant difference in results due to the placement of the acetabular component. Most complications were found in the severe dysplasia patients group with the anatomical placement of the AC-EP. Conclusions: The appropriate location of cementless acetabular cups during THA in dysplastic hips depends on the grade of dysplasia, expected elongation of the leg, and the potential for adequate bone coverage for the AC-EP. In cases of severe dysplasia, the placement of the AC-EP in the secondary socket can provide a good functional outcome and reduces the risk of complications.

Abstract no.: 47401

CURRENT INDICATIONS, RESULTS AND PATELLAR ISSUES WITH ROTATING HINGE TKA.

Sebastien LUSTIG, Elliot SAPPEY-MARINIER, Cecile BATAILLER, Elvire SERVIEN
LYON CROIX ROUSSE UNIVERSITY HOSPITAL, LYON (FRANCE)

Aim : Rotating Hinge TKA have specific indications that limit their current use. Patellar problems were also highlighted with the first generations of implants. We wanted to assess the current use of these implants and the rate of related patellar complications. Materials and methods : Between January 1, 2015 and December 31, 2016, 1284 knee prostheses were performed at our center, of which 172 were revisions (13%) and 72 Rotating Hinge TKA (5%). We analyzed and studied patellar complications specifically in this last group. Results : 43 were "simple" hinge prostheses for isolated ligamentous problems (18 Lexa C2F®, 25 Rotax Group Lepine®), and 29 were so-called "reconstruction" hinge prostheses for ligamentous problems related to bone loss (10 Noyles Depuy®, 19 RHK Biomet Zimmer®). A single reoperation for patellar instability (2.5%) was needed with reconstruction of MPFL with quadriceps Tendon. The patella was perfectly centered in 65% of the cases of "simple" hinge prostheses and in 59% of the "reconstruction" hinge prostheses. There was no influence of patellar resurfacing. Conclusion : Patellar instability after a "modern" hinge prosthesis is uncommon but the perfect patellar centering remains delicate to obtain especially in case of bone loss. The use of these implants requires to be accurate on the positioning, in particular in rotation, in order to avoid these patellar problems.

Abstract no.: 47402

REHAB PRESCRIPTION: IMPROVING RECOVERY FOLLOWING MAJOR LOWER LIMB TRAUMA

Michael STODDART, Kalina HRISTOVA, Sheri TAY, Thomas WRIGHT, Thomas CHAPMAN, Umraz KHAN
Southmead Hospital, North Bristol NHS Trust, Bristol (UNITED KINGDOM)

Introduction: An appropriate rehabilitation following acute lower limb trauma and orthoplastic surgery is fundamental for a good outcome. It requires a multidisciplinary ongoing coordinated care and good communication. In 2010 the NHS Clinical Advisory Group for major trauma services developed the rehabilitation prescription to help clinicians identify patient needs and it was included in the best practice tariff for major trauma in 2012. The aim of this project was to ensure that all orthoplastics patients have an easily accessible rehabilitation prescription to guide their weight-bearing status and the need for cast immobilisation. Methods: We reviewed the electronic discharge summaries of 20 consecutive patients with acute lower limb trauma and orthoplastic surgery. Established quality improvement methodology were used to identify possible improvements to the current discharge summaries for lower limb trauma. After discussion with medical, nursing and physiotherapy colleagues, a field on our electronic discharge summary was introduced with the title of “Rehab Prescription”. Results: Prior to the introduction of the Rehab Prescription on electronic discharge, 2 out of 20 patients had a clear rehabilitation plan in their discharge summary. After the introduction of this field 17 of the 20 patients had a proper plan. Conclusion: Patients were previously discharged without a clear rehabilitation prescription. With this change, access to rehabilitation plan was improved and this will speed both physical and psychological recovery after the severe lower limb injuries. Furthermore, this rehab prescription could potentially be used for patients with other types of trauma or elective procedures.

Abstract no.: 47403

NOVEL APPROACH TO POSTOPERATIVE PAIN CONTROL AFTER TOTAL HIP ARTHROPLASTY

Anna USKOVA[1], Nicholas SCHOTT[2], Vikram BHASIN[3]
[1]University of Pittsburgh Medical Center, Pittsburgh, PA,15206 (UNITED STATES), [2]university of Pittsburgh Medical Center, pittsburgh, (UNITED STATES), [3]University of Pittsburgh Medical Center, Pittsburgh (UNITED STATES)

Introduction: Recent case reports (Blanco, LaCola) have described good pain control with the single injection Quadratus Lumborum block (QLB) for various hip surgeries. At our institution total hip arthroplasty (THA) patients have received Lumbar Plexus blocks (LBP), with an indwelling catheter for up to 48 hours, for pain control and optimization of physical therapy (PT). The main drawback of this approach was a significant incidence of quadriceps weakness, which interfered with early patient rehabilitation. Method: This is a retrospective study, which collected date from 50 consecutive patients with either a LPB or a QLB, from the same surgeon and same surgical approach over the course of three months. Opioid consumption, pain scores, and length of stay were collected and compared. Result: Preliminary data showed similar pain scores, decreased opioid consumption, and shortened length of stay in both groups. Change from LPB catheters to single injection QLB showed non-inferior pain control with improved early mobilization and discharge. Conclusion: The advantages of the QLB are multiple: It is easy to perform (without a steep learning curve), has minimal discomfort for the patient, has fewer restrictions with anticoagulation for placement, and is more cost effective. Most importantly, there is no motor weakness, resulting in more immediate postoperative PT sessions, and early discharge home. We propose that the QLB is an effective and safe alternative to LPB for THA; it is easy to be implemented for the THA ERAS protocol.

Abstract no.: 47419

RELATIONSHIP BETWEEN PREOPERATIVE EXTRUSION OF THE MEDIAL MENISCUS AND SURGICAL OUTCOMES AFTER PARTIAL MENISCECTOMY

Sangwoo JEON[1], Junsik KIM[2], Sung-Jae KIM[3], Chong Hyuk CHOI[2], Yong-Min CHUN[2], Sung-Hwan KIM[2], Min JUNG[2], Taehwan YOON[2], Yoo-Chul JEONG[4]

[1]Department of Orthopaedic Surgery, Arthroscopy and Joint Research Institute, Severance Hospital, Yonsei University College of Medicine, Seoul, Korea, . (SOUTH KOREA), [2]Department of Orthopaedic Surgery, Arthroscopy and Joint Research Institute, Severance Hospital, Yonsei University College of Medicine, Seoul, Korea, Seoul (SOUTH KOREA), [3]Department of Orthopaedic Surgery, Yonsei Sarang Hospital, Seoul, Korea, Seoul (SOUTH KOREA), [4]Department of Orthopaedic Surgery, Arthroscopy and Joint Research Institute, Severance Hospital, Yonsei University College of Medicine, Seoul, Korea, Seould (SOUTH KOREA)

Purpose: To determine the factors related to preoperative meniscal extrusion; to investigate the relationship between medial meniscal extrusion and postoperative outcomes of partial meniscectomy, and to identify a cutoff point of meniscal extrusion that contributes to arthritic change after partial meniscectomy in nonosteoarthritic knees. Methods: 208 patients who underwent partial medial meniscectomy were reviewed. The minimum follow-up duration was 7 years. Clinical function and radiological evaluation were assessed with Lysholm knee score, IKDC subjective knee evaluation form, Tapper and Hoover grading system and IKDC radiographic assessment scale. Results: Preoperative Lysholm knee score and IKDC subjective score were 65.0±6.3 and 60.1±7.5. The mean follow-up LKS and IKDC subjective score were 93.2±5.1(P<.001) and 89.0±6.2(P<.001). Preoperative extrusion of the meniscus showed a tendency to increase as the extent of intrameniscal degeneration increased(P<.001), and the medial meniscus was extruded more in patients with horizontal, horizontal flap, and complex tears(P<.001). The preoperative extent of meniscal extrusion had a statistically significant correlation with follow up Lysholm knee score, IKDC subjective score, Tapper and Hoover grade, and IKDC radiographic grade. The cutoff point for the relative value of preoperative meniscal extrusion associated with arthritic change was 34.6%. Conclusion: The preoperative intrameniscal degeneration horizontal, horizontal flap, and complex tears were associated with preoperative extrusion of the medial meniscus. The preoperative extrusion of the medial meniscus was negatively correlated with outcomes of partial meniscectomy. The preoperative extent of meniscal extrusion can be used as a predictive factor for osteoarthritis in partial meniscectomy.

Abstract no.: 47422

EFFICACY OF INTRA ARTICULAR STEROID VERSUS HYALURONIC ACID INJECTION IN OSTEOARTHRITIS KNEE

Sandesh Reddy YARATAPALLI
guntur medical college and hospital, nellore (INDIA)

To compare the efficacy of intra articular steroid injection versus hyaluronic acid in knee osteoarthritis. This is a prospective study and a total of 100 patients were studied. They were randomly divided into group A (steroid injection) and Group B (hyaluronic acid). All patients were diagnosed with osteoarthritis by clinical and radiological evaluation. Group A (50 patients) were given steroid injection and group B (50 patients) Hyaluronic acid injection. Patients were functionally assessed using VAS and KSS scores and radiologically by standing X ray AP and lateral view of the knee. The steroid and hyaluronic acid injection groups at the initial visit had a VAS of 6.62 and 6.52 respectively which got reduced to 4.26 and 3.66 at the end of 6 months. Similarly KSS at initial visit was 141.18 and 140.0 respectively, and improved to 150.06 and 156.4 at the end of 6 months. Furthermore patients in each group (group A and B) were divided into 3 grades based on kellegren and Lawrence classification and VAS, KSS for each grade assessed separately. The extent of pain relief (VAS) and improvement in KSS is much better in early stages (grade I and II) of OA following both injections compared to late stages (grade III). Corticosteroid injection is effective for short term relief with early onset action compared to Hyaluronic acid which has a gradual onset action and sustained relief. Further studies are required to evaluate the combined action of both injections together.

Abstract no.: 47423

PREOPERATIVE FACTORS INFLUENCE THE RECOVERY OF RANGE OF MOTION FOLLOWING REVERSE SHOULDER ARTHROPLASTY

Alexandre LÄDERMANN[1], Philippe COLLIN[2]
[1]La Tour Hospital, Meyrin (SWITZERLAND), [2]Centre Hospitalier Privé Saint-Grégoire, Saint-Grégoire (FRANCE)

Background Some patients unexpectedly have poor recovery of range of motion (ROM) after RSA. This study sought to determine if subjective preoperative factors influence the rate and timing of ROM recovery after RSA. Methods Between January 2011 to January 2012, all RSAs performed by a single surgeon were prospectively enrolled in this study. The cohort was divided into 2 groups based on AFF <90 or > 90 after surgery. A multivariate analysis was performed to define independent predictive factors of postoperative ROM. Patients were reviewed at 6 weeks, and 3, 6, 12 and 24 months. Results 101 RSA were available for the final analysis. Poor postoperative ROM at 6 weeks was significantly related to poor postoperative deltoid strength. Poor postoperative ROM at 1 year follow-up was related to surgery of non-dominant arm, preoperative poor AFF, preoperative activity, poor subjective shoulder value (SSV), and a low contralateral Constant score. The AFF and Constant score improved until 6 months and plateau was then observed. In contrast, both external and internal rotation continued to improve during the whole follow-up. Conclusions Six months postoperatively, AFF and Constant score reach a plateau, contrarily to rotations that have continue to improve during the 2 years follow-up. Non-dominant side, preoperative poor AFF, poor subjective shoulder value and poor contralateral Constant score were associated with poor recovering ROM. It may be important to work on own patient' perception of upper limb, and to educate pre- and postoperatively how to move.

Abstract no.: 47427

IS A PATELLA RESURFACING PROCEDURE FOLLOWING A PRIMARY TOTAL KNEE REPLACEMENT ACCURATELY REPORTED AS A REVISION PROCEDURE TO THE NATIONAL JOINT REGISTRY?

Irrum AFZAL, John DABIS, Richard FIELD, Roy TWYMAN
South West London Elective Orthopaedic Centre, London (UNITED KINGDOM)

The National Joint Registry (NJR) in the United Kingdom defines ‘revision’ as the removal of failed or failing implants and/or insertion of prostheses following a primary arthroplasty. The accuracy of recording a Patella Resurfacing (PR) following a Total Knee Replacement (TKR) remains uncertain as no original implants are removed or replaced. 12,102 primary TKRs were performed in a high volume elective orthopaedic centre by 22 surgeons over an 11 year period. 143 of these primary TKRs were reported to the NJR as revised.14 of the 143 underwent a PR following a primary TKR, therefore were classified as a revision. The remaining 129 primary TKRs were revised for other clinical reasons. Further analysis of hospital revision data identified all the revision procedures performed by the same cohort of surgeons. Patient electronic medical records and NJR records were linked using hospital number in order to identify the accuracy in reporting revision data. 88 PR operations following a primary TKR were recorded on the hospital electronic system. 74 of these PR procedures were identified as not being reported to the NJR as revisions. PR following a TKR was underreported to the NJR. As a result the percentage of reported revisions following a primary TKR at this centre should increase from 1.18% to 1.79% for an eleven year follow-up period. This result was found to be statistically significant, $p < 0.0001$. In order to improve both knee arthroplasty surgery and NJR data quality, it is crucial that accurate data is recorded to the NJR.

Abstract no.: 47429

INFLAMMATORY ARTHRITIS OR POLYARTICULAR SEPTIC ARTHRITIS? - CLINICAL CASE

Pedro Manuel SERRANO, Marta SANTOS SILVA, Pedro BARREIRA, Pedro NEVES, Pedro LEITE, Ricardo PINTO, Ricardo SOUSA
Centro Hospitalar do Porto, Porto (PORTUGAL)

Introduction:In the last decade, the risk of septic arthritis has increased, especially in patients with HIV infection and history of intravenous drug abuse. Correct diagnosis is not always easy, especially in borderline cases. The authors present a complex case with polyarticular involvement, wrongly interpreted as septic-arthritis. Clinical-case: A 40-year-old female, with history of drug addiction, HCV, HBV infection and childhood infections, presented exuberant monoarthritis of the right knee, fever, elevation of inflammatory markers and recent history of left-thigh deep abscess, after inoculation of heroin. Arthrotomy was performed for assumed septic-arthritis. After this, transient periods of polyarticular pain exacerbation and variable analytical response persisted. She underwent 2 more knee debridements and shoulder arthroscopy for suspected septic arthritis, and extraction of the right femoral head with placement of a cement spacer, for necrosis of the femoral head. Microbiological studies were always negative. Results:Internal Medicine assumed an inflammatory arthritis (probably reactive to the streptococcal infection) and corticotherapy was initiated with clinical and analytical improvement. Spacer removal and total hip arthroplasty were already performed. Discussion:Given the danger of untreated septic-arthritis, orthopaedic surgeons are often pressured to operate even in dubious cases. However, doubtful criteria or unusual evolution should lead us to consider other causes and interdisciplinary discussion. Conclusion:Difficult diagnosis should not delay treatment that in some cases may be vital. The involvement of several joints does not rule out the diagnosis of septic-arthritis, with 15% of septic-arthritis being polyarticular. However, there are other entities potentially responsible for clinical conditions, that should not be forgotten.

Abstract no.: 47430

METAL ON METAL TOTAL HIP ARTHROPLATY: A LOCAL EXPERIENCE IN SINGAPORE

Yew Lok WOO, Adriel TAY, Ngai Nung LO
Singapore General Hospital, Singapore (SINGAPORE)

The Depuy ASR recall in 2010 raised many questions regarding the previously purported benefit of metal on metal surfaces. It was reported to have revision rate of up to 12% and high serum ion level in patients. With limited data on ASR in Asian countries, this had intrigue us to find out the experience with ASR implants in Singapore. All patients who underwent total hip arthroplasty (THA) with the Depuy ASR hip prostheses were recalled since 2013. Blood tests such as serum cobalt and chromium levels, and MRI scan was performed. Other details such as the femoral head & acetabular cup sizes, postoperative complications, reason for revision and outcome scores were documented. A total of 29 patients with ASR implant were identified, of which, only 24 completed the recall process (11 females and 13 males). All patients had surgery performed in 2006 to 2008. 10 patients had elevated serum cobalt level (>5ug/L) (mean 22.2ug/L) and serum chromium level (>2ug/L) (mean 7.7ug/L). The mean acetabular cup size was 53 mm and the mean femoral head size was 47 mm. Eight cases (33.3%) were found to have pseudotumor. There were four revisions surgery (16.7%) performed throughout the years and the reasons were either aseptic loosening or loosening due to erosion by pseudotumour. In our local context, the revision rate was higher than reported previously. This was likely due to smaller femoral head size (less than 50mm) in Asian population.

Abstract no.: 47432

EARLY DEEP SURGICAL SITE INFECTION FOLLOWING 740 PRIMARY PEDIATRIC SCOLIOSIS PROCEDURES: A MULTIVARIATE ANALYSIS OF RISK FACTORS

R Justin MISTOVICH[1], Jerry DU[2], Connie POE-KOCHERT[2], Jochen SON-HING[2], Christina HARDESTY[2], George THOMPSON[2]

[1]University Hospitals Rainbow Babies and Children's Hospital, Cleveland Heights (UNITED STATES), [2]University Hospitals Rainbow Babies and Children's Hospital, Cleveland (UNITED STATES)

Introduction: Deep surgical site infections (SSI) following pediatric spine surgery are an important cause of morbidity. We sought to identify independent risk factors for early infection following primary, definitive single stage (posterior or anterior-posterior approach) surgery. Methods: 740 consecutive patients (from 2001-2016) were identified that met inclusion criteria of definitive single stage scoliosis surgery. Early deep SSI was defined as infection within 90 days of index procedure requiring surgical intervention per CDC criteria. A multivariate analysis of demographics and perioperative factors was performed and independent risk factors were identified. This study was IRB approved. Results: Fourteen patients (1.9%) developed an early deep SSI. Independent risk factors for SSI identified were non-idiopathic (neuromuscular, syndromic, and congenital) scoliosis (adjusted odds ratio [aOR]: 8.387, 95% confidence interval [95% CI]: 1.818-38.701, p=0.006) and volume of intraoperative crystalloids (aOR: 1.405 per additional liter of fluid, 95% CI: 1.003-1.968, p=0.048). Mean crystalloid administered in the SSI group was 3.3 ± 1.2 liters versus 2.5 ± 1.1 liters in the non-infected group (p=0.011). On univariate analysis, there was no significant difference in weight of patients between cohorts (p=0.578). However, the SSI group had a significantly higher operative time (441.4 ± 166 minutes versus 351 ± 105 minutes, p=.002). Additionally, intra-operative re-dosing of antibiotics after 3 hours of surgery trended on significance as a protective factor (odds ratio: 0.356, 95% CI: 0.098-1.286, p=0.111). Conclusions: Non-idiopathic scoliosis and intraoperative crystalloid volume were independently associated with early post-operative SSI. Intra-operative antibiotic re-dosing trended on significance.

Abstract no.: 47433

THE CLINICAL RESULT OF TREATMENT FOR GREATER TROCHANTER FRACTURE WITH OCCULT TROCHANTERIC FRACTURE.

Yoichiroh YAMAGUCHI
Miyazaki Medical Association Hospital, Miyazaki (JAPAN)

Background:Fractures isolated to the greater trochanter region are commonly rare. This fracture often involves the occult trochanteric fracture. Treatment for occult trochanteric fracture has not been studied extensively in clinical trails. Methods: Subjects were 21 patients (6 males, 15 females; ages 56-92 years; mean age 82.7) who diagnosed greater trochanter fracture. CT, MRI or both was performed.In all cases, after CT or MRI, immediate weight-bearing is permitted as tolerated, often with the assistance of a walker and T-cane. Results: 5 patients had MRI examination and displayed the fracture of the greater trochanter in all cases. One patient had operative treatment and 18 patients had nonoperative treatment. Nonoperative treatment patients could start walking within few days (1-11days; mean 3.8 days). Conclusions: When there is radiographic evidence of an isolated fracture of the greater trochanter, MRI often shows an intertrochanteric fracture. We recommend nonoperative treatment if occult intertrochanteric fracture was displayed. This finding may be a factor in determining the need for surgical intervention.

Abstract no.: 47434

RELATIONSHIP OF INTRAOPERATIVE ENDPLATE FRACTURE, CAGE SUBSIDENCE AND CLINICAL OUTCOMES IN LATERAL LUMBAR INTERBODY FUSION(LLIF)

Kazuyoshi YANAGISAWA
Aiseikai Yamashina Hospital, Kyoto (JAPAN)

Purpose: Intraoperative endplate fracture in LLIF may lead to cage subsidence, and may reduce clinical outcomes. The aim of this study is to make it clear whether intraoperative endplate fracture will affect the clinical outcomes. Methods:35 cases(72 fusion levels)were selected. All cases were scanned using computed tomography, before surgery, the next day, and 3 months later. Clinical outcomes were evaluated by VAS for low back pain, lower leg pain ,and lower leg numbness before and after surgery. Results: Endplate fractures were detected in 16 levels (22%) in 72 levels. Cage subsidences were detected 24 levels in 72 levels (33%). 8 levels(50%) in the 16 levels with endplate fractures were led to cage subsidence, and 17 levels (30%) of 56 levels without endplate fracture were led to cage subsidence(P = 0.15). After 3 months, in 22 levels (46%) of 48 levels without cage subsidence, bone union was recognized. And in 10 levels (42%) of 24 levels with cage subsidence, bone union was recognized(P = 0.72). 18 cases without cage subsidence, low back pain was improved from 5.1 to 2.7,lower leg pain from 5.8 to 2.5, and lower leg numbness from 6.1 to 2.8. 17 cases with cage subsidence ,low back pain was improved from 6.6 to 2.5, lower leg pain from 6.2 to 2.8, and lower leg numbness from 5.9 to 2.6. Conclusion: Intraoperative endplate fracture had a tendency to increase cage subsidence, but there were no significant differences. Cage subsidence had no effect on bone union and clinical outcomes.

Abstract no.: 47436

TOPICAL TRANEXAMIC ACID IN TOTAL KNEE ARTHROPLASTY : A PROSPECTIVE COMPARATIVE STUDY

Rakesh GUPTA, Raj SINGH
Postgraduate Institute of Medical Sciences, Rohtak. India, Rohtak (INDIA)

Total Knee Arthroplasty is currently one of the most commonly performed elective orthopaedic procedure associated with large amount of postoperative blood loss and a high incidence of transfusion. Intraarticular topical use of Tranexamic acid can possibly reduce this thereby result in lesser postoperative mortality and morbidity. However there can be a possible increase in the incidence of deep vein thrombosis. Therefore a prospective, randomized controlled study was undertaken to compare the amount of blood loss during Total Knee Arthroplasty with and without use of Topical Tranexamic Acid. There were two groups of 20 patients each with comparable age and sex distribution, the study group(Group 1) being given 1.5 gm Tranexamic Acid in 50 ml normal saline through drain after closure. The control group was given 50 ml of normal saline only. The average post-op drain volume in Group I after 48 hrs was 128±38ml and in Group II was 606±105 ml; p value being <0.01. Patients with topical Tranexamic Acid showed significant reduction of drain volume as compared to patients without Tranexamic Acid. Group I showed a mean drop of 0.5 gm% of Hb as against 1.8gm% drop of Hb in patient without Tranexamic Acid (GroupII) with p valueof <0.05 which was again significant .The study indicates that Topical Tranexamic Acid significantly reduces blood loss in post-op drain and mean drop in Hb level thereby reducing the need for blood transfusion in Total Knee Arthroploasty.

Abstract no.: 47439

MANAGEMENT OF CHARCOT FOOT ARTHROPATHY

Stefan CRISTEA[1], Radu VISAN[2], Andrei PRUNDEANU[2], Stefan CUCULICI[2]
[1]Saint Pantelimon Emergency Hospital - Orthopaedic Department, Bucharest, Romania, BUCHAREST (ROMANIA), [2]Saint Pantelimon Emergency Hospital - Orthopaedic Department, Bucharest, Romania, Bucuresti (ROMANIA)

The goal of our study is to prove the efficacy of conservative treatment and management of Charcot foot and decreased risk of amputation. Methods We created a 5.5 year prospective study comprised of 57 patients with diabetes mellitus related Charcot foot. Diagnosis was based on clinical and radiologic findings using the common classification: Development stage: 37 patients (65%); Coalescence stage: 12 patients (21%); Remodeling stage : 8 patients (14%). In 44 patients after reducing the deformities, we performed pressure-relieving total contact casting immobilization for 3 weeks with weekly or as-needed follow-ups. In general we applied the immobilization 3 times longer than for standard fracture treatment. Surgery was the treatment of choice in 13 patients by performing corrective osteotomy, arthrodesis. We performed a minimally invasive percutaneous screw osteosynthesis and external fixation. The evaluation of the treatment was clinical, radiologic and by footprint analysis during periodic follow-ups. Results We obtained the best results in an early stage of disease. We recorded exceptional results in 27 cases (78%) conservatively treated and 8(22%) surgically treated; good results in 11 cases (85%) conservatively treated, and 2 (15%) surgically treated, and poor results in 5 cases (55%) conservatively treated and 4 (45%) surgically treated. Conclusions Conservative treatment is the option of choice in Charcot foot. Walker immobilization allowed judicious daily inspection and discovery of early-stage plantar lesions of the foot, permitting us to resolve them successfully. Surgery is indicated only in failure of conservative treatment. Simple surgery is more effective and implies less complication.

Abstract no.: 47446

THREE-YEAR RESULTS OF CEMENTLESS KNEE ARTHROPLASTY

Alexey MUZYCHENKOV[1], Valery MURILEV[1], Aleksandr GUCHKOV[2], Yaroslav RUKIN[1]

[1]I.M. Sechenov First Moscow State Medical University, Moscow (RUSSIA), [2]Botkin City Hospital, Moscow (RUSSIA)

Introduction: Cementless knee arthroplasty becoming more and more popular worldwide. At the beginning of the era of endoprosthetics, cementless implants did not perform well. However, operational technology is developing and nowadays the cementless fixation shows better results. Objectives: We decided to analyze the experience of total knee arthroplasty with cementless fixation for the treatment of advanced arthritis of the knee. Methods: We operated on 133 patients. The mean follow-up was 36 months. In 64 patients we used cementless fixation and 69 patients were operated using implants with cemented fixation. To evaluate the results, we applied KOOS scale and WOMAC scale. We also evaluated the mean operation time and blood loss (intraoperative and postoperative). Results:Outcome over WOMAC and KOOS scale before operation were 198, 2(+-4, 8) and 24, 7 (+-8,8) in the cementless group and 197,6(+- 5,2) and 25,6 (+- 6,9) in the cemented group. In year after operation KOOS and WOMAC scale results were 78, 5(+-6,2) and 67,2(+- 2,7) in the cementless group and 70,89(+-7,2) and 78,3(+-4,6) in the cemented group. Intraoperative blood loss were 240 (+-52,1) in the cemented group and 384(-+89,3) in cementless group. Postoperative blood loss were 550(+-119,5) and 620(+-124). Mean operation time were 74 min (+-12) in cemented group and 62 min (+-14) in cementless group. Conclusions: 1. We have better functional results using implant with cementless fixation. 2. Cementless group had bigger intraoperative blood loss and postoperative blood loss. 3. Cementless knee arthroplasty were faster than cemented.

Abstract no.: 47449

TOTAL KNEE REPLACEMENT USING HYBRID FIXATION

Alexey MUZYCHENKOV[1], Valery MURILEV[1], Aleksandr GUCHKOV[2], Yaroslav RUKIN[1]

[1]I.M. Sechenov First Moscow State Medical University, Moscow (RUSSIA), [2]Botkin City Hospital, Moscow (RUSSIA)

Introduction: Number of TKA in Russia increases every year by 5-10%. Cemented type of fixation is the most common type of fixation in Russia. The number of younger and active patients treated with TKA continues to increase therefore different types of fixation are required. Objectives: Our objectives are to analyze experience of TKA with hybrid fixation for treatment of knee arthritis. Methods: Since 2012 to 2016 on the basis of BotkinClinical Hospital we operated 173 patients. Mean follow-up was 24 months (12 to 42 months). 87 patients were operated with hybrid fixation implants (cemented femoral component and cementless tibial component). In 86 patients, we used cemented implants. To evaluate results, we applied KOOS scale and WOMAC scale. In addition, we analyzed radiolucent line under tibial component. Results: Outcome over WOMAC and KOOS scale before operation were 195,3 (+-5,9) and 23,6 (+-9,9) in hybrid fixation group; 187,4(+- 4,3) and 26,4 (+- 3,8) in group with cemented fixation. In year after operation WOMAC and KOOS results were 57,1(+- 3,4) and 79,4(+-7,3) in hybrid fixation group; 76,2(+-5,6) and 69,9(+-6,1) in cemented fixation group. Radiolucent line under the tibial component were in 4, 6% of cases in hybrid fixation group and 57, 5% of cases in cemented fixation group. Conclusions: 1. Based on the results the results of WOMAC and KOOS scale we have better functional results in hybrid fixation group. 2. Radiolucent line under the tibial component appears significantly less in hybrid fixation group.

Abstract no.: 47454

UTILIZATION OF A REPLESS MODEL IN PRIMARY JOINT ARTHROPLASTY

Morteza MEFTAH[1], Ira KIRSCHENBAUM[2]
[1]NYU Hospital for Joint Disease, New York (UNITED STATES), [2]Bronx-Lebanon Hospital, New York (UNITED STATES)

Introduction: The aim of this study was to describe the process of utilizing a “repless” model, assess its efficacy, and analyze the cost savings in primary hip arthroplasty. Methods: Between June and December 2016, 50 cases of primary, straightforward total knee arthroplasties were performed with the repless model. The responsibilities of the rep were divided into 2 categories for better management: 1)Familiarity of the instruments, implant, and techniques; trays set up and assurance of availability of the implants. These responsibilities were covered by a trained OR technician and the surgeon, and 2) Final verification of the accurate implants prior to opening the packaging. This was done by a trained OR nurse and the surgeon. Results: We did not have any intra-operative complications and did not encounted any issued with the trays or errors in opening of the implants. There were no re-admissions, fracture, dislocation, or infection. The mean length of stay was 2.2 ± 0.5 days (range 1-3 days) with 68% home discharges. The cost of the implant was reduced from $4,800 to $1,895 with $2,905 cost saving per case and total savings of $145,250. Further cost saving were seen in central sterile processing time, reduction in trays and 27% improvement in turnover time. Conclusion: Repless model has significant cost saving potential. Preparation for the transition, proper patient selection, standardization of the trays and implants, and distribution of the responsibilities between OR nurses, technicians and the surgeon are essential.

Abstract no.: 47466

FUNCTIONAL EVALUATION OF PATIENTS WITH INFLAMMATORY ARTHRITIS UNDERGOING MULTIPLE JOINT REPLACEMENT- A RETROSPECTIVE STUDY ANALYSIS

Rajiv Vasant KULKARNI[1], Shubhranshu Shekhar MOHANTY[2], Tushar Narayan RATHOD[2], Prashant KAMBLE[2]

[1]KING EDWARD MEMORIAL HOSPITAL AND SETH G S MEDICAL COLLEGE, PAREL, MUMBAI, Pune (INDIA), [2]KING EDWARD MEMORIAL HOSPITAL AND SETH G S MEDICAL COLLEGE, PAREL, MUMBAI, MUMBAI (INDIA)

Introduction: Polyarthritis is common in Ankylosing Spondylitis, Haemophilia, Rheumatoid Arthritis and Spondyloarthropathies leading to severe impairment in quality of life of the patient. Joint replacement surgery improves quality of life. Materials and methods: Our study of five patients includes two patients of Haemophilia A with bilateral knee and hip affections for which three – joint replacements with follow up of three year and six years each. One patient with Ankylosing Spondylitis with four joint(bilateral knee and hips) involvement for which four joint replacement was done with follow up three year. One patient with Rheumatoid Arthritis with four joint(bilateral knee and hips) involvement for which four joint replacement was done with follow up of one year. One patient with Reiter's disease with both knee and hips involvement for which four joint replacement was done with follow up of 18 months. All patients were non ambulatory for two years before admission. The results were compared, analysed, and tested for significance using the Wilcoxon signed rank test. Results: The age group was 22 – 52 yrs. The ratio of female to male was 1:4. All patients were ambulatory during post-operative period. The average rehabilitation period varied from 75 to 240 days. The average pre-operative SF-36 score was 32.4 and post-operative score 67.5. On comparison of preoperative and postoperative physical component and mental component scores, the differences were found to be significant (p-value: < 0.01). Conclusion: Multiple joint replacements were helpful in improving the mobility and quality of life in patients with polyarthritis.

Abstract no.: 47467

ELECTROCUTED HIP

Siddharth SHARMA[1], Sumit ARORA[2]
[1]Lok Nayak Hospital, Ghaziabad (INDIA), [2]Lok Nayak Hospital, DELHI (INDIA)

Introduction: There are various known etiological causes of Non Traumatic avascular osteonecrosis but the pathogenesis is still not fully understood. We present a unusual case where the osteonecrosis occurred after electrocution. Case: 52 year old Indian man sustained a 220 V electric shock and he developed sudden onset left hip pain after half hour. No other significant history. Radiograph after 2 days was normal and one taken after 3 months showed sclerotic changes and collapse. MRI showed changes suggestive of AVN. Patient underwent cemented total hip replacement and head was sent for biopsy. Biopsy showed necrosis of trabecular bone with areas of fibrosis and calcification. Discussion: Electrical injuries are relatively common, leading to various soft tissue injuries, but there is still lacuna of knowledge of bony changes due to electrical injury. Electrical currents of low commercially available voltage [for e.g. household 220V] rarely cause bony pathology.High voltage currents (>1000V) leads to severe soft tissue, vascular and neurological damage along its flow. Unlike High voltage, currents <1000 V follow the path of least resistance along nerves and blood vessels Bone being poor conductor of electricity, is not damaged directly. Blood supply of femoral head is known to be precarious due to terminal nature of subsynovial branches of medial circumflex artery. Damage to such branches could explain the pathogenesis of Osteonecrosis in our patient . Till date only 3 cases of post electrocution osteonecrosis have been described. Conclusion: Low voltage current electrocution can be a rare cause of Avascular Necrosis.

Abstract no.: 47468

PATIENT SATISFACTION AFTER TOTAL KNEE ARTHROPLASTY

Yousef OTHMAN[1], Ala' AL-RIHANI[2], Misbah HANBALI[1], Ahmed HUSSEIN[1], Amer ASAAD[1], Hasan YOUSEF[1]

[1]The Specialty Hospital, Amman (JORDAN), [2]The Specialty Hospital, Irbid (JORDAN)

Total knee arthroplasty (TKA) is a highly effective procedure for pain control and improved mobility in patients with end stage osteoarthritis. Patient satisfaction after this surgery is the utmost goal, but unfortunately till now there is discrepancy between patient and surgeon satisfaction. The objective of this study was to establish patient satisfaction after TKA from patient's point of view. we used numeric rating scale for residual pain, mobility, quality of life, the presence of postoperative complications and 5 points likert scale to assess patient satisfaction after total knee arthroplasty in a group of 65 patients (77 TKAs) All surgeries were carried out in the division of orthopedic surgery - The Specialty Hospital - in Amman, Jordan. Our analysis showed 82% patient satisfaction in this group of patients which is comparable with the rates reported in the available English literature. We concluded that numeric rating scale such used in our study could be of benefit for assessing patient satisfaction after total knee arthroplasty.

Abstract no.: 47470

SURGICAL DILEMMA IN FIXATION OF SUBTROCHANTERIC FRACTURE IN A BELOW KNEE AMPUTEE: REVIEW OF LITERATURE AND CASE REPORT

Siddharth SHARMA[1], Sumit ARORA[2]
[1]Lok Nayak Hospital, Ghaziabad (INDIA), [2]Lok Nayak Hospital, DELHI (INDIA)

Introduction: Subtrochanteric and femoral shaft fractures in patients with lower extremity amputations is relatively rare and there is paucity of literature on manipulative techniques.We report a case of subtrochanteric fracture in a below in amputee where we used a simple construct to apply traction. Case: 50 year old below Knee amputee (left) sustained subtrochanteric fracture of same side after slip and fall. Patient was planned for Proximal Femoral Nailing. Technique: A Denham pin was inserted in the stump and Bohler stirrup was used to mount the limb on foot piece of fracture table and traction applied. Discussion: Various reduction techniques have been described for peritrochanteric femur fractures in an amputee but there is a paucity of literature in traction technique in subtrochanteric and femoral shaft fractures. Al Harty et al used inverted boot of fracture table,Rethnam et al used the prosthesis to mount on the table, Singh et al used Ilizarov half ring and a wire drilled through the stump, Gamulin et al used a Hoffman external fixator assembly to apply traction and Anjum et al used an adhesive skin traction. These techniques were used for intertrochanteric or neck femur fracture.The technique used by us is cost effective, no special equipment or additional cost are required, provides rotational control over distal fragment, heavy traction can be applied and provides space for preparing distal femur for distal locking of PFN. Conclusion: This is a simple, cost effective technique. This can be helpful is peripheral set up with basic orthopaedic instrumentation.

Abstract no.: 47473

REHABILITATION OF PATIENTS WITH FOOT DEFORMITIES

Saodat ASILOVA, Gayrat NURIMOV, Utkir MURADOV, Albert YUGAY, Bekzod UBAYDULLAEV, Elmurod SUPIEV, Ilkhom YULDASHEV
Tashkent Medical Academy, Tashkent (UZBEKISTAN)

Background. The rehabilitation measures after surgery of the patients with foot deformities and foot development anomalies are still not completely solved problem. Studying these data were develop rehabilitation measures, which include the right foot arch formation, less load on joints and prevents recurrences. Materials and methods. We observed 52 patients with foot deformities for period of 2008 to 2016. Females – 39, and 13 males. The patients age was: 18-35 – 3, 26-35 – 5, 36-45 – 28, 46-55 years and older – 16 patients. At 27 patients with hallux valgus performed SERI-osteotomy and at 25 patients with hammertoe deformity – Hohmman operation. In post operation period we used our corrective dual supinator insole. Results. In after operational period was studied long-term results in 35 patients. Treatment outcomes were evaluated by AOFAS scale. In traditional rehabilitation was obtained results: good – in 14 (55%) patients, satisfactory – in 10 (30%) and unsatisfactory – at 3 (15%). After surgery without using insoles observed pain and deformity recurrences and performed repeated operations. In the group with using dual supinator insoles the same recurrences were not observed. Obtained following results: satisfactory – 18%, good – 82%. Conclusions. 1. In the postoperative period, it is necessary to adhere to the orthopedic regime. 2. Within a month after the operation, after cast removing, it is necessary to wear the insole-dual supinator for a minimum of 6 months. 3. With proper implementation of rehabilitation measures, it is possible to achieve up to 82% of good results.

Abstract no.: 47474

ANTEROLATERAL MENISCOFEMORAL LIGAMENT. ANATOMICAL VARIANTS OF THE KNEE. CASE REPORT.

Alberto HERRERA LOZANO
Hospital Español, Mexico City (MEXICO)

The anterolateral femoral meniscus ligament belongs to a very unusual group of anatomical variants in the knee, with few descriptions in medical literature to this day. We report a case of a 20 year-old male athlete with one-month history of gonalgia. At his arrival to our care, careful examination was performed. An MRI of the knee was obtained, revealing a partial rupture of the anterior cruciate ligament. The patient underwent an arthroscopic procedure to the knee, during which the presence of a fatty-coated ligament structure was identified as a anterolateral femoral meniscus ligament. Medical literature concerning anatomical variants of the knee were reviewed. This case report will add relevant information of this rare condition, and present awareness to alternate diagnosis.

Abstract no.: 47475

VERTEBRAL OSTEOMYELITIS: A COMPARISON OF OUTCOMES IN PATIENTS WITH EARLY VERSUS DELAYED SURGICAL TREATMENT

Qais NAZIRI[1], Carl PAULINO[1], Frank SEGRETO[1], George BEYER[1], Joshua LAVIAN[1], Daniel MURRAY[1], Harleen KAUR[1], Patrick MIXA[1], Denis CHERKALIN[1], Kwaku OPARE-SEM[1], Lee BLOOM[1], Louis DAY[1], William URBAN[1], Peter PASSIAS[2], Bassel DIEBO[1]

[1]SUNY Downstate Medical Center, Brooklyn (UNITED STATES), [2]Hospital for Joint Diseases at NYU Langone Medical Center, New York (UNITED STATES)

Introduction: The recommended timing of surgical intervention for vertebral osteomyelitis (VO) is controversial. This study investigates in-hospital outcomes of VO patients who underwent surgery on the day of admission (<24hrs), vs. delayed (>24hrs) treatment. Methods: A retrospective review of the National Inpatient Sample was performed. ICD-9 codes identified operative VO patients from 1998-2013. Patients were divided into 6 groups (G1-G6) based on incremental delay of surgery. A neurologic index (NI) was created using the American Spinal Injury Association impairment scale (NI 0: no neurologic deficit, NI 1: incomplete neurologic deficit, NI 2: complete neurologic deficit). Univariate analysis compared demographics, complications, mortality, and NI. Multivariate logistic regression models calculated independent predictors of any complication, mortality, and NI. Group 1 (<24hrs) was the reference. Results: 34,485 patients were identified. Delayed surgical groups were older (G1: 53.5 vs. G5: 61.1 y/o), had increased Deyo score (G1: 0.4901 vs. G6: 1.66), length of stay (G1: 4.2 vs. G6: 34.04 days), all $p<0.001$. Delayed surgical groups had higher combined anterior/posterior approach rates(G1: 9.1% vs. G6: 31.5%), and lower anterior surgical approach rates (G1: 42.4% vs. G6: 24.2%). Regressions revealed all delayed surgical groups (G2-G6) as the strongest independent indicators. G6 was the greatest predictor of any complications (OR 3.384), mortality (OR 10.658), and NI > 0 (OR 4.823), all $p<0.001$. Conclusion: Patients with delayed surgery had a significantly increased risk of developing any complication, mortality, and discharging with neurologic deficits. Our data shows it’s favorable to operate within 24 hours of admission for VO patients.

Abstract no.: 47476

OUTCOMES AFTER THE USE OF BIER'S BLOCK FOR THE MANIPULATION OF DISTAL RADIUS FRACTURES IN THE EMERGENCY DEPARTMENT

Hammad PARWAIZ[1], Greg PICKERING[2], Barton TRISTAN[2]
[1]Royal United Hospital Bath, Bristol (UNITED KINGDOM), [2]Royal United Hospital Bath, Bath (UNITED KINGDOM)

Background: Options for reduction of distal radius fractures in the Emergency Department (ED) include haematoma block or a Bier's block. Published literature shows that Bier's block provides better anaesthesia, with lower reported pain scores, and improved position of the distal fracture fragment when compared to haematoma block, but it can be perceived as being more time and resource consuming. Objectives: Our aim was to identify what proportion of patients can achieve a satisfactory reduction with Bier's block that can be treated non-operatively. Method: All patients who received a Bier's block in ED in 2015 were identified using electronic patient databases. Pre- and post-manipulation radiographs were assessed for improvements in fracture position (radial height, inclination and volar tilt). Electronic records were analysed to identify management outcomes. Results: 60/65 (92%) of patients had radiological improvement in their fracture position post-manipulation. 2/5 patients without improvement in fracture position continued to be managed non-operatively. 12/65 (18%) of patients receiving Bier's block manipulation went on to need surgery; 2/12 had inadequate reduction, 3/12 had significant comminution, 4/12 had late fracture displacement and 3/12 for other reasons. Conclusion: Bier's blocks are very effective at allowing good fracture reduction in the ED and the majority of these patients go on to be managed non-operatively. This ultimately results in a better use of resources within the NHS by preventing the need for hospital admission for operative management. Their use should be continued and encouraged.

Abstract no.: 47477

FAST TRACK SURGERY AND EARLY MOBILIZATION IN PATIENTS WITH TOTAL HIP ARTHROPLASTY AND A CEMENTLESS PRESS-FIT TITANIUM CUP.

Michael CLARIUS, Guido MOHR, Patrick BEST, Zoltan SZÖKE
Vulpius Klinik Bad Rappenau GmbH, Bad Rappenau (GERMANY)

Introduction: Total hip replacement is one of the most successful operations in surgery. However fast track protocols have changed the way of treatment dramatically with early mobilization at the day of surgery and not considering any restrictions concerning weight bearing and motion. We were interested in any negative effect in these patients and focused on cementless press-fit titanium cup. Methods: We investigated 1429 consecutive patients who underwent THR with a cementless press-fit titanium cup (Plasmafit Aesculap AG) from 1.1.2014 to 31.12.2015 and followed a fast track protocol with early mobilization, full weight bearing and without any restrictions concerning motion and daily life activities with a minimum follow-up of one year. Results: 1429 patients (701 male, 728 female, mean age 63y) were followed up with a minimum of 12 months. reoperation rate was 2%, 11 patients (0,77%) underwent a wash out because of a hämatoma and 16 patients because of suspected or prooved infection (1,1%) (8 implant exchange, 8 liner and femoral head exchange). 2 patients were revised because of malpositioning of the cup and because of early loosening due to a fracture of the acetabulum. The survival rate for the press-fit titanium cup was 99,3%. No other negative effects (f.e. dislocation) were observed in our patients. Summary: Total hip replacement using a cementless press fit titanium cup (Plasmafit, Aesculap AG) and following a fast track protocol with early mobilization and full weight bearing without any restrictions is a safe procedure with excellent results after one year.

Abstract no.: 47482

CEMENTED AUGMENTATION VERSUS NON-CEMENTED AUGMENTATION OF PROXIMAL FEMORAL NAIL ANTI-ROTATION (PFNA) WITH AUGMENTATION OPTION IN OSTEOPOROTIC INTERTROCHANTERIC FRACTURES.

Abdelbagy HANDOUS, Bilal ELYAFAWI, Hayder ALSAADI, Ramdan ELSAID
RASHID HOSPITAL DUBAI, dubai (UNITED ARAB EMIRATES)

The purpose of this study is to evaluate the results of PFNA with augmentation option in osteoporotic intertrochanteric fractures with regard to the clinical and radiological outcome. Introduction: Intramedullary nail fixation has become more common, even for fractures that are stable or non-displaced. The PFNA was proved to be a stable implant for the treatment of proximal femoral fractures. Methods and Materials: This study was conducted in Rashid hospital-Dubai; 50cases of intertrochantericfractures were treated with PFNA, 15 cases were cemented, 35 were non-cemented and average age was 73; female to male ratio was 37:13 Results: Singh index 1.7 for cemented and 3.1 for non -cemented group. Closed reduction was done in 96% of cases in 2 cases, 4% was re-operated and 1 case was re-operated due to hardware failure. The surgical complication rate in the presented study was 4% with no complications related to the cement augmentation. We did not find any cutout or cutting through the blade; there was unexpected blade migration and loosening of the blade. This implant related complications in proximal femoral fractures needs revision surgery.. Conclusion: We think that a severe osteoporosis could be a possible indication but there are probably more concomitant patient-related factors to be considered. No significant difference between short or long PFNA ,a cut-out of the implant through the femoral head reported to be as low as 4%.

Abstract no.: 47488

ADOLESCENT IDIOPATHIC SCOLIOSIS CARE IN AN UNDERSERVED INNER-CITY POPULATION: SCREENING, BRACING, PATIENTS' AND PARENTS' REPORTED OUTCOMES

Qais NAZIRI, Carl PAULINO, Bassel DIEBO, Frank SEGRETO, James MESSINA, Karen PALTOO, Harleen KAUR, Lee BLOOM, Louis DAY, Patrick MIXA, Steven BUREKHOVICH, Joshua LAVIAN, George BEYER
SUNY Downstate Medical Center, Brooklyn (UNITED STATES)

Introduction: Underserved populations are a momentous challenge in the modern health-care system. Our objective was to investigate the quality of previous care received by underserved AIS patients. Methods: Pts who visited a single surgeon clinic for primary AIS from June 2016-January 2017 were included. Patients had 36'-inch full spine x-rays and completed a survey on demographics, health-care (screening for scoliosis, bracing, referral etc.), socioeconomic parameters and patient-reported outcomes: SRS-30, Body Image Disturbance Questionnaire (BIDQ). Parametric and non-parametric analysis was used appropriately. Results: 47 pts (15 ± 3 y/o, 82.7% F, BMI: 20.3 ± 3.3, 67.3% Black, 17.3% Hispanic) were included. 25.5% reported a family history of scoliosis, while 42.6% never heard about scoliosis. Based on SRS recommendation, 15 pts required observation, 22 pts were brace eligible, 10 pts were surgical candidates. 25% of pts were never screened for scoliosis, and 50% of those had a main curve > 20°. Mean age at first screening was 14.1 ± 3.3 y/o. 65.6% were screened by a primary care physician, 6.3% by a specialist, 6.3% by schools. 70% of surgical candidates reported never wearing a brace. 59.3% of previously screened pts eligible for bracing (Curve >20°), were not braced at time of presentation. All pts who were un-braced when eligible had worse BIDQ scores (1.7 vs. 1.4, $p<0.05$). Conclusion: 1/4 children in our population were never screened for scoliosis, and nearly 3/5 did not receive optimal care. These results question the quality and authenticity of the healthcare services provided to underserved inner-city populations.

Abstract no.: 47489

THE EVALUATION OF LATERAL CALCANEAL LENGTHENING OSTEOTOMY IN TREATMENT OF PLANOVALGUS FOOT DEFORMITY

Amit NARANG, Alok SUD
Lady Hardinge Medical College, new delhi (INDIA)

Introduction: The present study was done in idiopathic planovalgus (13 feet) & spastic planovalgus (17 feet) with the hypothesis that lateral calcaneal lengthening osteotomy corrects the planovalgus deformity with restoration of the medial longitudinal arch, correction of heel valgus and normal distribution of weight. Methods: 16 Patients (30 feet) with symptomatic planovalgus deformity with no improvement after 3 months of conservative treatment were included. A lateral calcaneal distraction-wedge osteotomy using a bone graft from the iliac crest was performed and all the patients were followed up for a minimum period of 6 months using footprints, clinical assessment and weight bearing AP and lateral radiographs. Results: The mean age at the time of surgery was 11.13 years. Heel valgus and plantar arch index improved from 12.6±2.6 & 1.35±0.19 preoperatively to 4.47±1.9 & 0.64±0.07 at 6 months follow-up respectively. Radiological parameters including talocalcaneal angle and talonavicular coverage angle on AP view and calcaneal pitch angle , calcaneal-5th metatarsal angle and talus-1st metatarsal angle on lateral view showed statistically significant improvement at 6 months follow-up. One patient with spastic planovalgus showed improvement initially, but recurrence of deformity was noted at 6 months follow-up. Conclusion: Calcaneal lengthening osteotomy effectively corrects idiopathic and spastic planovalgus deformity of the foot without affecting the range of motion at subtalar and ankle joint. However, a long term follow-up is required to look for recurrence and other complications.

Abstract no.: 47490

COMPARAISON OF 25 ANKLE ARTHRODESES AND 25 ANKLE REPLACEMENTS AT MEAN FOLLOW-UP OF 67 MONTHS

Nazim MEHDI[1], Alessio BERNASCONI[2]
[1]Clinique de l'Union, -Toulouse (FRANCE), [2]University Napoli Federico 2, Naples (ITALY)

Introduction: Ankle arthritis is still a matter of controversies. Arthrodesis defenders face replacement promoters in sterile struggles. The goal of our study was to evaluate the outcomes of our 25 first arthrodeses and our 25 first replacements. Methods: This series is continuous retrospective. All patients were operated by a single surgeon between june 2007 and september 2013. 18 women and 32 men were included, mean aged of 61 yo (27-85). Replacements were done with Salto mobile-bearing prostheses. Arthrodeses were realised through an open direct approach after a systematic fibula's osteotomy. All patients were reviewed with standards clichés at 4 or 8 weeks, 4 months, a year, and every 2 years. Results: Etiologies were mainly post-traumatic. The mean follow-up was 67 months (40-105) Replacement group: the AOFAS score was 67 points (31-100). Mobilities were preserved or improved in 19 cases (75%). Bone cysts appeared in 12 cases (48%) whose 7 were evolutive (28%). Those periprothetic bone cysts needed curettage and grafting. A talar implant loosening needed a fusion. Arthrodesis group: the AOFAS score was 75,4 points (48-91). We report two complications, a non-union properly solved by a new attempt with a large grafting and a wound necrosis treated by vactherapy. Conclusion: Fusion is an effecient and long-lasting technique. Replacement preserves ankle range of motion but it does not fulfill its duty durably. The high rate of bone cysts is a matter of concern and in accordance with the poor functionnal results with this prosthesis we have suspended its use definitively.

Abstract no.: 47496

A SYSTEMATIC REVIEW INVESTIGATING THE EFFECTIVENESS OF SURGICAL VERSUS CONSERVATIVE MANAGEMENT OF ANKLE FRACTURES IN ADULTS.

Lugman ELGAYAR, Arnall FRANCES, Jim BARRIE, Walid BEN-NAFA, Mohammed ELMAJEE
The University of Salford, Manchester (UNITED KINGDOM)

Introduction: Nine percent of fractures affect the ankle, with an incidence of 122/100,000/year. While unstable fractures are usually treated surgically, there has been no recent systematic review of the evidence supporting this decision. We aimed to update Michelson (2007)'s systematic review. Methods: Six databases were searched from inception to February 2017: Cochrane Library, PubMed, Medline-Ovid, CINHAL, ScienceDierct, and Web of Science. Randomised controlled trials (RCTs) comparing surgical with conservative management in adults with closed ankle fractures, with follow-up for at least 6 months, were included. Results: 754 articles were retained of which 5 RCTs (951 participants) were included. The risk of selection bias in all trials was relatively low. However, most trials had high risks of performance and detection bias. Functional outcomes: Three trials used the validated Olerud Molander Ankle Score. The first (n=43), reported a statistically better score for the surgical group at 27-months whereas the second (n=81) and third (n=620) trials found no significant difference at 12-months and 6-months respectively. No significant differences between surgical and conservative treatment were reported by the oldest two trials (n=111) and (n=96) in non-validated functional outcome measures. Early treatment failure (7/435 versus 70/419, RR 0.11, 95%CI 0.06-0.23, p<0.00001), malunion (9/334 versus 48/301, RR 0.18, 95%CI 0.09-0.35, p<0.00001) and nonunion (3/408 versus 28/383, RR 0.11, 95%CI 0.04-0.32, p<0.0001) were less likely in surgically treated patients. Conclusion: The risk of malunion, nonunion, and loss of reduction is lower after surgery. However, both treatment approaches provide equivalent functional outcomes.

Abstract no.: 47498

PREVALENCE, LOCATION, TYPE, AND PREDICTORS OF NECK AND BACK PAIN IN AN UNDERSERVED POPULATION OF ADOLESCENT IDIOPATHIC SCOLIOSIS.

Qais NAZIRI[1], Carl PAULINO[1], Bassel DIEBO[1], Louis DAY[1], Frank SEGRETO[1], Lee BLOOM[1], Westley HAYES[1], Mikhail TRETIAKOV[1], Patrick MIXA[1], James MESSINA[1], Elian SHEPHERD[2], Ashish PATEL[3], Daniel CUKOR[1], Peter PASSIAS[4], William URBAN[1]

[1]SUNY Downstate Medical Center, Brooklyn (UNITED STATES), [2]Methodist Hospital, Merrillville (UNITED STATES), [3]Methodist Hospital, Chicago (UNITED STATES), [4]Hospital for Joint Diseases at NYU Langone Medical Center, New York (UNITED STATES)

Introduction: Back pain in AIS patients is reported to be 12-33% prevalent. This study evaluates the prevalence, location, type, and predictors of pain in underserved AIS patients. Methods: Patients (10-25 y/o) who visited a single surgeon clinic for primary AIS evaluation from 2016-2017 were included. Patients had complete full radiograph series and patient reported outcome surveys [Scoliosis Research Society (SRS)-30, Spinal Appearance Questionnaire (SAQ) and Body Image Disturbance Questionnaire (BIDQ)]. SRS-30 drawing schematic defined patient pain type and location. Descriptive analysis detailed pain type and location. Curve magnitude/type was compared to pain location/type. Binary logistic regression analysis determined independent pain predictors. Results: 52 patients (15±3 y/o, 82.7% F, BMI: 20.3±3.3, 67.3% Black, 17.3% Hispanic) were included. Mean main curve was 31.3º±17.3. 39/52 patients (75%) reported pain [neck (11.5%), back (69.2%), gluteal (3.8%)]. Patients with and without pain had similar age, gender, BMI, coronal and sagittal profiles (Main Cobb: 32.7 vs 27.6º, C7PL: 14.9 vs 12 mm; $p>0.05$). Frequent pain locations were lower back pain only (19.2%), upper back only (9.6%) or mid back pain only (9.6%). Deep ache (46.2%), stabbing (21.2%), pins and needles (17.3%), and burning (11.5%) were prevalent pain types. Patients living with >3 house members reported significantly more back pain (87.5 vs 55.0% $p<0.01$). Regressions revealed that lower SRS-30 Mental score was the only predictor of pain [OR: 3.45 (1.07-11.15), $p<.05$]. Conclusion: 3/4 underserved AIS patients reported neck, back, and/or gluteal pain. Mental status and psychosocial influences may affect the clinical presentation of these patients.

Abstract no.: 47502

MANAGEMENT OF PERIPROSTHETIC HIP JOINT INFECTIONS WITH ONE-STAGE, TWO-STAGE AND UNCOMPLETED TWO-STAGE EXCHANGE ARTHROPLASTY: A SINGLE-CENTER STUDY PETERIS STUDERS DACE VIGANTE1,2; ANDRIS DZERINS1; MATISS ZOLMANIS2 1 RIGA STRADINS UNIVERSITY, LAB

Peteris STUDERS
Riga Stradins University, RIGA (LATVIA)

Introduction: Periprosthetic joint infection (PJI) remains a major complication following total hip arthroplasty and a challenge for the orthopedic surgeon. Surgical treatment methods of PJI range from radical infected tissue debridement to one-stage and two-stage exchange arthroplasties (EA). Aim: to analyze and determine the reasons for patients with PJI not completing the second-stage EA. Materials and methods: 72 patients with PJI who were treated in Hospital of Traumatology and Orthopedics, Latvia during the period from year 2010 to 2015 were included in the study. Patient medical records were analyzed and pain/functional status was determined by using Merle d'Aubigne and Postel Method (MAPM), Numeric Pain Rating Scale (NPRS). Results: mean age was 66.3±9.91 (41-84) years. Pathogens were isolated in 79.2% (n=57) of cases; the most common were methicillin-sensitive and methicillin-resistant Staphylococcus aureus. One-stage EA was carried out in 8.3% (n=6) and two-stage EA was the treatment method of choice in 91.7% (n=66) of cases. From the two-stage EA patients 36.3% (n=24) had not undergone the second-stage EA (had remained a temporary implant). Mean MAPM score in the uncompleted two-stage EA group was 8.1±2.9 (4.0-12.0) and mean NPRS score was 2.7±1.3 (0.0-6.0). Conclusion: although two-stage EA was the most common surgical treatment method for PJI, one-third of patients did not show up for the second EA after 6 weeks and continued living with a temporary implant. The main reasons for not completing the second-stage EA were fair functional results, mild pain mostly during regular activities and no signs of active infection.

Abstract no.: 47503

COST-BENEFIT ANALYSIS OF ANTIBACTERIAL COATINGS OF JOINT PROSTHESIS

Maria Teresa TRENTINAGLIA[1], Carlo ROMANO[2], Nicola LOGOLUSO[3], Ilaria MORELLI[4], Lorenzo DRAGO[5]

[1]Bocconi University, Milan (ITALY), [2]Centre for Reconstructive Surgery and Osteoarticular Infections; Centro Biofilm Milano; Istituto Ortopedico IRCCS Galeazzi, Milano, Italy, Milan (ITALY), [3]Centre for Reconstructive Surgery and Osteoarticular Infections; Centre for Reconstructive Surgery and Osteoarticular Infections; Orthopaedic Research Institute R.Galeazzi, Milano, Italy, Milan (ITALY), [4]University of Milan - IRCCS Istituto Ortopedico Galeazzi; Pediatric Orthopaedic unit, Milan (ITALY), [5]Laboratory of Clinical-Chemistry and Microbiology; IRCCS Galeazzi Institute, Milano, Italy, Milan (ITALY)

Introduction: Implant related infections are biofilm related. Recent antibacterial coating techniques have been introduced to prevent bacteria activity and biofilm formation. Many have shown to be effective in pre-clinical studies; others are already available in the market. This economic analysis assesses their cost effectiveness in the protection of PJIs. Materials and methods: A specific software was developed to evaluate: Average direct cost for prosthetic implant; Number of implants annually performed at a given hospital; Expected rate of peri-prosthetic infections; Average cost of septic complication management; Average cost of a hypothetical anti-bacterial coating; Percentage infection reduction related to antibacterial coating. Results: The analysis, performed on various antibacterial coatings (antibiotic-cements, silver coatings and antibacterial hydrogel DAC (Novagenit Srl)), reveals how economic benefits are closely related to coating effectiveness and to the expected rate of post-operative infections. Both the use of cements with dual antibiotic, and the use of DAC have favorable benefit-cost profiles, especially in patients with increased risk of infection (odds ratio 2 or higher), notwithstanding the benefit of reduced medical-legal costs, that may alone offset direct costs for significant reduction in the infection rate. Discussion: This economic analysis is the first to assess the costs and expected benefits of implementing new antibacteria technologies in the treatment of post-surgery infections in orthopedics. Conclusions: A cost-benefit algorithm for antibacterial coating can help choosing which new technologies should be implemented in clinical routine, improving patients' conditions, reducing health expenditure and reducing medico legal claims.

Abstract no.: 47508

BIOACTIVE GLASS BAG-S53P4 FOR ONE STAGE TREATMENT OF CHRONIC OSTEOMYELITIS OF THE LONG BONES: A PROSPECTIVE CLINICAL STUDY

Nicola LOGOLUSO[1], Delia ROMANO[2], Sara SCARPONI[2], Carlo ROMANO[2]
[1]IRCCS R.Galeazzi, MILAN (ITALY), [2]IRCCS R.Galeazzi, Milano (ITALY)

Introduction: This study reports the results of a continuous series of patients, suffering from osteomyelitis of the long bones, treated with debridement and bioactive bioglass BonAlive® S53P4 with technical one-stage. Materials and Methods: We followed-up 104 patients (65 males and 39 females; mean age 46 ± 17 years, min 6 - max 81), who underwent surgery for osteomyelitis at our department between 2010 and 2016, according to the same surgical protocol of debridement of infected tissue and application of antibacterial bioglass BonAlive® (Bonalive Biomaterials Ltd., Turku, Finland). Endpoints were the absence of recurrent infection and adverse events at the follow-up. Results: 48 patients were guests of type A (46.1%), 48 of type B (46.1%) and 8 type C (7.7%), according to McPherson classification. The average duration of infection in active phase at the time of our procedure was 18.7 ± 16.6 months (min 2 - max 120). At a mean follow-up of 2.7 ± 1.7 years (min 1 - max 6), 10 patients (9.6%) had an infection recurrence. Discussion: This study reports the largest Italian series of patients with osteomyelitis of the long bones, treated in one-stage technique with antibacterial bioglass. Results demonstrate the safety and effectiveness of this procedure showing an approximately 90% eradication rate at an average 2,7 years follow-up, independently of the isolated pathogen. Conclusions: The antibacterial bioglass Bonalive allows, with a one-stage procedure, to treat successfully, in most cases, the infection, the dead space and the bone defect in osteomyelitis of the long bones.

Abstract no.: 47511

TWO DOUBLE ROD SYSTEMS WITH APICAL CONTROL IN EOS; MAGEC GROWTH ENGINE (MCGR) VERSUS INTERVAL DISTRACTION: EARLY 3D CORRECTION AND SPINAL GROWTH

Simon Toftgaard SKOV[1], Sebastiaan P.J. WIJDICKS[2], Moyo C. KRUYT[3], Haisheng LI[4], René M. CASTELEIN[3], Jan H.D. RÖLFING[4], Ebbe Stender HANSEN[4], Kristian HØY[4], Peter HELMIG[4], Cody BÜNGER[4]

[1]Orthopaedic Department, Aarhus University Hospital, Silkeborg (DENMARK), [2]Orthopaedic Department, University Medical Clinic Utrecht, Utecht (NETHERLANDS), [3]Orthopaedic Department, University Medical Clinic Utrecht, Utrecht (NETHERLANDS), [4]Orthopaedic Department, Aarhus University Hospital, Aarhus (DENMARK)

Introduction:The application of MCGR in severe EOS has increased over the last years worldwide. Our aim was to compare non-surgical 3-month interval MCGR lengthening to 6-month interval intraoperative manual lengthening in EOS; focusing on spinal growth and 3D correction. Methods: Two cohorts of each 18 children were analyzed. The MCGR-hybrid-cohort, median age 8.9 (6.4-15.8) received a new MCGR hybrid principle, using a single MCGR to drive concave distraction combined with an apical control passive sliding rod construct on the convexity, median follow-up 1.3 years (0.4-2.1). The second cohort, median age 10.5 (4.5-14.8) received a similar apical control construct (the CB system), using conventional surgical distraction, median follow-up 1,5 years (0.9-1.9). Results: Frontal Cobb angle improved in both groups; from mean 64 to 31 after MCGR-Hybrid, ($p<0.01$), and from mean 77 to 38 after conventional technique, ($p<0.01$). This 51% initial correction after MCGR-Hybrid vs. 49% after conventional technique was maintained in both groups. The mean apical vertebral rotation (Nash-Moe method) improved significantly in both groups, but was partially lost. There was a significant decrease in thoracic kyphosis from 27 to 20 after MCGR-hybrid and from 33 to 17 after conventional technique, and largely unchanged lordosis. T1-S1 spine growth rate was 11 mm/year in the MCGR-Hybrid-group vs. 7mm/year in the conventional-group, (NS). Conclusion: We demonstrated significant early 3D scoliosis correction by double rod systems with apical control. Spinal growth seemed to be superior following short interval MCGR lengthening. This may underline the negative effect of posterior tethering following long interval distraction.

Abstract no.: 47515

RELATIONSHIP BETWEEN SPINAL CURVATURE, PHYSICAL STATE, AND MENTAL STATUS IN AN UNDERSERVED POPULATION WITH ADOLESCENT IDIOPATHIC SCOLIOSIS

Qais NAZIRI[1], Carl PAULINO[1], Bassel DIEBO[1], James MESSINA[1], Harleen KAUR[1], Frank SEGRETO[1], Lee BLOOM[1], Karen PALTOO[1], Westley HAYES[1], Elian SHEPHERD[2], Ashish PATEL[3], William URBAN[1], Peter PASSIAS[4]

[1]SUNY Downstate Medical Center, Brooklyn (UNITED STATES), [2]Methodist Hospital, Merrillville (UNITED STATES), [3]Methodist Hospital, Chicago (UNITED STATES), [4]Hospital for Joint Diseases at NYU Langone Medical Center, New York (UNITED STATES)

Introduction: Differences in functional outcomes exist between ethnicities in AIS patients. This study assesses the correlations between spinal curvature, physical and mental state in an underserved population. Methods: Patients (10-25 y/o) who visited a single surgeon clinic for evaluation of primary AIS in 2016-2017 were included. Patients had complete full radiograph series and patient reported outcomes (PRO) [Scoliosis Research Society (SRS)-30, Spinal Appearance Questionnaire (SAQ) and Body Image Disturbance Questionnaire (BIDQ)]. Pearson/Spearman correlation investigated the relationship between radiographic parameters and PRO. Controlled regression models identified predictors of PRO. Results: 47 patients (66% Black, 19.1% Hispanic) were included. Average Main Cobb angle was 31.3º±17.3 with locations of: 34.6% MT, 34.6% L, and 21.2% TL. BIDQ score reported the highest significant correlations with main and secondary curve magnitudes (r=0.559, r=0.612), and offset between CSVL and secondary Cobb apex (r= 0.537), all p<0.05. SAQ Child reported better correlations with curve magnitude comparing to SAQ parent of any category. Regressions revealed C7PL offset from main Cobb apex was significant predictor of worse SAQ Parent appearance (R2= 0.223, B Coeff. 0.473). Younger age and male gender were significant predictors of better SRS30 Pain Score (B Coeffs: -0.395, and 0.357, respectively, R2= 0.387). Younger age (<15 y/o) was the only predictor of better Mental Score (R2= 0.140, B Coeff. 0.374). Conclusion: Curve magnitude correlates with worse body image disturbance, mental state, and self-image. Children appear to have better deformity perception than parents. Females and those older than 15 y/o exhibit worse mental state with coronal deformity.

Abstract no.: 47519

FACTORS AFFECTING EARLY SINGLE HEEL RAISE AFTER REPAIR OF ACHILLES TENDON RUPTURE

Jin Soo SUH[1], Lee MOSES[2], Shin MYUNG JIN[3]
[1]Inje University Ilsan Paik Hospital, Goyang-si (SOUTH KOREA), [2]Inje University Ilsan Paik Hospital, Goyang-Si (SOUTH KOREA), [3]Inje University Ilsan aik Hospital, Goyang-Si (SOUTH KOREA)

Analysis of the relationship between preoperative factors and timing of the single heel raise after Achilles tendon rupture might help to predict the prognosis and aid to establish an individualized rehabilitation plan. A retrospective analysis was performed for 68 patients who were surgically treated for acute Achilles tendon rupture. The patients who were able to perform a single heel raise within 3 months postoperatively were classified into the study group and the rest was determined as the control group. Achilles tendon total rupture score (ATRS), and timing capable of a single heel raise were measured. Defect size and distance between calcaneal osteotendinous junction and rupture site were measured by ultrasound image. Demographic factors were comparable between the study group (23 cases) and the control group (45 cases). When the rupture site was divided into hyporvascular zone (from calcaneal osteotendinous junction to the rupture site: 4~7cm) and hypervascular zone, the study group showed a significantly low hyporvascular zone rupture rate. (60.9% [14/23], 91.1% [41/45], P=0.003). Also, in the logistic regression analysis, patients with hypervascular region rupture showed odds ratio of 5.3 (P=0.017) in performing a single heel raise within postoperative 3 month. ATRS score at postoperative 3 months and last f/u were significantly higher in the study group. ($p<0.01$) Achilles tendon rupture at hypovascular zone is a poor prognostic factor for the early single heel raise and might significantly affect the prognosis after acute Achilles tendon rupture operation.

Abstract no.: 47520

NON-CONTACT SPORTS PARTICIPATION IN ADOLESCENT IDIOPATHIC SCOLIOSIS: EFFECTS ON PARENT AND PATIENT REPORTED OUTCOMES

Qais NAZIRI, Carl PAULINO, Frank SEGRETO, James MESSINA, James DORAN, Alex AYLYAROV, Patrick MIXA, Kwaku OPARE-SEM, Harleen KAUR, Louis DAY, Barrett TORRE, Douglas HOLLERN, Karen PALTOO, William URBAN, Bassel DIEBO

SUNY Downstate Medical Center, Brooklyn (UNITED STATES)

Introduction: The benefits vs risks of AIS patients participating in sports is controversial. This studies objective was to determine if sports participation has a significant impact on pain, function, mental status and self-perception in AIS patients and their parents. Methods: Patients (10-25 y/o) who visited a single surgeon for evaluation of primary AIS in 2016-2017 were included. Patients had full radiograph series and completed patient reported outcomes (PRO) surveys [Scoliosis Research Society (SRS)-30, Spinal Appearance Questionnaire (SAQ) and Body Image Disturbance Questionnaire (BIDQ)]. Patients were grouped into those participating in non-competitive sports (Sports) vs those that did not (Non-Sports). Parametric and non-parametric tests were used appropriately, comparing demographics, radiographic parameters and PRO. Linear regression models identified significant predictors of PRO. Results: 52 patients were included (Sports n=32, Non-Sports n=20). Groups had comparable age, gender, BMI, bracing status, and hx of physical therapy; all $p>0.05$. Sports and Non-Sports had similar coronal deformity: Major Cobb (31.1° vs 31.5°). All sagittal alignment profiles were similar between groups ($p>0.05$). Sports had better SRS-30 (Function, Self-Image, and Total) scores, better SAQ-Child Expectations, and SAQ-Parent Total Scores (Table; $p<0.05$). Regressions revealed that Major Cobb (B Coeff. -0.300) and Sport Participation (B Coeff. 0.415) were significant predictors of SRS-30 Function score, $R=0.431$, $P<0.05$. Conclusion: Our data shows that for the same coronal and sagittal deformity, patients participating in sports exhibited better functionality, self-image, lower expectations, and better parental perception of deformity. AIS patients should be encouraged to participate in safe sports, maintaining appropriate levels of physical activity.

Abstract no.: 47521

IMAGELESS NAVIGATION TOTAL HIP ARTHROPLASTY- AN EVALUATION OF OPERATIVE TIME

Epaminondas VALSAMIS[1], Adnan HUSSAIN[2], Amir-Reza JENABZADEH[2]
[1]Hinchingbrooke Hospital, Cambridge (UNITED KINGDOM), [2]Hinchingbrooke Hospital, Huntingdon (UNITED KINGDOM)

Introduction: Imageless navigation has been successfully integrated in knee arthroplasty but its effectiveness in total hip arthroplasty has been debated. Although studies have demonstrated increased accuracy in placement of the acetabular component with navigation, it has consistently been shown that this is at the expense of added operative time and higher cost. Further, the relative success of traditional hip replacements has impeded the adoption of new techniques. Methods: In a retrospective case-control study, we compared the operative time between fifty total hip replacements with and without the use of imageless navigation by a single senior surgeon. We also examined whether imageless navigation improved acetabular component positioning. We employed standard statistical tools to compare the two methods. A correlation-based analysis was used to delimit the 'learned' phase of imageless navigation to make comparisons meaningful. Results: Contrary to what has previously been reported, there was no significant difference between operative time in navigated, when compared to traditional operations ($p=0.70$). Interestingly, accuracy of acetabular cup inclination was significantly improved when using navigation ($p=0.035$). Conclusions: This is the first study that demonstrates no added operative time when using imageless navigation in total hip arthroplasty, achieved with an improved workflow. The results demonstrate navigation can significantly improve accuracy in placing the acetabular component, in keeping with other studies' results. Imageless navigation offers a favourable operative adjunct any hip surgeon should consider.

Abstract no.: 47523

TREATMENT OF HALUX VALGUS ON CHILDREN AND JUVENIL WITH CHEVRON TECHNIQUE. EXPERIENCE OF A CHILDREN`S HOSPITAL.

Fernando GARCIA[1], Lucas CORTIZO GARCIA[2], Magda LEAO PINHEIRO[3], Fabio MATOS[4], Marcelo BONANZA[4], Daniel ANDION[4], Fernanda CORTIZO GARCIA[5], Maria Beatriz CORTIZO GARCIA[4], Lucas ROCHA[6]
[1]Martagão Gesteira Hospital, SALVADOR (BRAZIL), [2]COT, SALVADOR (BRAZIL), [3]FTC, SALVADOR (BRAZIL), [4]Martagão Gesteira Children`s Hospital, salvador (BRAZIL), [5]martagão Gesteira Children`s Hospital, SALVADOR (BRAZIL), [6]MArtagão Gesteira Children`s Hospital, SALVADOR (BRAZIL)

Introduction: Hallux valgus is a complex deformity that covers the entire first ray of the foot,. Currently, upper limit normal angle between the first and second metatarsals is 8º and 9º, and between the first metatarsal and the first toe between 15º and 20º. When exceeded, often find the first metatarsal shortened and diverted varus while the first toe is deflected valgus and compensatory pronation. HVery controversial and etiologic basis pathology, but believed to be related to extrinsic and intrinsic factors. In children and adolescents this condition is rare and underdiagnosed because these patients often do not seek treatment until the pain limit your activity and the selection of shoes. Methods: Case study analyzing record book, 11 children with hallux valgus and underwent Chevron osteotomy in the period January 2010 to December 2013. Results: Of the 11 children 27.3% male and 72.7% female, average age11.63 years (SD = 1,689), ranging from 10 to 15 years old. Regarding laterality of the affected foot, 27.3% patients had only the right foot affected, 27.3% patients had affected the left foot and 45.5%patients in both. Postoperatively, 72.7% children showed the first ray angles within acceptable values . All children had cosmetic correction and 90.9% children had relief of pain and suitability for footwear. Conclusion: This study showed that few children require surgical treatment for hallux valgus, more common in female and, affects most both feet. The Chevron osteotomy is fully applicable in cases intermetatarsal angle about 15° , remaining as excellent treatment.

Abstract no.: 47525

EVALUATION OF GENU VALGUM AND FLAT FOOT IN A BRAZILIAN CHILDREN`S HOSPITAL.

Fernando GARCIA[1], Lucas CORTIZO GARCIA[2], Magda LEAO PINHEIRO[3], Marcelo BONANZA[4], Fabio MATOS[4], Daniel ANDION[4], Maria Beatriz CORTIZO GARCIA[4], Fernanda CORTIZO GARCIA[1], Breno LUZ[1]
[1]Martagão Gesteira Children`s Hospital, SALVADOR (BRAZIL), [2]Martagão Gesteira Children`s Hospital, salvador (BRAZIL), [3]Martagão Gesteira Children`s Hospital, Salvador (BRAZIL), [4]martagão Gesteira Children`s Hospital, salvador (BRAZIL)

Introduction: It's known that inferiors members angles deformities are the most common complains on children treated at our hospital and very often associated to foot deformity (flatfoot). There isn't specific studies in the literature that makes correlation between both, despite we see in the practice. Objective: Demonstrate the association between the genu valgum and the flatfoot on children treated at the Martagão Gesteira Children's Hospital orthopedics service. Methods: Was accomplished a descriptive study with 44 children from both sex, age between 2 and 14 years old with an intermaleolar distance higher or equal 6cm in the period of 5 month (January 2013 to May 2013). Was used the The Student T Test as well as the Kruskal-Wallis Test, with an estimated confidence of 95%. Results:The average age was 3 years old. 70,50% male, average weight 17,70kg, average height was 84,0cm, with a max variation until 153,0cm. The intermaleolar distance had a minimum value 6,50cm to a max of 16,00cm. There weren't a significant statistics comparing the gender, age or weight with the intermaleolar distance. 100% of the patients presented flexible flatfoot with bilateral deformities. Conclusion: This study demonstrated the association between the genu valgum and flatfoot.

Abstract no.: 47526

HEPATITIS C: DOES IT INCREASE THE RISK OF COMPLICATIONS AFTER CERVICAL RADICULOPATHY OR MYELOPATHY SURGERY?

Qais NAZIRI[1], Carl PAULINO[1], Joshua LAVIAN[1], Daniel MURRAY[1], Daniel GEWOLB[1], Frank SEGRETO[1], Shahla POWELL[2], James MESSINA[1], Lee BLOOM[1], Steven BUREKHOVICH[1], George BEYER[1], Westley HAYES[1], Denis CHERKALIN[1], Hiroyuki YOSHIHARA[1], Bassel DIEBO[1]
[1]SUNY Downstate Medical Center, Brooklyn (UNITED STATES), [2]SUNY Downstate Medical Center, b (UNITED STATES)

Introduction: Hep C is a world-wide epidemic. This study investigates Hep C as a risk factor for surgical complications in cervical radiculopathy (CR) and myelopathy (CM) patients. Methods: This study is a retrospective review of the Nationwide Inpatient Sample from 2005-2013. ICD-9 codes identified patients (>25 yrs) with/without Hep C who underwent anterior or posterior cervical spine surgery for CR or CM. Descriptive and Chi-Square analysis compared complication rates and mortality of patients with and without Hep C. Binary logistic regression models identified independent predictors of complications, length of stay (LOS), and hospital charges. Results: 227,310 patients were identified (Hep C: 2,546, 0.11%). Hep C patients were younger (52.8 vs 53.6 y/o), had higher Deyo score (0.788 vs 0.461), more likely male (60.8% vs 47.8%), black or Hispanic, and less likely to have private health insurance (35.9% vs. 55.5%), (all p <.001). They had significantly($p<0.01$) longer hospital stays (4.1 vs 2.3 days) with greater charges ($76,335 vs $54,615). CR patients with Hep C had increased overall complication rates (9.4% vs 6.5%, p<.001), specifically, device related, hematoma and sepsis. The same holds true for CM patients with Hep C (14.8% vs 11.5%, p<.001). Regressions showed CR+CM patients with Hep C had increased chances of any complication (CR: OR 1.23, CM: OR 1.19), longer LOS (CR: OR 1.74, CM: 1.86), and greater hospital charges (CR: OR 1.52, CM: OR 1.73). Conclusion: Hep C is a risk factor for increased overall complication rates, greater LOS, and greater charges among CR and CM patients.

Abstract no.: 47527

EVALUATION BETWEEN CAPSULORRHAPHY WITH SIMPLE SUTURE AND WITH ANCHOR IN RABBIT HIPS.

Fernando GARCIA, Lucas CORTIZO GARCIA, Magda LEAO PINHEIRO, Daniel ANDION, Marcelo BONANZA, Maria Beatriz CORTIZO GARCIA, Fabio MATOS, Fernanda CORTIZO GARCIA
Martagão Gesteira Children`s Hospital, SALVADOR (BRAZIL)

Introduction: HDD (Hip Development Dysplasia) is one of the most important and controversial pathologies which affect children. The three- dimensional anatomy and complexity of the hip joint, and the little understanding of the potential of acetabular reconstruction after luxation or sub-luxation and the later effects on the child's gait and movement, raise various points of discussion. Little literature exists about the different types of capsulorrhaphy. Techniques which are less aggressive or decrease risk of luxation after surgical reduction must be researched. Methods: Thirteen New Zealand Albino (Oryctolagus cuniculus) male rabbits, twenty-six hip joints, were used. First, a pilot project was performed with three rabbits (six hip joints). The experimental group consisted of ten rabbits and was divided in two sub-groups: group 1 underwent capsulorrhaphy on both right and left hips with simple suture using polyglocolic acid absorbable thread, and group 2 underwent capsulorrhaphy with titanium anchors. After a four-week post-operation period, the animals were euthanized and the hip joints were frozen. On the same day the hip joints were unfrozen, a biomechanical study was carried out, evaluating the following parameters: rigidity, maximum force, maximum deformity and energy. Results: There was no relevant statistical difference in rigidity, maximum force, maximum deformity and energy between the simple suture and anchor groups. Conclusion: Through biomechanical analyses, using parameters of rigidity, maximum force, maximum deformity and energy, it has been shown that a capsulorrhaphy with simple suture and with an anchor has similar results in rabbit hip joints.

Abstract no.: 47528

PROFILE OF PATIENTS WITH CEREBRAL PALSY SUBMITTED TO SURGICAL TREATMENT FOR THE CORRECTION OF THE CLUBFOOT AT A BRAZILIAN HOSPITAL.

Fernando GARCIA, Lucas CORTIZO GARCIA, Magda LEAO PINHEIRO, Marcelo BONANZA, Fabio MATOS, Daniel ANDION, Maria Beatriz CORTIZO GARCIA, Fernanda CORTIZO GARCIA, Elaine GHIROTTO
Martagão Gesteira Children`s Hospital, SALVADOR (BRAZIL)

Introduction: Cerebral Palsy is a term use to a injury in an immature brain, determining motors alterations such as posture and movement disturbs. In a muscleskeleton view, there can be a increase of the clinical stage because of the muscular contracture and articular stiffness. The equinism of the ankle, valguism and varism are the most common. The clubfoot is a deformity most common that requires treatment in patients with cerebral palsy. Methods: It's an observational and retrospective study. Was collected the data from charts of patient with cerebral palsy and clubfoot at our service, in the period of January 2013 and January 2014, getting w total of 173 patients, in with 53 fulfill the criteria? Results: The average age was 7,42 years old with a variation of 0,58 to 15,33 male gender prevail with 54,7%, there were 60,4% of bilateral affection and in unilateral 28,3% right and 11,3% left. The most common technique was the lengthening of the Achilles(41,5%) followed bay VULPIUS 37,7%, and Cincinnati and Talectomy with Achilles lengthening 9,4% and the Hallux Valgus with Achilles lengthening 1,9%. Conclusion: This study demonstrate that's the average age was 7,42 years old, with predominance of male sex and bilateral deformities and the surgical approach was Lengthenin of Achilles.

Abstract no.: 47529

EPIDEMIOLOGICAL PROFILE OF CHILDREN TREATED AT THE SURGICAL THEATER OF A CHILDREN'S HOSPITAL.

Fernando GARCIA, Lucas CORTIZO GARCIA, Magda LEAO PINHEIRO, Fabio MATOS, Marcelo BONANZA, Daniel ANDION, Maria Beatriz CORTIZO GARCIA, Fernanda CORTIZO GARCIA
Martagão Gesteira Children`s Hospital, SALVADOR (BRAZIL)

Introduction: By definition bone fracture is the lost of the structural integrity and the incapacity of transmitting weight during the movements. Children's bones are more elastic, have more resistant periosteum and grow cartilage then adults bones. This characteristics determinate a the difference of the type of injury, diagnosis and prognosis. Therefore, there are some advantages in a trauma like incomplete fractures and more capacity bone remodeling and healing. However there are some disadvantages associated because the patient is a child, the diagnosis maybe difficult by the lack of history and cooperation on the physical exam, and the risk of fractures on the epifisiary plate and possible compromise of the grow. Furthermore those patients don't always follow the recommendations of immobilization and don't accept the cast for log periods. The treatment is divide in two. The first is the closed, treatment of choice, consist in reduction of the fracture followed by cast. The second, open treatment is necessary, it's a surgical procedure that involves general anesthesia and most of the time its associated with osteosynthesis. Methods: retrospective study of patients treated at the hospital from January 2003 and December 2011. Were included patients until 14years old of another sex , with no exclusion criteria. Results: 1576 patients, 72,3% male, 1,7% Arm 29% Elbow , 50,5% Forearm, 0,4% Metacarpal, 13,3% Femur, 3% Tibia, 0,8% Akle; 27,7% female, 1,8% Arm 34,9% Elbow , 49,8% Forearm, 0,3% Metacarpal, 9,6% Femur, 2,1% Tibia, 1% Akle. Conclusion: Was found predominance by de male sex, superior members.

Abstract no.: 47531

PROFILE EVALUATION OF THE RESISTENT CLUBFOOT IN A CHILDREN'S HOSPITAL

Fernando GARCIA, Lucas CORTIZO GARCIA, Magda LEAO PINHEIRO, Daniel ANDION, Marcelo BONANZA, Fabio MATOS, Maria Beatriz CORTIZO GARCIA, Fernanda CORTIZO GARCIA, Gustavo SANTOS
Martagão Gesteira Children`s Hospital, SALVADOR (BRAZIL)

Introduction: The pathogenesis of these lesions has not been fully elucidated. Initially, the procedure to minimize this deformity is the conservative, obtaining prominence two methods quite a lot used in orthopedic practice: Kite's method and Ponseti's method. The Ponseti's method has been more accepted and used. In this procedure fail, surgical treatment becomes necessary. Codivilla, in 1903. But, the final results were not so good and the need for new surgical procedure was evident. In 1992, an innovative surgical technique has to be realized. The access route from Cincinnati, as it is called, is having a greater acceptance due to their better aesthetic and functional aspects. Results: Most of the evaluated data and the obtained results agreed with literature. The male was predominant (67.3%), average age of operated patients was 32.1 months, average weight of children was 14kg and deformity was more common in the right foot (46.2%), unilaterally, while bilateral cases had little expressive results (9.9%). Was noted that the most access route used was Cincinnati(58.9%), exceeding the Codivilla's acess route (41.2%). Conclusion: Based on the results of this descriptive study and grounded in some records from the literature, talked about most affected gender, most prevalent age in surgical cases of patients with resistant congenital clubfoot, most common side t and which surgery provides better results. Was verified that the Cincinnati's access route was prevalent compared to Codivilla's, due to better post-surgical results presented and because incision allows a better visualization of structures that will undergo correction.

Abstract no.: 47532

COMPARATIVE STUDY BETWEEN THE OBESITY AND THE GENU VALGUM IN INFANTS

Fernando GARCIA, Lucas CORTIZO GARCIA, Magda LEAO PINHEIRO, Marcelo BONANZA, Fabio MATOS, Daniel ANDION, Maria Beatriz CORTIZO GARCIA, Fernanda CORTIZO GARCIA, Laise TORRES
Martagão Gesteira Children`s Hospital, SALVADOR (BRAZIL)

Introduction: This study quest to find a relation between the obesity and genu valgum at infants. Methods: Descriptive study with 53 patients of the hospital ambulatory with age between 2 to 14 years old. The criteria was the intermaleolar distance higher or equals to 6cm. Was collected data of indemnification and anthropometric (weigh, height, BMI) Was analyzed the variables of, sex, age, height, IMD and Z score. Was calculated the correlation between Z score and IMD, and weight and IMD by the correlation coefficient of Pearson. Results: The average age was 4.16 years and 71,7% was the male sex, IMD was 9,19cm, height, weigh and BMI - 1,07m, 23,9kg and 19,07kg/m2. The obesity children's was 20,8% being only 41,7% in normal nutritional stage. The correlation between Z score and IMD , r= 0,006. Conclusion: This study couldn't prove a direct relation of obesity and genu valgum, but was able to relate the excess of weight and genu valgum. Therefore open space to more studies.

Abstract no.: 47533

COMPARATIVE STUDY BETWEEN KITE AND PONSETI METHODS ON TRATMENT OF CLUBFOOT IN A BRAZILIAN HOSPITAL.

Fernando GARCIA, Lucas CORTIZO GARCIA, Magda LEAO PINHEIRO, Fabio MATOS, Marcelo BONANZA, Daniel ANDION, Maria Beatriz CORTIZO GARCIA, Fernanda CORTIZO GARCIA, Rafaela JUCA
Martagão Gesteira Children`s Hospital, SALVADOR (BRAZIL)

Introduction: The clubfoot is one of the most common congenital deformities affecting the musculoskeletal system. Hipocrates was the first to leave written evidence about the clubfoot, in 400 BC, indicating manual manipulations without the use of force, followed by immobilization using bandages. Guerin,1836, first to mention the use of plaster. Kite, 1932, published new method , more gentle manipulation that aimed at the correction of each component of the clubfoot separately, based on the support of the calcaneocuboid joint. 1950, Ponseti developed his own technique, a series of manipulations and immobilizations using plaster. However, the manipulations were based on the lateral surface of the Talus head and, when necessary, the tenotomy of the Achilles tendon. Comparative evaluation of Kite and Ponseti conservative methods will help analyze their effectiveness in relation to the principles of correctness of the osteo-articular, capsule and ligaments changes achieved. Methods: One hundred children born with the abnormality were divided in two groups. The first and the second groups were submitted to conservative treatment using Kite and Ponseti methods, respectively. At the end of the treatment, both groups were evaluated based on the classification of Pirani to verify if there was adequate correction of the deformity. Variables studied: correction of deformity, age, sex and laterality. Results: There were significant statistical differences between the effectiveness of Kite and Ponseti methods of conservative treatment. Conclusion: The present study shows that the efficacy of conservative treatment using the Ponseti method was 18% higher when compared to the Kite method.

Abstract no.: 47535

CORRELATION BETWEEN PASSIVE SMOKING AND LEGG-CALVE-PERTHES DISEASE

Fernando GARCIA, Lucas CORTIZO GARCIA, Magda LEAO PINHEIRO, Daniel ANDION, Marcelo BONANZA, Fabio MATOS, Maria Beatriz CORTIZO GAARCIA, Fernanda CORTIZO GARCIA
Martagão Gesteira Children`s Hospital, SALVADOR (BRAZIL)

Introduction: Legg-Calve-Perthes disease is defined as an ischemic or avascular necrosis of the femoral head in children can occur from 2 to 16 years. Possible etiological causes is an obstructive phenomenon caused by smoking justify infarction or arterial venous drainage of abnormal vascular pathology. This is a hot topic among researchers in order to prove the veracity of the influence of passive smoking in the development of Legg-Calve-Perthes. Methods: To identify relevant studies, search in the databases, BIREME, Google Scholar, EMBASE and PUBMED analyzing the relationship between passive smoking and Legg-Calve-Perthes disease. A systematic review of the literature with meta-analysis of case-control studies that evaluated the association between passive smoking and Legg-Calve-Perthes disease. The odds ratio (OR) was used as outcome variable in the analysis of results, and also the primary studies using this variable. Results: We identified 10 potentially relevant articles in the search and review of the literature of these, five did not fit the inclusion criteria and were discarded, leaving five suitable studies, all in English, for final evaluation with a total of 5818 patients. The pooled OR was 2.35 with 95% CI ranging from 1.446 to 3.802 and p = 0.0001. Was also tested heterogeneity using the same method, p = 0.25 for the test Conchran-Q and I2 = 83.4%. Conclusion: The present study indicates that there is a statistically significant correlation between passive smoking and disease Leeg-Calve-Perthes disease.

Abstract no.: 47536

MARTAGAO GESTEIRA HOSPITAL PROTOCOL FOR DIAFISARY FEMUR FRACTURES MANAGEMENT

Fernando GARCIA, Lucas CORTIZO GARCIA, Magda LEAO PINHEIRO, Fabio MATOS, Marcelo BONANZA, Daniel ANDION, Maria Beatriz CORTIZO GARCIA, Fernanda CORTIZO GARCIA
Martagão Gesteira Children`s Hospital, SALVADOR (BRAZIL)

Introduction:The femur fractures are a side chapter on the treatment of the fractures on children. This pathology is very common in our ambulatory and occupy the most of the beds available on the service. To dynamize the beds minimizing the waiting line for the others pathology. Objective: present a guide for the femur fracture treatment on children minimizing the time of admission and getting better results with the conservator treatment. Methods:It's based on the implementation of a Guide for the treatment of femur fractures on children at our hospital. It took under consideration the age of the patient and the centimeters of shortening. For the patients from 0 to 2 years old it's recommended the use of cast Spp, until 1,5cm of shortening uses Spp for 30 days. Patients from 3 to 8 years old with shortening higher then 1,5cm use of Buck Traction for 15 to 21 days and after that period use the S3pd for 45 days. Patients from 9 to 13 years old, use of compression plate, exterior fixators and/or titanic elastic nail. Results: was treated 193 children , 78,3% male and 21,7% female, on the period of January 2003 - December 2011. Most of the patients were treat conservatory and 12 was treat with titanic elastic nail and others with exterior fixator. The complications found was : overgrow, rotational deviation, bone infections and pseudoarthosis. Conclusion: The conservatory treatment with traction and/or Spp and S3pd still continues to be the gold standard treatment in our service.

Abstract no.: 47538

CLUBFOOT SURGICAL APPROACH WITH CINCINNATI'S INCISION: A SURGICAL TECHNIQUE

Fernando GARCIA, Lucas CORTIZO GARCIA, Magda LEAO PINHEIRO, Fabio MATOS, Marcelo BONANZA, Daniel ANDION, Maria Beatriz CORTIZO GARCIA, Fernanda CORTIZO GARCIA
Martagão Gesteira Children`s Hospital, SALVADOR (BRAZIL)

The authors present a new surgical approach to one stage soft tissue release whithout internal fixation, for the correction of congenital resistant clubfoot utilizing that Cincinnati incision. Since the year 1990, the Cincinnati incision has been applied in the Service, due to its excellent cosmetic results. Howe- ver, it was only in the year 2000 that all the modifications that culminated in this Operating Technique were finalized. The authors agree that this Techni- que, subdivided in sequential stages, permits ample release of soft tissue, mainly in the posterior lateral region of the hindfoot. This agile technique reduces operating time, thereby reducing the risks, be they anaesthetic or related to healing.

Abstract no.: 47542

PROFILE OF CHILDREN WITH BLOUNT'S DISEASE IN A CHILDREN'S HOSPITAL

Fernando GARCIA, Lucas CORTIZO GARCIA, Magda LEAO PINHEIRO, Daniel ANDION, Fabio MATOS, Marcelo BONANZA, Fernanda CORTIZO GARCIA, Maria Beatriz CORTIZO GARCIA, Deya ARGOLO
Martagão Gesteira Children`s Hospital, SALVADOR (BRAZIL)

Objective: Study the clinical profile of patients diagnosed with Blount's disease in Pediatric Orthopedics Clinic of Martagão Hospital Gesteira-BA. METHODS: We conducted a cross-sectional study with data collected from the patients 0-17 years and 11 months, with a diagnosis or history of Tibia Vara from June to November 2015. Variables: gender, age, race, family history of Tibia Vara, cerebral palsy, weight, height, body mass index, tibial unilateral involvement or bilateral, previous surgeries, leg, back, knee or foot pain, physical exercises, pain improves with exercise, the affected limb, difficulty of walking, spinal deviations, weight rating and age range. Statistical analysis was performed by the absolute and relative frequencies, mean and median, binomial test and Mann-Whitney test. The confidence interval was 95%. Results: Thirteen patients were included in this study with a minimum age of 2.5 years and a maximum fourteen years, 46% female patients, 54% male . 61.5%blacks, 23.1% mulatto,15.4% whites ; 15.4% normal weight, 38.5% overweight and 46.2% obese ,85% of patients with Tibia Vara were overweight for their age and height. Conclusion: Among the variables were statistically significant not have cerebral palsy, do not report pain in the feet or back pain, as well as being overweight. We also conclude that DIC is not influenced by the weight, nor the pain in the lower limbs is related to her.

Abstract no.: 47544

EVALUATION OF OSTEOARTICULAR INFECTION AT THE MARTAGãO GESTEIRA HOSPITAL

Fernando GARCIA, Lucas CORTIZO GARCIA, Magda LEAO PINHEIRO, Marcelo BONANZA, Fabio MATOS, Daniel ANDION, Fernanda CORTIZO GARCIAA, Maria Beatriz CORTIZO GARCIA, Eduardo KING
Martagão Gesteira Children`s Hospital, SALVADOR (BRAZIL)

Introduction: The Osteoarticular Infections are an inflammatory pathology of bacterial predominance, normally presents an acute stage, that attack the bones (osteomyelitis) and joint (septic arthritis). These infections has en circulatory dissemination that can compromise the person in a systemic way, depending on the pathogenicity of the invader and the first immune system of the host, must be diagnostic and treated fast en emergency bay the hospital guide and not ambulatory, because of the risk of developing septicemia. Objective : Evaluate the osteoarticular infection epidemiological profile of the Orthopedic service of the Martagão Gesteira Children's Hospital. Methods : This was a retrospective, observational and descriptive study. Where there were collected information of all patients with osteoarticular infection that were admitted and submitted to a surgical procedure at the Hospital from the age 0 to 16 years old in the period of January of 1995 to January of 2012. Results: We're found a total of 1057 cases,being 69% males and 31% females. The average age was 6 years and 4 months (SD: 4 years and 3 months). Affected area : 37% Hip/Femur, 29% Knee/Tibia, 12% Shoulder/Humerus, 5% Elbow/Forearm, 4% Ankle/Foot and 13% others areas. Pathogens : 83,4% S. aureus, 9% S. pyogenes, 3,1% H. influenzae , 1,5% P. aeuruginosa, 1,1% Salmonella, 1,8% Others. Conclusion: Was verified predominance of the male sex above the female (2:1) and the S. aureus was the principal pathogen isolated of the osteoarticular infection, and the most hematogenous area was the inferior members.

Abstract no.: 47545

SUPRACONDYLAR FRACTURE: OPEN REDUCTION VS CLOSED REDUCTION TREATS IN A BRAZILIAN CHILDREN'S HOSPITAL.

Fernando GARCIA, Lucas CORTIZO GARCIA, Magda LEAO PINHEIRO, Marcelo BONANZA, Fabio MATOS, Maria Beatriz CORTIZO GARCIA, Daniel ANDION, Fernanda CORTIZO GARCIA, Tomas ANDRADE
Martagão Gesteira Children`s Hospital, SALVADOR (BRAZIL)

Introduction: the supracondylar fracture of the humerus represents the most common on the elbow of a child. Has more predominance on the male sex. The classification of this type of fracture is the Gartland and it's classified on the type I, II or III by the X- Ray of the injury elbow. The choose of the treatment is based on the classification and it's very controversial on the literature about the open or closed reduction and fixation. This fracture has a high potential of neuro vascular injury, being associated with complications on the postop. The cubitus varus and compartment syndrome are some of the prevalent complications. Objective: Comparethe efficacy between the two methods of treatment, open or closed reduction, on the supracondylar fracture. Material and Methods: 13 patients divided in two groups by the choice of treatment, open or closed. The efficacy was evaluated according to the angles of movement on the elbow, esthetics facts and complications. Results: There wasn't any statistics significances about the efficacy between both the treatments. Conclusion: This study didn't demonstrate any significant difference in the amplitude of the movement or on the esthetic on the comparing between closed and open reduction.

Abstract no.: 47547

ASSOCIATION BETWEEN DROOPY SHOULDER AND DEGENERATIVE CHANGES IN THE CERVICAL SPINE

Kazushi TAKAYAMA[1], Atsushi MASUDA[1], Teruo KITA[1], Hideki SAKANAKA[1], Yoshiki YAMANO[1], Hiroaki NAKAMURA[2]

[1]Dept. of Orthopaedic surg., Seikeikai Hospital, Osaka (JAPAN), [2]Dept. of Orthopaedic surg., Osaka City University Graduate School of Medicine, Osaka (JAPAN)

Introduction: The aim of this study was to examine the association between droopy shoulder and radiological findings in the cervical spine. Materials and methods: This study was conducted with 976patients who underwent cervical spine radiographs and were aged 20years or over at our hospital during 2016. Five hundred forty seven patients were male, and 429 were female, and the mean age was 53years (20-99years). We evaluated the prevalence of droopy shoulder by visible second thoracic vertebrae in lateral cervical radiographs. Cervical lordosis (C2-7) and sagittal vertical axis (SVA) were measured by using a picture archiving and communications system. We assessed the radiographic scoring system for cervical intervertebral disc degeneration which includes three variables: ‘‘height loss’’ of intervertebral disc height, ‘‘anterior osteophytes’’ and ‘‘endplate sclerosis’’. Those variables were graded individually on a scale, and based on the sum, the overall degree of disc degeneration was determined. In addition, we compared cervical sagittal alignment and overall degree of disc degeneration between patients with and without droopy shoulder. Results: Droopy shoulder was detected in 59patients (6.0%; mean age, 50years), which was more frequent in females (22males; 4.0%, 37females; 8.6%). Patients with droopy shoulder had a significantly decreased cervical lordosis (8.7degrees vs. 14degrees) and there was no significant difference for SVA (17mm vs. 20mm). However, overall degree of disc degeneration did not tend to be more common in the patients with droopy shoulder. Conclusion: These results suggest that droopy shoulder was associated with cervical sagittal alignment, while not associated with cervical disc degeneration.

Abstract no.: 47552

SHORT-TERM OUTCOME AND COMPLICATIONS AFTER PRIMARY TOTAL HIP REPLACEMENT USING CONTEMPORARY TITANIUM TAPERED WEDGE CEMENTLESS FEMORAL STEM

Shunji NAKANO[1], Shinji YOSHIOKA[2], Masaru NAKAMURA[3], Yutaka KINOSHITA[3], Koichi SAIRYO[4]

[1]Department of Orthopedic Surgery, Tokushima Municipal Hospital, Tokushima (JAPAN), [2]Toksushima Municipal Hospital, Tokushima (JAPAN), [3]Tokushima Municipal Hospital, Tokushima (JAPAN), [4]Tokushima University Faculty of Medicine, Tokushima (JAPAN)

Purpose: Retrospective evaluation of the results, including intraoperative and postoperative complications, of primary total hip replacement (THR) using a contemporary tapered wedge titanium femoral component (the Accolade TMZF Stryker stem). Method: A total of 248 consecutive primary THR, using a contemporary titanium tapered wedge cementless femoral stem, were performed in 218 patients between 2009 and 2014 with a mean clinical follow-up of 50 months. Mean age at surgery was 65.2 years (20–89). Patients were evaluated clinically using the JOA scoring system and complications tabulated. Radiographs were evaluated for femoral loosening and osteolysis. Results: At final review, the mean JOA score improved from 49 (range, 8–75) to 92 (range, 64–100). 19 patients had poor results (JOA < 75). At final follow-up, bony ingrowth was seen in all but 8 femoral components. There was no proximal femoral osteolysis on radiographs. A total of 18 hips had complications. Intra-operative fracture occurred in 10 hips: 3 hips with femoral shaft fractures, stabilised with cerclage wiring in 2 cases; and 7 hips with greater-trochanter fractures, stabilised with tension-band wiring in 3 cases. Two patients had dislocations, one at four months and one at two years post-operatively. Superficial infection occurred at one week postoperatively in one patient, but improved with irrigation and antibiotic therapy. Two patients had sciatic nerve palsy presenting immediately after operation; in one, mild weakness of ankle and toe dorsiflexion persisted. Conclusion: We have overall good early impressions of the tapered wedge titanium femoral component.

Abstract no.: 47561

CRISSCROSS TYPE SCREW FIXATION FOR THE FRACTURES OF DISTAL HUMERUS

Jin Soo PARK[1], Soo Joong CHOI[2], Min Ki KIM[3]
[1]Hallym University Kangnam Sacred Heart Hospital, Seoul (SOUTH KOREA), [2]Hallym University Sacred Heart Hospital, Seoul (SOUTH KOREA), [3]Hallym University Kangnam Sacred Heart Hospital, Seoul (SOUTH KOREA)

Introduction: This study presents the outcomes of fractures of the distal humerus treated by closed reduction and internal fixation with two screws in a crisscross orientation. Materials and Methods: Between 2005 and 2012, tweleve consecutive patients (2 man and 10 women) with transcondylar fractures of distal humerus (AO 13A2.3) were included in this study. The average age at the time of injury was 52 years (range, 24-82). All were closed injuries without nerve injury. The mechanism of the injuries was low energy fall or slip. Six patients had medical or other systemic diseases. Surgical technique: After a closed reduction of the fracture fragments, two guide wires were inserted in a crisscross orientation; one from the lower lateral edge of the capitellum to the medial cortex of the distal humerus, and the other from the lower medial edge of the trochlea to the lateral cortex of the distal humerus. After drilling, fully threaded cannulated screws (4.5 mm in diameter) were inserted along the each guide wire. Functional outcome was assessed with Mayo Elbow Performance scores.Results: The mean operation time was 55 minutes (range, 40-100 min.). The average follow-up duration was 26.8 months (range, 24-35 months) The mean Mayo Elbow Performance scores was 93.8 (range, 90-99). The elbow extension-flexion arc was 12o-125o. The mean pronation-supination angle was 74o-72o. Conclusion: a crisscross fixation with two cannluated screws provides satisfactory results that allows a nearly full range of elbow motion with minimal surgical morbidity.

Abstract no.: 47562

FUNCTIONAL OUTCOME OF OPERATIVELY TREATED FLOATING HIP INJURIES

Vivek TRIKHA[1], Buddhadev CHOWDHURY[2]
[1]AIIMS, NEW DELHI (INDIA), [2]AIIMS, N DELHI (INDIA)

Background: Floating Hip is defined as ipsilateral pelvic-acetabular fractures and femoral fracture. Management of these injuries is still controversial with no guidelines available. The aim of this retrospective study was to evaluate the fracture pattern, treatment protocol and functional outcome of patients with floating hip. Methods: Between Jan 2010-Jan 2015, 43 patients with floating hip were treated at our institute. 39 patients were available with complete follow up. The following parameters were recorded from the records: age, sex, mechanism, injury pattern, timing and method of fixation along with complications were analysed. Follow up examinations was performed by the same observer. Functional outcome was assessed with Merle d Aubigne score. Results: The average age was 27.2yrs (22-46). All patients were male. The mean time between injury and follow up was 39 months (24-76 months) All pelvi-acetabular united by average 4.6 months .In femoral fracture five patients required secondary procedures (bone grafting, revision etc). Two patients had secondary arthritis. There was no intra-operative complication nor were there any cases of infections or deep vein thrombosis. Clinical outcome measurements revealed that according to the Merle-d'Aubigne score. 70 % of the patients showed excellent outcome (score: 18). Overall, the Average Merle d Aubigne score was 16.8 indicating good outcome.Conclusion: Floating hip injuries are severe injuries caused due to high energy trauma. They can be effectively managed by stabilizing femur first either followed by acetabular or pelvis fracture fixation.

Abstract no.: 47564

CLINICAL & RADIOLOGICAL RESULTS OF KYPHOPLASTY WITHOUT BALLOONING IN OSTEOPOROTIC VERTEBRAL COMPRESSION FRACTURES

Ki Young LEE, Jae Sung AHN
Department of Orthopedic Surgery, Chungnam National University School of Medicine, Daejeon (SOUTH KOREA)

Materials and Methods: Between April, 2016 & February, 2017, total of 33 vertebrae in 28 patients were analyzed. All of patients were divided in two groups according to radiologic findings. Patients with 40% or more collapsed anterior vertebral body height comprised in Group 1. Patients with less than 40% collapsed anterior height comprised in Group 2. Experienced spine surgeons evaluated the standardized pre- and post-operative radiographs. The anterior vertebral height ratio, degree of anterior height restoration, and changes in the vertebral kyphotic angle on pre- and post-operative lateral plain radiographs were assessed. The clinical results about symptoms were evaluated by using visual analog scale(VAS), Oswestry disability index(ODI), the Roland-Morris disability questionnaire(RMDQ). Then we obtained values, pre-operatively, and follow up on 3 months after surgery at out patients department.

Abstract no.: 47572

TOPICAL TRANEXAMIC ACID IS EQUIVALENT TO TARGETED PREOPERATIVE AUTOLOGOUS BLOOD DONATION IN TOTAL HIP ARTHROPLASTY

Kilian RUECKL[1], Maximilian KASPAREK[2], Martin FASCHINGBAUER[3], Wenzel WALDSTEIN[2], Cosima BOETTNER[1], Friedrich BOETTNER[1]
[1]Adult Reconstruction & Joint Replacement Division, Hospital for Special Surgery, New York (UNITED STATES), [2]Department of Orthopedics, Vienna General Hospital, Medical University of Vienna, Vienna (AUSTRIA), [3]Department of Orthopedic Surgery, University Ulm, Ulm (GERMANY)

Introduction: Topical tranexamic acid (TXA) was introduced to replace the previous targeted preoperative autologous blood donation (PABD) program. This study aims to analyze the efficacy of topical TXA compared with targeted PABD in anemic patients undergoing primary total hip arthroplasty (THA). Methods: 2251 patients underwent primary THA between 2009 and 2013 using targeted autologous blood donation for 280 anemic patients (12%; Hb <12.5Hb/dL). 1971 nonanemic patients (88%; ≥12.5 HB/dL) received no blood management intervention. Starting in 2014, 505 consecutive patients were operated using 3 grams of topical TXA and abandoning PABD. 91 patients (18%) were anemic and 414 (82%) nonanemic. Results: The utilization of topical TXA in anemic patients resulted in higher hemoglobin levels on the first postoperative day (p=0.014), but not on the second postoperative day (p=0.198) compared with PABD. There was no difference in allogenic transfusion rates between both groups: 12% vs 13% (p=0.848). In the nonanemic group, TXA significantly increased hemoglobin levels on the first postoperative day (p=0.001) as well as on the second postoperative day (p < 0.001), and resulted in a reduction in allogenic transfusion rates from 8% to 1%. Conclusion: The present study suggests that topical TXA is equivalent to PABD in anemic patients and reduces transfusion rates and increases Hb-levels in nonanemic patients.

Abstract no.: 47575

DHS & EDD (ELSHAFIE DYNAMIC DEROTATION) PLATE IN MANAGEMENT OF INTRACAPSULAR FEMORAL NECK FRACTURE

Mohamed ELSHAFIE, Mohamed ATIF AHMED, Assem Mohamed NOURELDIN ZEIN, Ahmed M A OTHMAN, Mohamed M AZMY, Amr M M SOLIMAN, Ahmed Fathy SADEK
MINIA University, Minia (EGYPT)

Background: Using the concept of 2 point fixation in the distal fragment in fixation of intracapsular femoral neck fractures, we used the dynamic hip screw (DHS) and ElShafie Dynamic Derotation plate. We evaluate the results in terms of function by Harris Hip Score (HHS) and time to full weight bearing, and in correlation to the demographics, time elapsed from fracture to surgery, intraoperative data, quality of reduction, and displacement according to Garden classification. Methods. A prospective study of 30 patients with femoral neck fractures was carried out in Minia University hospital. Patients underwent surgery with closed reduction and internal fixation with DHS & EDD. Results. There were 20 male and 10 female patients, with a mean age of 51 years (19 – 75 ys). In terms of Garden classification, 20% were Garden II, 60% were Garden III, and 20% were Garden IV. Neither Avascular necrosis nor Nonunion was diagnosed in these cases. Displacement showed a significant correlation with time to union. Conclusions: Double fixation of these fractures showed statistically significant better results in terms of HHS & time to full weight bearing with no added complications. Displacement is a predictive factor for lower healing rate and osteonecrosis .

Abstract no.: 47577

THE VALUATION OF STRUCTURE OF ANKLE JOINT DURING THE TREATMENT OF OLD FRACTURES AND SUBLUXATIONS IN ANKLE JOINT

Serhio VARZAR
Odessa National Medical University, Odessa (UKRAINE)

During x-Ray analysis of ankle joint with the aim of qualification the results of treatment, we consider, that the most rational is comparative x-ray in Brodens axis (inner rotation of 250-300 degrees) as well as CT-scan. Considering this, the good result may count as in which the full joint structure is saved. The distance in tibio-fibular syndesmosis must not be over 2-2,5 mm and the side- and frontal displacement of both ankles must not be present. With unappropriate results the operative treatment must be done. With old damages (over 3-4 weeks) we recommend to cut the tissues filling the syndesmosis area and the space between talus and inner ankle. To enclose and fixate tibia and fibula to save the physiological distance in syndesmosis area we use 2 malleolar screws or screw that pulls together the bones which we remove after 2,5-3 months after the moment of full-load on the joint. To control the distance between tibia and fibula in syndesmosis area during the operation we use the given set of screws (from 0,7 mm to 1,5 mm). We control the late results after 1,5; 3; 6; 9 months after the operation. When the joint surface is altered (in case of old damages) the PRP-Plasma method in joint cavity is very effective. The usage of given method greatly improves the quality of life, greatly lowers the percentage of degenerative and distrophic changes in the joint.

Abstract no.: 47580

TRIPLE OSTEOTOMY OF PELVIS (TOP) IN CHILDREN UNDER SIX YEARS WITH SINGLE APPROACH: PREVENTION OF RETROVERSION AND ANTERIOR IMPINGEMENT

Hassan NAJDI, Elie MAKHOUL, Hussein FARHAT, Roger JAWISH
Sacre Coeur hospital, beirut (LEBANON)

Purpose: For children under 6 years old requiring high degree correction for acetabular deficiency, we carried out periacetabular triple osteotomy of pelvis (TOP) avoiding hyper-pressure on epiphysis, anterior overcorrection and retroversion of acetabulum. Materials: TOP achieved in 11 patients (2 to 5.5 years old), 12 hips: 8 hips of DDH with important dysplasia (CEA -14° to 15°) and 4 hips of Legg-Calvé-Perthes (Stulberg IV). Clinical examination and CT scan performed and compared the operated hip (OH) to the non-operated hip (NOH). Radiographic exams evaluated pre and post-op angles at the OH. Results: Clinical assessment postoperatively: flexion decreased 14°, extension increased 7°, external rotation increased 5°, internal rotation decreased 5°. Radiographic assessment: Acetabular Sharp angle: (preop: 45.3°, postop: 37.1°), the CEA: (preop: 5.7°, postop: 38.7°) and the sourcil-slope: (preop: 22.6°, postop: 7.3°). CT-2D axial analysis: acetabular anteversion (OH: 1°, NOH: 2°), anterior coverage (OH: 37.5°, NOH: 34.7°), posterior coverage 21° (OH and NOH). CT-3D analysis: anterolateral inclination of the lip (OH: 32.7°, NOH: 52°), posterolateral inclination (OH: 48°, NOH: 66°), anterior acetabular inclination (OH: 5.5°, NOH: 15°). Discussion: In children less than 6 years old, TOP performed by moving the acetabulum anteriorly (extension) and mainly laterally (adduction) as steering wheel, permitted the correction of severe acetabular deficiency, avoiding anterior overcorrection and retroversion of acetabulum, all responsible of early pain and osteoarthritis. Conclusion: Age should not be the only criteria to choose between Salter’s osteotomy and TOP. Patients less than 6 years with severe acetabular deficiency could benefit from TOP.

Abstract no.: 47582

EVALUATION OF THE RESULT OF PROXIMAL FEMORAL LOCKING PLATE IN MANAGEMENT OF SUBTROCHANTERIC FRACTURE.

Jha SUDHANSHU[1], Shafiqul Alam MOHAMMAD[2], Kumar Datta NAKUL[2], Tanga RAHUL[3]

[1]Sindhuli Hospital, Kathmandu (NEPAL), [2]Bangabandhu Sheikh Mujib Medical University., Dhaka (BANGLADESH), [3]Tanga multispecility Hospital and Trauma Center., Bijapur (INDIA)

Background: The incidence of Subtrochanteric fractures of the femur is on the raise because of modern lifestyles and increased life expectancy. The deforming forces, high mechanical stresses and morbidity of the fractures have always challenged the orthopaedic surgeon. Various devices have evolved in an attempt to effectively treat the fracture and we choose Proximal Femoral Locking Plate (PF-LCP) as fixation device and its outcome was evaluated. Methods and Materials: We treated 30 cases. All of them were selected as per inclusive and exclusive criteria. Our Patient group was AO 32 A1-A3. Patients were evaluated preoperatively and was admitted & operated by ORIF using Proximal Femoral Locking plate (PF-LCP) under spinal anesthesia. The mean age of the patient was 38.03 years with male predominant. Patients were then followed up as per schedule criteria to evaluate the outcome of results of intervention. Result: Patients were evaluated postoperatively and regular follow-up showed excellent and good result in majority of the cases as per Modified Harris Hip Scoring System. Conclusion: Subtrochanteric fracture is one of the most difficult fractures to treat due to various reasons like anatomic, biomechanics and availability of appropriate devices. Among different devices. Proximal Femoral Locking Plate (PF-LCP) is the newer group of device which we choose and it shows excellent result in majority of cases.

Abstract no.: 47587

TREATMENT OF SEGMENTAL FRACTURE OF TIBIA WITH ILIZAROV METHOD

Asadullah MAKHDOOM
Liaquat University of Medical & Health Sciences, - (PAKISTAN)

Introduction: Segmental fractures of tibia are still great challenge, considering its anatomy; difficult to achieve reduction and maintenance of these fractures. Objective: To determine the functional outcome and union time in segmental tibial fracture treated with Ilizarov method. Methods: Forty-five patients (36 males, 09 females) with a mean age of 29.8 years (range 20-50) with segmental tibial fractures were treated with the use of an Ilizarov method. Fourteen fractures were closed and 31 were open (11 grade IIIa, 8 grade IIIb, 7 grade II, 5 grade I according to the Gustilo classification). Functional and bone results were made using the criteria proposed by ASAMI. The mean follow-up 18 months. Results: We obtained excellent results in 26, good results in 16 and fair results in 3 patients in terms of bone assessment. Functional results were excellent in 29 and good in 12 patients. All radiological evaluations showed normal alignment except in four patients. Complete union was achieved in all patients. Pin-tract infection occurred in 13 of the 24 patients. The mean time for proximal fracture union was 34.4 weeks (range 12-76) and 38.9 weeks (range 14-80) for the distal fractures ($p>0.05$). Conclusion: Ilizarov is a successful method in the treatment of segmental tibial fractures. This method allows the closed reduction without extensive soft tissue damage and is effective in the short distal segmental fractures of the tibia.

Abstract no.: 47590

TOTAL HIP ARTHROPLASTY FOR JUVENILE HIP OSTEOARTHRITIS IN ADOLESCENCE: TWO CASE REPORTS.

Domenico CURCI[1], Carlo SINICATO[2], Ilaria MORELLI[3], Francesco LUCERI[3], Giovanni RAVASIO[3], Domenico RAVIER[2]
[1]IstitutoOrtopedico Galeazzi, milan (ITALY), [2]Galeazzi, milan (ITALY), [3]Galeazzi, Milan (ITALY)

Reports of total hip arthroplasty(THA) during adolescence are rare, even if it represents an option to treat juvenile hip osteoarthritis (JHOA). Two cases, treated at Galeazzi Orthopedic Institute, Milan, are described. DM, male, 14 years old, showing up with groin pain and limp from 8 months due to a left slipped capital femoral epiphysis (SCFE), underwent a proximal femoral osteotomy. Nevertheless, his symptoms did not improve, and a severe JHOA appeared during the following two years, with a hip joint blocked at 30° abduction. Hence, a ceramic-on-polyethylene THA was performed when he was 16. MC, male, 12 years old, suffered from knee pain due to left SCFE. Despite a proximal femoral osteotomy, he developed a severe JHOA, showing up with a 90° hip extension lag. An upper dislocation of the femoral head was shown on the x-rays. Hence, a ceramic-on-ceramic THA was performed when he was 15. After a 1-year and 3-years follow-up respectively, both patients have no symptoms any more, complete range of motion, and a global improvement in their quality of life. In both cases, treatment with THA provided a better joint function than hip arthrodesis, the only surgical alternative to date. Nevertheless, the follow up is too short to analyse the long-term results of THA in young patients, as well as the possible drawbacks of revision surgery. However, THA shows to be a valid option to treat JHOA due to SCFE, when proximal femoral osteotomies and conservative treatments fail in improving symptoms and quality of life.

Abstract no.: 47591

EOSINOPHILIC GRANULOMA OF THE BONE: A REPORT OF TWO CASES

Nadhir MERAGHNI[1], Youcef SOUFFI[2], Riad BENKAIDALI[2], Mohamed KIHAL[2], Zoubir KARA[2]

[1]Orthopedic Department, CHU Mustapha Bacha, Algiers (ALGERIA),

[2]Orthopedic Department, CHU Mustapha Bacha, algiers (ALGERIA)

Introduction: histiocytosis X is a rare intrinsically benign disease producing a destructive tumor. Focal forms such as eosinophilic granuloma of the bone only require minimal care. Bone involvement is generally observed in children mostly boys. The disease in adults is rare. The authors report two case of eosinophilic granuloma of the bone in adults. Methods: case one: A 19-year-old man complained of a pain in his left hip. Radiographs and CT showed multiple osteolytic lesions of the pelvis associated with a cranial bone location. He underwent tumor resection and a diagnosis of EG was made on pathological examination. Case two: a 20-year-old woman complained of a pain in his left hip. Radiographs and CT showed an important osteolytic lesion of the iliac bone. Pathological examination of the tumor biopsy confirmed the diagnosis of EG. Results: with 3 months follow up for the first patient, there is a good local evolution. The two patients are followed in oncology for a specific chemotherapy, with a good evolution. Discussion: the eosinophilic granuloma is a form of histiocytosis X with bone lesions. All bone parts can be affected except the small bones of the hands and feet. The bone lesions can take different aspects, from the benign to the aggressive lesion. We report 2 cases of bone eosinophilic granuloma in adults, located in pelvis, associated in the first case with a cranial injury. Conclusion: eosinophilic granuloma of bone is a rare form of histiocytosis X with lesions that can take different aspects.

Abstract no.: 47595

CHANGE OF JOINT LINE CONVERGENCE ANGLE AFTER HIGH TIBIAL OSTEOTOMY

Jae Ang SIM[1], Young Gon NA[1], Beom Koo LEE[2]
[1]Gachon University Gil Medical Center, Incheon (SOUTH KOREA), [2]Armed Forces Capital Hospital, Seongnam (SOUTH KOREA)

Introduction: Change of the joint line convergence angle (JLCA) can affect the amount of the alignment correction. We aimed to demonstrate the pattern of JLCA after HTO and investigate the related factors of its change. Methods: Eighty patients who underwent high tibial osteotomy were included for this retrospective study. Various radiographic parameters were measured on the preoperative and postoperative radiographs: standing whole limb radiograph with or without valgus force, supine knee AP and lateral. The patterns of JLCA changes and related factors were analyzed. Results: JLCA was decreased by mean of 0.9° ± 1.3° ($p < 0.001$) after HTO. Sixteen patients (20%, group 1) showed greater JLCA decrease ≥ 2°, while 64 (80%, group 2) patients showed JLCA change less than 2°. Group 1 showed more varus deformity (varus 8.1° vs. varus 4.7° in mechanical femorotibial angle (mFTA), $p < 0.001$) and greater JLCA (4.9° vs. 2.1°, $p < 0.001$) preoperatively compared to group 2. Change of JLCA was related with greater medial meniscus extrusion, preoperative mFTA and JLCA, postoperative lateral distal femoral angle (LDFA) and medial proximal tibial angle (MPTA), and amount of changes of mFTA, LDFA, MPTA. Postoperative JLCA was correlate better with preoperative JLCA at supine position than those on standing position with/without valgus force (correlation coefficient 0.700, $p < 0.001$, ICC = 0.823) with least mean difference (-0.2° ± 0.9°, $p = 0.021$). Conclusion: Change of JLCA can affect the postoperative alignment after HTO, so surgeons should consider it during the preoperative planning and intraoperative procedure.

Abstract no.: 47598

COMPARISON OF SINGLE-BUNDLE AND DOUBLE-BUNDLE POSTERIOR CRUCIATE LIGAMENT RECONSTRUCTION

Jae Ang SIM, Young Gon NA
Gachon University Gil Medical Center, Incheon (SOUTH KOREA)

Introduction: Double-bundle (DB) posterior cruciate reconstruction (PCLR) is appealing as it may restore the anatomy of PCL more effectively, which consists of anterolateral and posteromedial bundle, than single-bundle (SB) technique. This study was aimed to determine whether DB PCLR improve posterior stability and functional outcome compared to the SB technique. Methods: Twenty five patients who underwent SB PCLR between 2009 and 2013 and 19 patients who underwent DB PCLR between 2014 and 2016 were retrospectively reviewed. DB technique involved single tibial tunnel and two femoral tunnels. Mean followup period was 19.5 and 12.7 months in SB and DB groups, respectively. Posterior stability was evaluated by stress radiograph using Telos device. Functional status was evaluated using Lysholm score pre- and postoperatively. Results: There was no difference in posterior stability between two groups. Posterior translation of the tibia on the stress radiograph was 8.1 ± 3.1 and 8.2 ± 3.1 in SB and DB group, respectively ($p = 0.865$). Side-to-side difference was 5.5 ± 2.8 and 5.6 ± 3.0 ($p = 0.909$). Number of patients with side-to-side difference over 10mm, which may represent radiological failure, were 3 (12%) and 2 (11%), respectively ($p = 1.000$). Postoperative Lysholm scores were not different between the groups (82.3 ± 18.9 vs. 79.0 ± 21.3, $p = 0.676$). Conclusion: Double-bundle PCL reconstruction did not improve posterior stability and functional outcome compared to single-bundle technique, in spite of the theoretical advantage

Abstract no.: 47599

PREVENTION OF PERIPROSTHETIC CRACK PROPAGATION IN FEMORAL CORTICAL BONE – INFLUENCE OF METALLIC AND NON-METALLIC CERCLAGE SYSTEMS

Christian FAESSLER[1], Lukas KUSTER[2]
[1]Federal Institute of Technology Zürich, Royal Perth Hospital, Bubendorf (SWITZERLAND), [2]Royal Perth Hospital, Cottesloe (AUSTRALIA)

Introduction: Intraoperative femur fractures are a common complication of uncemented revision surgery with a reported incidence rate of 20.9%. While several studies have examined the use of cables for fracture fixation, the ability of a preventative cable stopping crack propagation has not been examined and no study has examined non-metallic cables. The aim of this study was to examine the ability of various cables, including a non-metallic cable to prevent crack propagation. Methods: 5mm cuts were initiated in fresh lamb femurs. Using a materials testing machine a prosthesis was slowly inserted until 20mm subsidence. Correlated Solutions VIC-3DTM system was used to monitor crack propagation and opening. Four types of cables were tested SuperCable, DePuy SS 1.7mm, DePuy CoCr 1.7mm, DePuy CoCr 2.0mm. A cable free control group was included. Results: All of the control group femur had a crack propagate. All cables were effective at stopping cracks sooner as in the control group. Half of the Super Cables specimen had a crack continuing past the cable while 20% of both CoCr cables had a crack continuing past the cable. In the SS group, no crack past the cable. Regarding the load necessary to initiate a crack, a significant difference could not be found between any group. Conclusion: The stainless steel cable performed the best out of the 4 cables. The ideal properties of a cable to prevent fracture propagation may be different than those of a cable for fracture fixation.

Abstract no.: 47600

THE INCIDENCE OF VITAMIN D DEFICIENCY IN PATIENTS WITH AN ACUTE TIBIA FRACTURE

Issadig RHOMA
University of Cape town, Cape Town (SOUTH AFRICA)

Background: Vitamin D is appreciated for its role in bone metabolism. Reports suggest 25% to 50% of patients commonly encountered in clinical practice are deficient in vitamin D. There is also an increasing awareness of a preclinical phase of vitamin D deficiency, namely vitamin D insufficiency. Studies have shown a clear link between Vitamin D deficiency and fragility fractures. The role of Vitamin D deficiency in the development of non-unions and the indications for supplementation in acute fractures are not clear. The incidence of Vitamin D deficiency in our population is not known. Previous it was hypothesised that deficiency would not be prevalent in a sunny climate like in Africa. Recent reports suggest otherwise. Furthermore there are no data on the incidence of Vitamin D deficiency in a population of fracture patients without fragility fractures. Tibia diaphyseal fractures are problem healing fractures. Methods: We performed a prospective study where we offered Vitamin D testing to all adult patients presenting to our unit with acute, high energy, open or closed fractures of the tibial diaphysis. Fragility fractures were excluded. Results: Between May 2016 and February 2017 36 adults with acute, high energy tibial dipahyseal fractures were offered Vitamin D testing. Ten patients were excluded due to refusing testing or inadequate blood sampling. We found a very high incidence of Vitamin D insufficiency and deficiency in our study group. Further studies is needed to investigate the incidence in our whole population and explore the role of Vitamin D supplementation in fracture union.

Abstract no.: 47601

THE EFFECT OF THE DOUBLE OSTEOTOMY WITH OPENING WEDGE CUNEIFORM AND CLOSING WEDGE CUBOID ON THE MORPHOLOGY OF THE POSTERIOR TARSAL IN Z-SHAPED FOOT AND CLUB FOOT.

Hassan NAJDI, Hussein FARHAT, Elie MAKHOUL, Roger JAWISH
Sacre Coeur hospital, beirut (LEBANON)

We evaluated the effect of open wedge osteotomy of first cuneiform and close wedge osteotomy of cuboid on morphologic aspect of metatarsus varus and its effect on hindfoot in Z-shaped foot (ZSF), neglected clubfoot (NCF) and complicated operated clubfoot (COCF). 20 children (average 8 years), 20 feet with 6 ZSF, 6 NCF and 8 COCF, were treated with double osteotomy. Forefoot correction was evaluated by radiographic analysis of talo-M1, M1-M2 and calcaneo-M5 angle, mid-metatarsals correction was evaluated with bisector (talo-calcaneal)-M2, bisector-M4 and M2-M4 angle, and effect of double osteotomy on hindfoot was evaluated by talo-calcaneal angle and talo-navicular angle. clinical evaluation was done at last visit. Significant decrease in talo-M1 angle, M1- M2 angle and an improvement of lateral convexity with good alignment of forefoot and hindfoot were seen. In ZSF, 8° of mean change in talo-calcaneal angle while insignificant change in talo-navicular coverage angle. In NCF and COCF there was no change in talo-calcaneal angle neither in talo-navicular coverage angle, then calcaneal osteotomy was performed to correct hindfoot deformity. Double osteotomy permits 12° correction of forefoot angle, whereas all metatarsals displaced in descending order from the first to the fifth metatarsal (M1:14°, M2: 12°, M4: 8°, M5: 4.5°). In ZSF, hindfoot valgus is considered as transient deformity due to stiffness of metatarsal varus, double osteotomy allowed spontaneous correction of talo-calcaneal angle: 8°. However in NCF and COCF, double osteotomy didn't affect the hindfoot because the rigidity of deformity. Therefore, appropriate procedure was necessary to correct the hindfoot deformity.

Abstract no.: 47603

INVASIVE FUNGAL INFECTION IN IMMUNOCOMPETENT TRAUMA PATIENTS - A CASE SERIES

Ajay Gowtham AJAY GOWTHAM[1], Senthil Loganathan SENTHIL LOGANATHAN[2]

[1]Sri Ramachandra University,Porur,Chennai, Coimbatore (INDIA), [2]Sri Ramachandra University,Porur,Chennai, Chennai (INDIA)

Zygomycosis is the third leading cause of invasive fungal infection after candidiasis and aspergillosis. Although zygomycosis mostly affects immunocompromised individuals trauma may potentiate infection in immunocompetent individuals. The mortality rate of Zygomycosis is around 50% due to angioinvasion.Here we report a series of 5 cases of angio invasive fungal infection in immunocompetent individuals who sustained trauma in urban areas, out of which only one case survived following high above knee amputation.

Abstract no.: 47608

CAN IMAGING PARAMETERS BE USED TO PREDICT INITIAL NEUROLOGICAL DEFICIT AND SUBSEQUENT RECOVERY IN ACUTE SPINAL CORD INJURY-A PROSPECTIVE ANALYSIS

Roop SINGH
PT. B.D. SHARMA PGIMS, ROHTAK, - (INDIA)

Introduction: Several imaging parameters have been described in the literature to evaluate acute spinal cord injury (SCI). The aim of the present study was to analyze these imaging parameters for their predictive value for the initial neurological deficit; and post-surgical improvement in these viz. a viz. neurological recovery. Methods: Imaging (X-rays and MRI) parameters of thirty-five patients of acute SCI were analyzed for initial neurological deficit and subsequent l recovery at 6 months. Results: Sagittal index>10o, Gardner's index>20o and Regional kyphosis>10o were observed to be associated incomplete SCI at presentation. Quantitative MRI findings; Maximum spinal cord compression (p=0.002), Maximum canal compromise (p=0.002), and lesion length (p=0.005) were found to be predictive of severity of initial neurological deficit. Qualitative MRI findings; Hemorrhage (p=0.044), stenosis (p=0.011) showed a predilection towards complete injury at presentation. Neurological recovery was less in patients with severe neurological deficit as evaluated by ASIA impairment scale. There was significant improvement in all the imaging parameters after surgery; but it did not lead to significant improved neurological recovery. Conclusions: It is concluded that imaging findings of severe kyphotic deformities, higher canal & cord compression, lesion length, and hemorrhage are associated with more initial neurological deficit. Post-surgical improvement in these imaging parameters does not translate into improved neurological recovery.

Abstract no.: 47613

ARE DUAL MOBILITY TOTAL HIP ARTHROPLASTY REVISION FOR INFECTION MORE FREQUENT THAN STANDARD THA ?

Jean Louis PRUDHON[1], Moussa HAMADOUCHE[2], Christian DELAUNAY[3], Regis VERDIER[4]

[1]Centre octet articulaire, GRENOBLE (FRANCE), [2]hopital cochin, paris (FRANCE), [3]clinique de l yvette, longjumeau (FRANCE), [4]groupe lepine, genay (FRANCE)

Introduction Reports from European Northern Countries registries pointed out a high risk of infection with Dual mobility Total Hip Arthroplasty (THA). Based on a matched cohort of 231 cases of Dual Mobility Cups (DMC) and 231 cases Fixed Cups (FC), pupose is to assess whether revisions for infection are higher when using DMC. Material, methods A prospective multi center study was carried out. Inclusion criteria were an exhaustive collection of first revision THA. We collected 2044 cases; 251(13.3%) were DM-THA and 1793 were FS-THA (86.7%). We defined a matching process between the 2 cohorts. Four mandatory criteria were : 1-interval between index surgery and revision, 2-age of the patient at index surgery, 3-gender, 4-aetiology of the primary THA. Results Fourty seven (20.3%) FC THAs were revised for infection, 54 (23.3%) DM THAs. No statistical difference (p value 0,65.) If we compare infection group to the « non infection group » we observe that infection occurs early (2 years vs 7 years), mean age at index surgery is older (69 years vs 64 years), there are more males (53%), ASA score is higher (2,36 vs 2,10), BMI is higher (28 vs 26). Discussion Infection and dislocation are the first causes for primary THA revision in the first 3 years. infection risk increases through the last ten years. This increase revision rate can not clearly be explained. Our data demonstrate that revision THA for infection is not correlated to the type of cup used (DMC or FC).

Abstract no.: 47615

SURGICAL PALLIATIVE CARE FOR CANCER PATIENTS WITH VERTEBRAL METASTASES

Amorese VERONICA[1], Fabio MILIA[1], Emanuele CIURLIA[1], Gianfilippo CAGGIARI[1], Marco CORDA[1], Andrea DONATO[1], Carlo DORIA[2]
[1]U.O.C. Clinica Ortopedica - AOU Sassari, Sassari (ITALY), [2]U.O.C. Clinica Ortopedica - AOU Sassari, sassari (ITALY)

Bone metastases are common in case of prostate, lung and breast cancer; in particular, vertebral localization are quiet frequent; they can cause pathological fractures, instability, neurological deficits from spinal cord compression. Minimally invasive percutaneous approach spinal approach spinal arthrodesis could represent an appropriate surgical palliative care for cancer patients with severe comorbidities, on the contrary, the spinal stabilization with open approach remains a complex surgical procedure, associated with elevated prolonged bed rest. We examined 35 clinical cases of cancer patients who underwent minimally invasive percutaneous approach spinal arthrodesis between 2013 and 2016. These patients had, at the time of surgery, a life expectancy greater than 3 months and clinical condition characterized by intense pain, with or without radicular signs, properly assessed by VAS scale; VAS scale was also used after surgery, for a new evaluation of all patients. There are no registered cases of early complications or preoperative mortality. Clinical and radiographic evaluation of patients after surgical treatment has been positive for all the cases examined, with a net reduction of pain and/or radicular signs and evidence of spinal stability. Based on our experience, we can say that spinal arthrodesis with minimally invasive percutaneous approach is a valuable tool for the treatment of vertebral metastases as palliative care in cancer patients with severe comorbidities.

Abstract no.: 47616

PLATELET-RICH-PLASMA AFTER ARTHROSCOPIC ROTATOR CUFF REPAIR: PRELEMINARY RESULTS OF A RCT

Paul RUCKENSTUHL, Gerwin A BERNHARDT, Matthias WOLF, Patrick SADOGHI, Daniela HIRZBERGER, Andreas LEITHNER, Gerald GRUBER
Department of Orthopedics and Trauma, Graz (AUSTRIA)

Introduction: Rotator cuff lesions are common. Especially in active patients with functional impairment surgery is indicated. Besides different technical improvements in arthroscopic rotator cuff repair reruptures are still common. The aim of this study was to examine the influence of intraoperative application of platelet-rich-plasma (PRP) after arthroscopic rotator cuff repair on tendon healing and postoperative recovery. Methods: In this single blinded randomized controlled pilot study we plan to include 30 patients. Half of the patients are randomly assigned to either receive PRP after arthroscopic repair (intervention group) or not. All patients follow the same protocol. Patients will be clinically evaluated 3, 6 and 12 month after surgery using the ASES score, the constant shoulder score, the simple shoulder test and the UCLA shoulder score. MRI controls are planned at six and 12 months postoperatively. Results:In the first ten cases postoperative MRI controls after six months showed better healing response in the PRP group. Clinical results as well as scoring results show an advantage for the intervention group without statistical significance. There were no surgical complications or adverse events in association with PRP. Conclusion: PRP after arthroscopic rotator cuff repair seems to provide a better tendon healing and better clinical outcome. Our first results have to be confirmed in the group of remaining study participants. Depending on our final results further randomised studies with case load estimation will be needed to ensure our findings.

Abstract no.: 47617

TUBERCOLOUS SPONDYLODISCITIS SURGICAL TREATMENT: A CASE REPORT

Amorese VERONICA, Fabio MILIA, Emanuele CIURLIA, Gianfilippo CAGGIARI, Marco CORDA, Andrea DONATO, Carlo DORIA
U.O.C. Clinica Ortopedica - AOU Sassari, Sassari (ITALY)

According to the Global Report on Tuberculosis (TB) drawn up by the World Health Organization, there are 10.4 million patients with active TB in the world; every year, TB is responsible for about 1.8 million deaths in the world's population. Tuberculous spondylodiscitis remains an uncommon condition, presenting globali incidence equal to 1.7%; generally male are most affected, young-adult age. We present the clinical case of a young male patient that comes to our attention with MRI exam that showed a spondylodiscitis originated from thoracic vertebrae (T9 and T10), and a two-months history of not responsiveness to common analgesic back pain. At our facility we underwent further tests and investigations, instrumental and laboratory exams, which enabled us to diagnose the tubercular infection. We performed surgical treatment, with posterior approach, that has allowed us the positioning of cannulated screws in T7, T8, T11 and T12, then, two properly shaped bars are joined with appropriate dices. Few months later, the patient undergoes new surgery for the placement of an intercostal drain for the evacuation of purulent material from abscess, hightlighted by a new MRI exam. Four months after first surgery and the positioning of intercostal drainage, the clinical condition of patient is considerably improved, with a reduction of pain symptoms and documented reduction of the abscess in the spinal canal, with a good decompression of the spinal cord.

Abstract no.: 47620

INTéGRATM CUPS: CONCEPT, SURGICAL TECHNIQUE, OUTCOMES WITH A MAXIMUM FOLLOW UP OF 11 YEARS.

Jean Louis PRUDHON[1], Pierre DESBONNET[2]
[1]centre octet articulaire, GRENOBLE (FRANCE), [2]clinique du parc, castelnau le lez (FRANCE)

INTRODUCTION A multicenter retrospective analysis of 542 cementless acetabula revision with a minimum follow up of 5 years has been reported in 2016. 120 major defects (Paprosky IIC et III) have been identified. Among them 18 were IntégraTM Cups. Aim of this presentation is 1- describe concept and implant features, 2- analyze technical issues, 3- report on outcomes with a minimum of 5 years. MATERIAL, METHODS The concept to use iliac isthmus to secure acetabula implant fixation is related to anatomic decription by Testud and Latarjet. This reconstruction implant has 2 main features: cementless fixation: 2- bearing surfaces using dual mobility concept. It is constituted with three parts: 1- a cementless shell securely fixed in the iliac isthmus thanks to a 50mm peg, 2- a metallic cup with a highly polished stainless steel inner surface , 3- a PE insert . 18 Cups have been implanted from 2003 to 2010 to defects (Paprosky IIC , III). Clinical and radiological outcomes, (implants migration, positioning of the center of rotation and protrusio) as well as complications are reported. RESULTATS The mean HHS score is 82.5 points. No revision were performed. In 8 cases no implant migration is observed. It has been considered as mild (<5mm) in 8. DISCUSSION Major defects acetabula revision are challenging situation. 2 fixation options may be discussed: cemented or cementless. The main strength of IntégraTM Cup is to combine a dual mobility cup with a secure cementless fixation of the cup in the iliac isthmus.

Abstract no.: 47624

THE WORLD WIDE WEB AS SOURCE OF INFORMATION FOR EWING SARCOMA PATIENTS - A CRITICAL ANALYSIS.

Paul RUCKENSTUHL[1], Paul LIEBMANN[2], Michael SCHIPPINGER[3], Andreas LEITHNER[1], Gerwin A BERNHARDT[1]

[1]Department of Orthopedics and Trauma, Graz (AUSTRIA), [2]Department of Plastic Surgery, Vienna (AUSTRIA), [3]LKH Salzburg, Salzburg (AUSTRIA)

Introduction: Web-based communication is a convenient method sharing medical information. Little is known about the impact of online communication on patients. The aim of this study was to analyze online behavior and the impact of the World Wide Web (WWW) exemplified on Ewing sarcoma (ES) patients. Methods: We got in contact with ES patients via an online self-help group named “Ewing Sarcoma Awareness” that is used to exchange information regarding ES. A self-designed online questionnaire was used to compare patients’ answers. Results: A total of 65 ES patients (54 females) with a mean age of 38 years participated in our study. 84% agreed a little or a lot that the WWW is an important source for health-related information and 92% that it is important to receive information about ES. 77% reported that they use the WWW to look up medical conditions and symptoms before medical consultations. 54% of all participants disagreed a little or a lot that they trust the information available on Web-based platforms such as Wikipedia, Twitter, YouTube, and Facebook and 21% reported that wrong information received had negative effects on everyday life and the control of the disease. Discussion/Conclusion: Information consumed online has a relevant impact on ES patients. ES Patients are using the Internet mainly to receive mental and emotional support in everyday life. Information found in the Internet is in part questionable from a medical point of view and the impact on patients’ care requires further evaluation.

Abstract no.: 47627

TIBIO-CALCANEAL INTRAMEDULLARY NAIL ARTHRODESIS IN POSTTRAUMATIC HIND FOOT AND ANKLE DEFORMITIES

Pavel VOLOTOVSKI[1], Aleh KORZUN[2]
[1]RSPC traumatology and ortopaedics, Minsk (BELARUS), [2]National Research and clinical center of trauma and orthopaedic surgery, Minsk (BELARUS)

Background: Tibio-calcaneal intramedullary nail arthrodesis is important salvage method in treatment posttraumatic hindfoot and ankle deformities, but high rate of delayed union, nonunion and reoperations are still controversial issue. Materials & Methods: We retrospectively analyzed 24 patients underwent tibio-calcaneal intramedullary nail arthrodesis between May 2011 and Mar 2015. Among them there was 44% of malunited distal tibia fractures, 31% of posttraumatic avascular necrosis of the talar dome and 25% failed ankle joint arthrodesis with subsequent subtalar arthritis. Lateral approach with malleolar resection have been utilized in 18 cases, in 6 cases anterior approach have been used. Bone auto-grafting was performed in 18 patients (75%). In 15 cases – reconsnruction humeral nail, in 9 – tibial nail had been used. Target outcome analyzed: postoperative complication rate, including wound problems, reoperations, nonunions rate, AOFAS score before and after surgery. The mean term of final outcome assessment was 3,5±2,7years (1-5 yrs). Results: Postoperative wound complications had been developed in 4 patients (16,6%) and included 2 early and 2 late deep wound infections. Secondary surgeries – 5\24 (20,8%) were presented as: debridement with hardware removal - 4, amputations – 1. Nonunions had been diagnosed in 8 cases (33,3%). Improvement in mean AOFAS score was from 27±12,8 preoperatively to 61±13,5 postoperatively. Conclusion: Tibio-calcaneal intramedullary nail arthrodesis is justified, but technically demanding procedure with quite high complications rate. The best way to avoid complications and improve results is thorough preoperative assessment, developing strong indications and achieving good alignment and hardware purchase in hind foot during surgery.

Abstract no.: 47629

OSTEOARTHRITIS OF KNEE : JOINT CONSERVATION

Pradeep KAMBOJ[1], Amit BATRA[2]
[1]PGIMS, ROHTAK (INDIA), [2]PGIMS, Rohtak (INDIA)

Primary osteoarthritis (OA) most commonly involves medial compartment of the knee. Unicompartmental/total knee replacement is the main stay of treatment in the western world. But the needs and habits of people in Indian sub continent (squatting for toilet purposes and cross leg sitting/kneeling for prayer purposes) are little different. Hence, joint conserving surgeries suit such patients better than replacements. Moreover, most of these patients are manual laborers. High tibial osteotomy resolves pain in the joint due to its decompressive effects in the early period, and then due to the translation of mechanical axis into the relatively better lateral tibial plateau in the long run. This improves the knee function and prevents further deterioration of the joint at the previous speed. Between June 2013 and August 2015, twenty patients, 6 males and 14 females with mean age of 50.3±10.99 years, suffering from medial unicompartmental osteoarthritis of knee joint were operated for medial open wedge high tibial osteotomy. All the patients were analysed for preoperative and postoperative grade of OA (Kellgren Lawrence grading), mean body mass index, visual analogue score, KOOS and WOMAC score. Medial opening HTO fixed with a locking plate is a physiologically better surgery in medial compartment primary OA of knee in stages II and III. The procedure is a very good alternative to unicompartmental / total knee arthroplasty in our scenario where patient is reluctant to change their squatting habits and job profile. Early results are very gratifying.

Abstract no.: 47630

SETBACK OF EPIDURAL ANALGESIA OVER PERIARTICULAR INFILTRATION ANALGESIA AND THE CONCEPT OF ULTRA LOW DOSE WALKING EPIDURAL FOR TKA IN NEAR FUTURE

Ram SUDHAN, Gokul DEV VASUDEVAN, George BIBU
Medical Trust Hospital, Kerala (INDIA)

Background: Though epidural analgesia(EPI) is widely used in TKA for postoperative pain control,and proved better, has its own disadvantages like motor blockade, involvement of both knees, causing delay in physiotherapy, thus rehabilitation, provided with its adverse effects. Here we state, the probable causes of setback against periarticular infiltration analgesia(PAI) in a Triple Blind RCT done in 51 patients with moderate to severe arthritis and results from the use of Ultra low dose epidural in 4 patients. Study design and Methods:This is a prospective study of patients undergoing unilateral primary TKA. The choice of analgesia, surgical technique, postoperative medications, rescue analgesia and rehabilitation protocol in all patients (n=51+4) are kept identical. VAS pain score in rest and activity, knee flexion and mobilisation time, adverse effects and rescue analgesia are the primary outcome recorded, for a period of 72 hours postoperatively.Results:On comparing PAI, EPI had higher VAS pain scores in rest and activity with p value<0.001 and lesser kneeflexion angle on D1 and D2(p=0.001,0.010). Mobilisation time is significantly higher in epidural with mean difference of 14.40 +/- 5.81 and opioid related side effects are relatively higher. In patients with Ultra low dose epidural the VAS pain scores on D0, D1 & D2 are lower than PAI with lesser mobilisation time and with better kneeflexion. Conclusion: The reduced adverse effects and better patient outcome of Ultra low dose epidural over conventional EPI and PAI in postoperative period is significant and maybe validated if larger trials are conducted.

Abstract no.: 47654

RECONSTRUCTION PLATE-BASED ANTIBIOTIC CEMENT SPACERS FOR INFECTED TOTAL HIP ARTHROPLASTIES: CLINICAL OUTCOMES AND DESCRIPTION OF TECHNIQUE

Aditya V MAHESHWARI, Robert PIVEC, Bhaveen KAPADIA, Peter ZHOU, Denis CHERKALIN, Kemjika ONUOHA, Qais NAZIRI, Dipal CHATTERJEE, Emmanuel ILLICAL

SUNY Downstate Medical Center, Brooklyn (UNITED STATES)

Purpose: The purpose of this study is to report on a novel antibiotic spacer, which may be a potentially less-expensive alternative to commercially available spacers used in the setting of chronic deep periprosthetic his infections. Methods: We reviewed medical records of patients treated for a deep periprosthetic hip infection following THA (2004 - 2012). Antibiotic spacers were constructed from a 12 to 16 hole recon plate and a cement ball was created matching the acetabulum. Biomechanical failure was defined as fracture of the plate/dissociation of the cement head from the plate and failure to control infection. Cost was compared to commercial cement spacers. Results: All 17 patients (100%) in the hand-made spacer group (Group One) had control of infection. One patient (14%) out of the seven commercial premade spacers had a persistently uncontrolled infection requiring a hip disarticulation at one year. Thus 23 out of 24 cases were successfully reimplanted with no further failure at a minimum of two years follow-up. There was no biomechanical failure in the hand-made spacer group. There was one premade spacer fracture (86% survivorship) at the head at six months, treated with reimplantation. Mean cost of hand-made spacers was $1727 ($409 per packet, $500 for plate), while pre-made spacers was $6,000; Savings of $4,273 per case. Conclusion: Antibiotic spacers can be readily constructed intra-operatively. Although our numbers are low, our results suggest these may offer equivalent clinical outcomes with a potentially low incidence of failure. This may represent a viable and less expensive treatment option.

Abstract no.: 47655

THE EFFECTS OF CHLORHEXIDINE GLUCONATE AND POVIDONE-IODINE ON SURGICAL SITE INFECTIONS FOLLOWING LOWER EXTREMITY TOTAL JOINT ARTHROPLASTY

Aditya V MAHESHWARI[1], Bhaveen KAPADIA[1], Qais NAZIRI[1], Robert PIVEC[1], James MESSINA[1], Kemjika ONUOHA[1], Dipal CHATTERJEE[1], Julio JAUREGUI[2], Emmanuel ILLICAL[1], Michael MONT[3]

[1]SUNY Downstate Medical Center, Brooklyn (UNITED STATES), [2]University of Maryland Medical Center, Maryland (UNITED STATES), [3]Sinai Hospital, Baltimore (UNITED STATES)

Purpose: The objective of this study was to evaluate the incidence of surgical site infections in total hip and knee arthroplasty patients who used different antiseptic solutions: chlorhexidine gluconate or povidone-iodine. Methods: Patients who underwent total hip and knee arthroplasty were prospectively enrolled into a database from two institutions by a single surgeon (between March 2005 to April 2016) for a total of 566 patients. Patients were substratified by different solutions being utilized, chlorhexidine gluconate or povidone-iodine. All patients were followed for a minimum of one year to identify the incidence of periprosthetic infections. The Centers for Disease Control and Prevention and the Musculoskeletal Infection Society definitions were used for diagnosis. Results: Our study found that patients undergoing lower extremity total joint arthroplasty who used chlorhexidine had a lower infection rate than patients who used povidone-iodine—0% (zero out of 185 patients) versus 1.3% (five out of 381 patients), respectively ($p = 0.1785$). Conclusion: The use of chlorhexidine gluconate peripoeratively resulted in a lower incidence of surgical site infections in total hip and knee arthroplasty when compared to patients who used povidone-iodine for perioperative disinfection. The study findings suggest that both solutions are effective at reducing surgical site infections, however, in our study chlorhexidine was more efficacious. Further prospective randomized studies are necessary to validate these findings.

Abstract no.: 47659

IS ORTHOPAEDIC DEPARTMENT TEACHING STATUS ASSOCIATED WITH ADVERSE OUTCOMES OF PRIMARY TOTAL KNEE ARTHROPLASTY?

Aditya V MAHESHWARI[1], Dean PERFETTI[1], Matthew BOYLAN[1], Randa ELMALLAH[2], Karen PALTOO[1], Qais NAZIRI[1], Carl PAULINO[1], Michael MONT[2]

[1]SUNY Downstate Medical Center, Brooklyn (UNITED STATES), [2]Sinai Hospital, Baltimore (UNITED STATES)

Purpose: The purpose of this study is to compare outcomes of patients undergoing total knee arthroplasty (TKA) between teaching vs. non-teaching in regard to complications and 90-day readmission. Methods: A total of 98,669 patients underwent primary (2009-2012) in the New York Statewide Planning and Research Cooperative System. Perioperative medical and surgical complication categories were created using ICD-9-CM codes. Costs were calculated using cost-to-charge ratios. Mixed-effects regression models accounted for hospital clustering and year of surgery and were controlled for age, gender, race, insurance, major complication or comorbidity status, and Deyo comorbidity score. Results: Mean length of stay was longer at teaching compared to non-teaching hospitals (3.85 vs. 3.69 days; p<0.001), (beta: 4.6%, p=0.014). Perioperative medical complications were similar at teaching compared to non-teaching hospitals (4.9% vs. 4.7%; p=0.144) (OR=1.09, p=0.200). Perioperative surgical complications were less common at teaching hospitals (0.5% vs. 0.8%, p<0.001), (OR=0.78, p=0.047). Mean costs were higher at teaching compared to non-teaching hospitals (20,875 vs. 18,500 USD; p<0.001), (beta: 12.8%, p<0.001). Disposition to inpatient rehabilitation was more common at teaching compared to non-teaching hospitals (28.2% vs. 16.0%, p<0.001), (OR=2.57, p<0.001). The rate of unplanned 90-day readmission for patients undergoing TKA at a teaching compared to non-teaching hospital was similar (7.1% vs. 7.4%, p=0.135), (OR=1.01, p=0.835). Conclusion: Primary TKA at teaching hospitals is associated with higher costs, increased length of stay and increased utilization of inpatient rehabilitation facilities but borderline decreased surgical complication rates and no differences in 90-day unplanned readmission rates when compared to non-teaching hospitals.

Abstract no.: 47661

EXTREMELY INCREASED RISK PERIPROSTHETIC INFECTION IN COMBINED SICKLE CELL-THALASSEMIA DISEASE FOLLOWING TOTAL HIP ARTHROPLASTY

Aditya V MAHESHWARI[1], Robert PIVEC[1], Qais NAZIRI[1], Dipal CHATTERJEE[1], Preston GRIECO[1], Kimona ISSA[2], Frank SEGRETO[1], George BANNING[1], David HIP-FLORES[3], Michael MONT[4], Emmanuel ILLICAL[1]

[1]SUNY Downstate Medical Center, Brooklyn (UNITED STATES), [2]St. Josephs Regional Medical Center, Patterson (UNITED STATES), [3]Staten Island University Hospital, Staten Island (UNITED STATES), [4]Sinai Hospital, Baltimore (UNITED STATES)

Purpose: The purpose of this study is was to assess the risk of perioperatve complications such as prosthetic joint infection, in high risk patients with sickle cell anemia and thalassemia undergoing total hip arthroplasty(THA). Methods: All patients with sickle cell disease were retrospectively reviewed from a prospectively collected database of THAs. Fourteen patients with sickle cell disease (HbS) were identified and two were identified who had combined sickle cell disease and thalassemia (HbS+Thal). Demographic variables were assessed and major endpoints were surgical outcomes and the incidence of perioperative complications, particularly prosthetic joint infection (PJI). Results: All patients had Stage III or IV AVN; mean age in the HbS group was 24 years (range, 20-38 years) and the mean age in the HbS+Thal group was 32 years (range, 24-40 years). ASA score breakdown was ASA III (12 HbS, one HbS+Thal) and ASA IV (two HbS, one HbS+Thal). Incidence of prosthetic joint infection in the HbS+Thal group was 100% while the infection rate in the HbS group was 7%, which was significantly different ($p = 0.02$). All patients were successfully treated with a staged revision arthroplasty with placement of a temporary antibiotic spacer. Conclusion: Presence of combined Sickle Cell Disease and Thalassemia places patients at a high risk of perioperative complications, especially prosthetic joint infection. Patients should be counseled that they are a high risk category of patients in a subset of patients (Sickle Cell Disease) already at a higher risk of prosthetic joint infection compared to the normal osteoarthritic THA population.

Abstract no.: 47662

IS ORTHOPAEDIC DEPARTMENT TEACHING STATUS ASSOCIATED WITH ADVERSE OUTCOMES OF PRIMARY TOTAL HIP ARTHROPLASTY?

Aditya V MAHESHWARI[1], Dean PERFETTI[1], Matthew BOYLAN[1], Frank SEGRETO[1], Qais NAZIRI[1], Randa ELMALLAH[2], Carl PAULINO[1], Emmanuel ILLICAL[1], Michael MONT[2]

[1]SUNY Downstate Medical Center, Brooklyn (UNITED STATES), [2]Sinai Hospital, Baltimore (UNITED STATES)

Purpose: The purpose of this study is to compare outcomes of patients undergoing total hip arthroplasty (THA) between teaching vs. non-teaching in regard to complications and 90-day readmission. Methods: A total of 60,894 patients underwent primary THA (2009 – 2012) in the New York Statewide Planning and Research Cooperative System. Perioperative medical and surgical complication categories were created using ICD-9-CM diagnosis codes. Costs were calculated using cost-to-charge ratios. Mixed-effects regression models accounted for hospital clustering and year of surgery and were controlled for age, gender, race, insurance, major complication or comorbidity status, and Deyo comorbidity score. Results: Mean length of stay was longer at teaching compared to non-teaching hospitals (3.77 vs. 3.71 days; p=0.002), (beta: 5.2%, p=0.007). Perioperative medical complications were less common at teaching hospitals (3.7% vs. 4.7%; p<0.001) (OR=0.88, p=0.122). Perioperative surgical complications were similar at teaching hospitals (0.8% vs. 0.9%, p=0.130), (OR=0.99, p=0.948). Mean costs were higher at teaching hospitals (21,568 vs. 19,579 USD; p<0.001) (beta: 15.3%, p<0.001). Disposition to inpatient rehabilitation was more common at teaching hospitals (20.4% vs. 14.2%, p<0.001), (OR=2.40, p<0.001). The rate of unplanned 90-day readmission was less common with patients undergoing THA at teaching compared to non-teaching hospitals (6.1% vs. 7.2%, p<0.001), (OR=0.95, p=0.249). Conclusion: Primary THA at teaching hospitals is associated with higher costs, increased length of stay and increased utilization of inpatient rehabilitation facilities. Teaching hospitals did not significantly differ from non-teaching hospitals in terms of inpatient complications or unplanned 90-day readmission.

Abstract no.: 47666

MODELLING SURGICAL LEARNING CURVES IN ORTHOPAEDICS

Epaminondas VALSAMIS[1], Adnan HUSSAIN[2], Amir-Reza JENABZADEH[2]
[1]Hinchingbrooke Hospital, Cambridge (UNITED KINGDOM), [2]Hinchingbrooke Hospital, Huntingdon (UNITED KINGDOM)

Learning curves are frequently used in surgical practice to determine the number of procedures a surgeon must undertake to achieve a competent level of performance. Delimiting the learning phase is crucial to allow meaningful comparison when evaluating a new surgical technique. Methods used to model the learning phase to date are mainly non-parametric which lack mathematical rationale or implement complex models which miss intuitive understanding. We employ a simple learning curve model made-up of two straight lines: a constant rate learning phase followed by a learnt phase plateau. The model delimits the learning from learned phase as the ordinal point that separates the two phases. We utilise correlation analysis in conjunction with a simple minimisation method to determine the ordinal point that delimits the learning phase from the plateau. The method allows the user to evaluate the rate of learning but also assesses the quality of the plateau. Furthermore, it presents a very basic and easy to understand model which gives meaningful interpretation to questions associated with learning, namely rate of learning and duration of learning in a simple and unequivocal manner. The method has been successfully applied to the use of imageless navigation in knee and hip arthroplasty and confirmed this method's ability to delimit the learning phase from learnt performance in the presence of data with high variability. Our proposed method enables direct and meaningful comparison between procedures and operators by delineating the learning curve and has wider application to surgical education and quality improvement.

Abstract no.: 47674

MANAGEMENT OF VANCUOVER B1 PERIPROSTHETIC FEMORAL SHAFT FRACTURE BY REVERSED CONTRALATERAL DISTAL FEMUR LOCKING PLATE

Devarshi Rastogi DEVARSHI RASTOGI[1], Shah Waliullah SHAH WALIULLAH[2], Rajeshwar Nath Srivastava RAJESHWAR NATH SRIVASTAVA[3]

[1]King George's Medical University Lucknow India, Lucknow (LESOTHO), [2]King George's Medical University Lucknow India, Luck (INDIA), [3]King George's Medical University Lucknow India, Lucknow (INDIA)

Introduction: Vancouver B1 periprosthetic femo¬ral fractures are described as fractures occurring around the stem tip in which the prosthesis is stable. The incidence of periprosthetic fe¬mur fractures has increased in re¬sponse to the increase in life span of patients undergoing total hip arthro¬plasty. Treatment options include Mennen plates (CMW Laboratories, Ex¬eter, England), the Dall-Miles plate and cable system (Stryker Howmedica, Ruth¬erford, New Jersey), dynamic compres¬sion plates, conventional plates, cerclage cables, locking compression plates, lock¬ing plates, and strut allografts with or without plating. In this study, we planned to investigate the efficacy of reversed contralateral distal femur locking plate for the management of vancouver B1 periprosthetic femoral shaft fracture. Methods: Five periprosthetic femoral shaft fracture vancuover B1 were enrolled in the study. Average age of the patient was 57.6 years with 4 male and 1 female. All patients were managed by open reduction and internal fixation by reversed contralateral distal femur locking plate and cables and followed up for minimum of 24 months. Patients were evaluated both clinically and radiologically. Results: All fracture were united at an average of 14.1 weeks. Harris hip score at final follow-up was 86.5. One patient had superficial wound infection. The infection was successfully treated by irrigation and debridement of wound and intravenous antibiotics. Discussion: We observed good functional outcome in patient treated with reversed contralateral distal femur plate. We conclude that reversed contralateral distal femur locking plate is a reliable, effective and relatively cheaper option for management of Vancouver B1 periprosthetic femoral shaft fracture.

Abstract no.: 47684

DERMATOMYOSITIS IN AN EIGHT YEARS OLD CHILD: DIAGNOSTIC DILEMMA

Bushu HARNA
Maulana Azad Medical College, New Delhi (INDIA)

Dermatomyositis is an idiopathic inflammatory myopathy with characteristic cutaneous findings that occur in children and adults. Dystrophic calcinosis may complicate dermatomyositis. Eight year old boy presented with insidious onset slowly progressive lower motor neuron type of weakness with marked wasting of proximal muscles of all four limbs and neck with sensory system intact with skin lesion for past three years. Child particularly had difficulty in getting up from squatting position, climbing stairs. Skin lesions include darkening on his face, involving eyelids & cheeks. Two three months later child developed discoloration and thickening of skin around knuckles, wrist, elbow and knees and hyperpigmentation of bilateral dorsum of feet. Skin became scaly and shiny and edematous with loss of hair. On examination, multiple subcutaneous nodules, heliotropic purple discoloration of upper eyelids, Gottron's sign, rash on extensor surface of elbow and mechanics hand present. Bilateral lower limbs were stiff at all joint (knee, hip, and ankle) more on right side. On the basis of all these clinical findings myositis ossificans progressiva and dystrophic calcinosis were considered. Investigations showed TLC:15400/mm3, LDH:470U/l, CK:600U/L, ANA was positive, microcytic hypochromic anemia with leukocytosis. EMG suggestive of increased spontaneous muscle activity with fibrillations, complex repetitive discharges. X-rays of both knees, hips, elbow and neck showed dystrophic calcification. On the basis of investigations child was diagnosed dermatomyositis. Child was managed conservatively with steroids and physiotherapy. This rare case highlights the consideration of dermatomyositis in cases of diffuse dystrophic calcification which the orthopedicians are unaware of.

Abstract no.: 47692

PERIOPERATIVE COMPLICATIONS AND CAUSES OF 30 AND 90-DAY READMISSION AFTER DIRECT ANTERIOR APPROACH TOTAL HIP ARTHROPLASTY

Christophe NICH, Eric SALI, Jean Luc MARMORAT, Fabrice GAUDOT
Department of Orthopaedic Surgery, Raymond Poincare Hospital, Garches (FRANCE)

Introduction: Our aim was to describe the perioperative complications and the causes of 30 and 90-day readmission after a total hip arthroplasty using the direct anterior approach (DAA-THA). Methods: between 2011 and 2013, 363 (399 hips) patients (141 males, 222 females), with a mean age 68.7 years (38-100 years) underwent a DAA-THA for primary osteoarthritis. Mean BMI was 26.2 (16.7-48.8). Mean ASA score was 1.61 (1-3). Results: no patient died. An intraoperative complication was reported in five cases (1.2%), including a fracture of the calcar (3 cases), a greater trochanter fracture (1) and an acetabular fracture (1). During hospital stay, a medical complication (UTI, VTE,…) was observed in 29 cases (7.3%). A surgical complication, including an haematoma (11 cases), a dislocation (2) or a cup failure, was observed in 14 cases (3.5%). The readmission rate at 30 days was 2.5 % (10 patients). Cumulated 90-day readmission rate was 3.3% (13 patients). Nine hips (2.2%) required an additional procedure during the first 30 post-operative days, and 2 hips (0.5%) between 30 and 90 days. Age over 60 years was the only risk factor for medical complication, whereas patients under 60 years were more prone to surgical complications. Discussion and Conclusion: in the current study, the DAA-THA was associated with a low rate of perioperative complications. As a result, the 30- and 90-day readmission rates were low as compared with other reported techniques. Age consistently influenced the nature of early complication.

Abstract no.: 47695

DELTOID LIGAMENT RECONSTRUCTION WITH FREE GRACILIS AUTOGRAFT: A CASE REPORT.

Francesco PISANU[1], Marco CORDA[2], Sebastiano ORTU[2]
[1]AOU Sassari, NUORO (ITALY), [2]AOU Sassari, Sassari (ITALY)

A 50 years old active patient came to our attention complaining pain and gait impairment after removal of trans-syndesmotic screw for the Weber B fracture management. After clinical evaluation, we observed catastrophic medial ankle instability, severe ROM reduction and weight-bearing inability. The MRI showed us complete tear of the deltoid ligament and complication of chronic instability. 8 months after the fracture we made medial ligamentous complex reconstruction: 1) diagnostic arthroscopy and joint debridement; 2) peroneal fixation devices removal and interosseous membrane calcification debridement; 3) autologous gracilis tendon harvesting and free graft preparation; 4) posterior tibial tendon inspection and tenolysis; 5) reconstruction of superficial tibiocalcaneal and deep anterior tibiotalar bundles with autologous gracilis tendon graft; 6) posterior splint with foot in mild plantar flexion and inversion for 2 weeks. At follow up, crutches and not weight bearing cast for 4 weeks and then walker for 6 weeks. From the third to the fifth month the patient followed a rehabilitation hydrokinesitherapy plan. At 18 months after trauma and 10 months after reconstruction surgery, the patient showed good recovery and no pain during weight bearing, though persisted moderate ROM reduction and minimal discomfort going downstairs (AOFAS ankle and hindfoot score 83/100).

Abstract no.: 47697

HYDROKINESITHERAPY APPROACH POST MEDIAL ANKLE LIGAMENTOUS COMPLEX RECONSTRUCTION

Francesco PISANU[1], Elena AIELLO[2], Marco CORDA[2], Sebastiano ORTU[2]
[1]AOU Sassari, NUORO (ITALY), [2]AOU Sassari, Sassari (ITALY)

The deficit of deltoid ligament complex can lead to painful and disabling pronation of the hindfoot with gait impairment and detriment of ankle joint function. The deltoid ligament bundles reconstruction with autologous graft could be a surgical option to restore the congruence and the joint stability. The free tendinous graft ligamentization process involves phases of increased fragility, in which the implant needs to be maximally protected. In case of deltoid ligament reconstruction, the graft ligamentization process is conditioned by the reduced biological potential of calcaneus and talus and by the alignment of peritalar joint complex physiologically valgus that leads the neoligament to high tensile stress and high cutting forces to the distal insertions. The physical and chemical properties of water make the hydrochinesitherapy a safe tool in the post surgical rehabilitation reducing the body weight and allowing to begin rehabilitation when the load is not yet possible. We report the results of a rehabilitation hydrochinesitherapy plan after surgical reconstruction of deltoid ligament in post-traumatic medial chronic ankle instability.

Abstract no.: 47699

BONE SUBSTITUTION WITH BETA TRICALCIUM PHOSPHATE GRANULES IN CAVITATORY TUMOR RELATED BONE DEFECTS - COMPACTION OF GRANULES INCREASES OSTEOCONDUCTIVE EFFECTS - CLINICAL EXPERIENCE IN 25 CASES

Singh MANINDERPAL[1], R.R. SAGGAR[2]
[1]PATEL HOSPITAL JALANDHAR, BEGOWAL (INDIA), [2]PATEL HOSPITAL JALANDHAR, JALANDHAR (INDIA)

AUTHOR ; DR.MANINDERPAL SINGH INTRODUCTION: Bone defect, traumatic or iatrogenic, pose clinical dilemma and serious challenge to the treating orthopedician. Several methods of reconstructing bone defects are available. We report our clinical experience with use of β tricalcium phosphate (β TCP) granules in 25 consecutive cases. Method: We used β TCP granules (chronOSTM, Synthes GmBH & Co. KG, Umkirch), size 2.8-5.6 mm, as bone substitutes with a pore size in range of 100–500 μm and total porosity of 60%. Cavities were curetted and filled with β TCP granules, which were then compacted to achieve optimal filling.Results: In all cases resorption was well advanced; near-complete resorption could be observed in several cases. The bone voids were not identified on the follow up x-rays suggesting new bone in-growth and the macro-structure of β TCP granules was noted to gradually decrease on follow up x-rays. The average period required for incorporation was approximately 3 months (range 1-6 months) compared to 6-18 months as documented in product monograph. Conclusions: Our modification of the technique (compaction in situ) leads to release of calcium locally which, according to our hypothesis, contributed to early incorporation at the recipient site. Impaction of the granules resulted in intimate contact and total relative immobility leading to better osteoconductive properties. These observations, modification of technique of use (compaction in situ) and the proposed hypothesis need to be verified in animal models and/or re-established in similar larger studies.

Abstract no.: 47701

A RARE CASE REPORT OF MULTICENTRIC NON-MONOMELIC SYNCHRONOUS CHONDROSARCOMA SECONDARY TO MAFFUCCI SYNDROME : APPROACH TO DIAGNOSIS AND TREATMENT

Singh MANINDERPAL[1], R.R. SAGGAR[2]
[1]PATEL HOSPITAL JALANDHAR, BEGOWAL (INDIA), [2]PATEL HOSPITAL JALANDHAR, JALANDHAR (INDIA)

INTRODUCTION:Maffucci's syndrome is rare,congenital ,non hereditary mesodermal dysplasia clinically presents as enchondromas and hemangiomas. It is associated with secondary musculoskeletal deformities and rarely sarcomatous transformation. Enchondromas are benign cartilaginous tumors most commonly seen in phalanges and long bones. Complications are fracture,sarcomatous degeneration or chondrosarcomatous transformation. Hemangiomas are most frequently located in the dermis and subcutaneous fat adjacent to areas of enchondromatosis.CASE REPORT:A 64-year-old male presented with pain and swelling of rt ankle since 1 year on examination pt have multiple soft tissue swellings of right hand and rt foot along with multiple deformities of right upper and lower limbs since birth. On skeletal survey it was found pt having multiple well-defined, irregularly expanded and radiolucent lesion enchondromas and hemangiomas of hand along with dysplasias of femur and tibia.Pet scan shows hot spots over rt foot and b/l pulmonary nodule.Whole bone scan shows abnormal uptake in rt foot,scapula,L4 vertebra.Biopsy shows well differentiated chondrosarcoma from swelling over rt foot as well as corocoid process of scapula.TREATMENT AND RESULTS:Patient underwent b/k amputation of rt lower limb and total scapulectemy rt shoulder.now pt is disease free for 2 years since then

Abstract no.: 47705

LIMIT VY FLAP IN CHRONIC ACHILLES TENDON RUPTURES

Rebeca GARCIA BARCENILLA[1], Sara GARCIA GONZALEZ[2], Luis Alejandro GIRALDO VEGAS[3], Laura ALONSO VIANA[3], Marta DE PRADO TOVAR[4], Mónica FERNANDEZ ALVARES[3], Sergio GARCÍA GRANJA[3], Santiago PLAZA GARCIA[4]

[1]MArques de Valdecilla Hospital, santander (SPAIN), [2]MArques de Valdecilla Hospital, Santander (SPAIN), [3]Marques de Valdecilla Hospital, Santander (SPAIN), [4]marques de Valdecilla Hospital, Santander (SPAIN)

In chronic Achilles tendon rupture, orthopedic treatment is not tolerated. Depending on the gap placement and size, different surgical options are advocated. V-y reconstruction are not recomended with more than 4 cm gap. Demonstrate good functional results in a chronic Achilles tendon rupture, treated by VY advancement flap. 55 year old woman without personal history of interest. She was referred to our consult, with progressive disability to walk after a "stone" 4 months ago. Physical examination: dorsal flexion attitude, with hack sign and impossibility for tip-toe walking. Ultrasound: Achilles tendinopathy and partial rupture (4 cm from its insertion). Surgery: internal paramedial approach. Tendinous stumps resection, (6 cms gap). A proximal V flap is designed with 10 cm arms, slid and sutured with 5-ethibond (Krakow suture, standing at maximum plantar flexion). Reinforcement with continuous suture. The proximal area is closed with 2-ethibond and the paratenon with a resorbable suture. 4 weeks of foot immobilization in equine foot. 8 weeks of absolute discharge with ankle at 90º of dorsal flexion, beginning the charge with an orthosis that is maintained until week 12, while starting active plantar flexion exercises. At 6 months: complete joint balance and gait without aid but mild difficulty on one foot tiptoe. The VY flap is a surgical technique to be considered in cases of chronic Achilles tendon rupture with big defects. It is important to perform a good design of the proximal v, with adequate length and to be careful avoiding further damage to soft tissues.

Abstract no.: 47710

FIBULAR AUTOGRAFT ARTHROPLASTY FOR RECURRENT GCT DISTAL RADIUS

Sparsh NAIK[1], Pradeep SINGH[2]
[1]Datta Meghe Institute of Medical Sciences, Jabalpur (INDIA), [2]Datta Meghe Institute of Medical Sciences, Mumbai (INDIA)

Giant cell tumor (GCT) of bone is a benign but locally aggressive tumor that usually involves the ends of long bones. It occurs most frequently in the third decade of life, i.e. after physeal plate closure. The lesion consists of multi-nucleated giant cells mixed with mononuclear stromal cells. They represent 20% of all benign bone tumors and 5% of all bone tumors. High incidence is seen in China and India, where they represent up to 20% of all bone tumors. 80% of GCT's have a benign course, with a local rate of recurrence of 20% to 50%. About 10% undergo malignant transformation at recurrence and 1% to 4% give pulmonary metastases even in cases of benign histology. GCT of the bone has an unpredictable behavior, not always related to radiographic or histopathological appearance. This makes the treatment of the disease a subject of constant debate. The best treatment should ensure local control of disease and maintain function. Many earlier studies had shown very high (25-50%) local recurrence rates after curettage and bone grafting. The use of modern imaging techniques and extended curettage through the use of power burrs and local adjuvants have improved outcome with reduced recurrence rates (10-20%). We present a case of recurrent giant cell tumor of lower end of radius in a 18 year old female which was managed with excision and reconstruction using cement at private hospital, which recurred after 4 years and was managed with excision and reconstruction with fibular autograft.

Abstract no.: 47711

CLINICAL OUTCOMES OF COMPLEX DISTAL FEMORAL FRACTURES MANAGED WITH PLATE OSTEOSYNSTHESIS.

Sparsh NAIK[1], Pradeep SINGH[2]
[1]Datta Meghe Institute of Medical Sciences, Jabalpur (INDIA), [2]Datta Meghe Institute of Medical Sciences, Mumbai (INDIA)

Background: Distal femoral fractures are complex injuries which have been treated by different methods .Distal femoral fractures reportedly account for less than 1% of all fractures and comprise between 4%–6% of all femoral fractures . Distal femoral fractures occur commonly among two populations, young patients involved in high-energy accidents (including motor vehicle accidents and sports trauma) and older patients, often osteoporotic, sustaining low-energy fall fractures.. The authors compare the functional outcome with the published literature. Materials and methods: Complex distal femoral fractures treated with open reduction and plate osteosynthesis during the period 2014-2016 at JNMC Sawangi(Maharashtra) formed the study population. They were evaluated to assess their clinical and functional results using Knee Society Score and compared with the available literature. The results were analyzed using different parameters; male vs. female, age distribution, implants used etc. Results: The results were categorized according to Knee Society Score as Excellent in 24%, Good in 40 %, Fair in 16%. Poor in 16%. Results were better in young patients and when thesurgery was performed early. Greater the comminution of the articular surface, poorer the outcome (p Value–0.0009).Reduced ROM is inevitable, and lesser the communition better the ROM, and more the age,worse the ROM. Conclusion: Despite modern fixation techniques , distal femoral fractures often still result in persistent disability and poor clinical outcome. Soft tissue management seems to be important. Early surgery is recommended for cases with minimal contamination. Bone grafting is beneficial. Comminution of the fracture adversely affects the results.

Abstract no.: 47715

OUTCOMES FOLLOWING TOTAL HIP REPLACEMENTS FOR FEMORAL HEAD OSTEONECROSIS IN SICKLE CELL PATIENTS

Donald OSARUMWENSE[1], Mohamed FAROOK[2], Patrick LI[2]
[1]Kings College Hospital, London (UNITED KINGDOM), [2]Kings College Hospital, LONDON (UNITED KINGDOM)

INTRODUCTION: Osteonecrosis of femoral head is a recognised complication in Sickle cell disease. Effective modern day multimodal treatment startegies have significantly increased the quality of life of these patients. However the outcomes of arthroplasty in these patients remain less so. METHODS: From our Sickle cell clinic database, case not analysis of all eligible patients was performed to include demographic, complication and functional outcomes data analysis. RESULTS: 34 THR in 30 patients were identified of which 23 were uncemented, 6 hybrid and 5 cemented THR respectively. The average age of the patients at the time of surgery was 38.4 (20 to 59) years. The average follow up was 9.3 years. There were 17 women and 13 men. 5 patients (15%) were revised, 4 in uncemented and 1 in hybrid group. The overall average oxford hip score was 38.07 with 5.8% infection rate and 11% aseptic loosening. CONCLUSION: Arthroplasty is technically challenging and does carry higher rate of complications in patients with sickle cell disease. However our outcome was comparable to other published literature. Our combined Haematological and Orthopaedic clinic is quite successful in providing a multidisciplinary care to these patients. IMPLICATION: This study will guide us to further improve the outcome of hip arthroplasties in this challenging group of predominantly young patients

Abstract no.: 47717

CT BASED MANAGEMENT OF HIGH ENERGY TIBIAL PLATEAU FRACTURES: A RETROSPECTIVE REVIEW OF 55 CASES

Sahil GABA[1], Vivek TRIKHA[2], Deepak GAUTAM[2]
[1]All India Institute of Medical Sciences, New Delhi, India, Chandigarh (INDIA),
[2]All India Institute of Medical Sciences, New Delhi, India, New Delhi (INDIA)

Introduction – High energy tibial condyle fractures are a surgical challenge. Recently described Luos' classification is based on CT scans and is more objective with better inter-observer agreement as compare to Schatzker and AO/OTA classifications. We describe the functional results of a series of 55 cases classified and managed according to the Luo's column concept. Methods – A retrospective review of 55 high energy tibial condyle fractures, operated between January 2012 and March 2015 at a Level I trauma centre, was performed. CT scans were used to classify these injuries as two or three column fractures. Plating configuration and surgical approach was chosen based on the number of independent articular fragments on axial sections at level of fibular head. Results – 50 two-column and 5 three-column fractures were studied. Dual plating was done in 48, and triple plating in 5 patients. 2 patients with two column fractures were managed with posteromedial plate with cannulated screws for anterolateral fragment. Mean follow-up was 2.62 years and mean Insall Knee score was 95.42. 4 patients had varus malalignment and 1 had joint depression in the post-operative period. These were due to imperfect reduction during surgery itself, and no case of late collapse was detected. Conclusion - Utilizing Luo's classification for treating these complex injuries will assist in better understanding of fracture pattern and hence help in achieving a better functional outcome. Each fractured column needs to be independently addressed.

Abstract no.: 47728

SOLID VARIANT OF ANEURYSMAL BONE CYST OF PATELLA - A CASE REPORT

Singh MANINDERPAL[1], R.R. SAGGAR[2]
[1]PATEL HOSPITAL JALANDHAR, BEGOWAL (INDIA), [2]PATEL HOSPITAL JALANDHAR, JALANDHAR (INDIA)

INTRODUCTION:Aneurysmal Bone Cyst(ABC),less than 1%is seen in patella.The solid variant of ABC(S-ABC) is thought to be a reactive response to intraosseous hemorrhage and is also called giant cell reparative granuloma(GCRG) or gaint cell reaction.Its etiology and pathophysiology remains a mystery.CASE REPORT:28 year old man with no history of trauma complains of pain and swelling which was insidious in onset progressive in nature over anterior aspect of right knee since 1 ½ years.On local examination:A tender,soft ,Mobile,cystic swelling on anterior aspect of right knee. ON X-RAY: It shows a large expansile cystic lesion replacing the patella with bone loss and thinning of the cortices. CT-SCAN:Findings reveal expansile lytic lesion expansion of cortical margin producing egg shell thinning of patellar margin.MRI:Shows expansile lesion involving entire patella causing patellar expansion. Lesion shows multiple septa forming loculi and causing endosteal scalloping with intact cortex.SURGiCAL TECHNIQUE:Totalpatellectomy with reconstruction.GROSS EXAMINATION:Specimen size was 18x11x9cm and overlying skin measuring 20x11cm.On cut-section grayish white tumor measuring 12cmx8.5cm.Articular surface appears to be smooth and unbreached. MICROSCOPICALLY: Lesion shows predominantly solid areas composed of an admixture of fibrous tissue,new bone formation and multinucleate giant are 0.2 to 0.3 cm away from lesion.FINAL DIAGNOSIS: SOLID VARIANT OF ANEURYSMAL BONE CYST OF PATELLA (S-ABC) FOLLOW-UP:After 6 months with radiographs of right knee there was no evidence of local recurrence.DISCUSSION:Solid ABC is a rare variant with same clinical and radiographic features of conventional ABC but have absence of microscopic cystic component and preponderance of solid to cystic elements.

Abstract no.: 47732

IPSILATERAL HUMERAL AND RADIOULNAR FRACTURES IN CHILDREN: A REVIEW OF 7 CASES FROM 1243 PATIENTS

Po Meng HSAIO
Linkou Chang Gang Memorial Hospital, Yuanlin city (TAIWAN)

Background: Pediatric ipsilateral humeral and radioulnar fracture is a rare injury associated with a high complication rate. Due to the rarity of the injury, optimal treatment is still controversial. Purpose: The purpose of this study is to report the clinical features, treatment courses, and prognosis of seven cases managed in our hospital. Method: We retrospectively reviewed patients with ipsilateral humeral and radioulnar fractures between January 2001 and December 2010. Clinical outcomes were assessed using Flynn's criteria. Results: The final study group comprised 7 children (1 girl and 6 boys, mean age of 10.3 years). The following humeral fracture patterns were identified: 1 surgical neck, 1 medial epicondyle fracture with anterior elbow dislocation, 1 Gartland type II supracondylar fracture, and 4 Gartland type III supracondylar fractures. Concerning radioulnar fracture patterns, all 7 children had distal third fractures of the radius and ulna. One child also had a radial neck fracture. Clinical outcome was excellent in 6 and fair in 1 child, based on the criteria of Flynn et al. No patient had wound infection, postoperative nerve injury, compartment syndrome or Volkmann's ischemic contracture. Conclusion: Among pediatric patients with ipsilateral humeral and radioulnar fracture, the most common humeral fracture pattern is a supracondylar humeral fracture, but humeral neck and medial humeral epicondyle fractures also occur. The most common radioulnar fracture pattern is a distal third radioulnar fracture, but simultaneous radial neck fractures are also seen. Surgical fixation of both distal humeral and radioulnar fractures provides stable fixation and satisfactory outcomes.

Abstract no.: 47736

THORACIC TUBERCULOUS SPONDYLITIS: POSTERIOR APPROACH SINGLE STAGE DEBRIDEMENT, FIXATION AND LOCAL GRAFT

Elsayed SAID[1], Ahmed ADDOSOOKI[2], Hamdy TAMMAM[1]
[1]South Valley University, Qena (EGYPT), [2]Sohag University, Sohag (EGYPT)

Different approaches are employed to treat those patients with Pott's disease who are candidates for surgical intervention. Each of these approaches has advantages and disadvantages. Material and methods: between 2012 to June 2016, 15 patients with thoracic tuberculous spondylitis were operated up through posterior approach starting with one side fixation thorough debridement of the lesion and the use of local graft form decompression and spinous process bone. The mean age at the time of surgery was 52 years (range, 45 to 70), and the mean follow-up period was 30 months (range, 20 to 42). Preoperative assessment of pain, which was the hallmark of the patient presentation was done. Also neurological assessment was done revealing that all the 14 patients has neurological deficit (13 Frankle B and 2 Frankle C). Results: all patients showed pain improvement Immediately postoperatively (The preoperative VAS average was 7.18 decreased significantly to an average of 1.45 postoperatively). Neurological deficits improved within 3 months after surgery in 12 patients. One patient showed progressive spasticity and found to develop new higher level of spondylitis with cord compression for which another operation was done. Hematological parameters demonstrated significant improvement. Radiological follow up showed solid fusion within 6 months' post operative. Conclusion: single stage debridement of thoracic Pott's lesion with use of transpedicular fixation and local graft under umbrella of antituberculous pre- and postoperative yielded satisfactory results avoiding the need for the more morbid and technically demanding anterior procedures and the graft doner site morbidity.

Abstract no.: 47742

ONE STAGE BILATERAL HIP OSTEOARTHRITIS TREATMENT WITH MONONUCLEAR CELL INJECTION AND TOTAL HIP ARTHROPLASTY.

Valdis GONCARS[1], Eriks JAKOBSONS[2], Kaspars DEICMANIS[3], Konstantins KALNBERZS[3], Andrejs ERGLIS[2]

[1]University of Latvia, Marupe (LATVIA), [2]Pauls Stradins Clinical University Hospital, Riga (LATVIA), [3]University of Latvia, Riga (LATVIA)

Objective: To assess clinical and radiological signs of bilateral hip joint osteoarthritis after arthroplasty and opposite joint injection of mononuclear cells. Introduction: Several studies reports successful bone marrow derived stem cell use in osteoarthritis treatment. Methods: 26 bilateral hip osteoarthritis patients have been randomized in two groups. Within treatment group (N-12), patients' total hip arthroplasty on most symptomatic joint was performed. Intraoperatively lost blood has been collected and mononuclear cells were extracted. After a cell count all extracted cells have been injected in the opposite hip joint. Control group patients' (N-14) underwent only most symptomatic hip joint arthroplasty. During 24 months follow-up, evaluations with Harris Hip score (HHS) and digitally calibrated x-rays was performed. Results: 5 control group patients underwent second arthroplasty due to increase of pain. In treatment group no arthroplasties were necessary, furthermore increase of HHS was observed on 12 and 24 months of observation - from 71.87 ±14.44 to 92.65±7.14 and 87.5±5.39 ($p<0.05$), whereas in control group the decrease on the HHS was observed from 81.32 ±12.31to 77.70±12.80 and 75.16±15.69 points. Joint space narrowing on radiography was observed on 1 treatment group patient, opposite to 5 in control group. The average introduced mononuclear cell quantity was 85.75±24.57×106. Conclusions: Hip joint arthroplasty and mononuclear cell injection on opposite side hip joint leads to remission of the osteoarthritis clinical signs over 24 months period and could be used as alternative for bilateral hip joint osteoarthritis treatment. Blood collected during hip arthroplasty were sufficient mononuclear cell source for osteoarthritis treatment.

Abstract no.: 47751

AN UNUSUAL PATTERN OF POSTERIOR WALL FRACTURE OF ACETABULUM: A SERIES OF 3 CASES.

Sahil GABA[1], Vivek TRIKHA[2], Lokesh CHAWLA[2]
[1]All India Institute of Medical Sciences, New Delhi, India, Chandigarh (INDIA),
[2]All India Institute of Medical Sciences, New Delhi, India, New Delhi (INDIA)

Posterior wall fracture is the commonest acetabular fracture pattern. Although they might seem easy to operate upon, results are far from satisfactory due to to associated comminution and marginal impaction, which make anatomical reduction difficult to achieve. We report 3 cases in which the fractured posterior wall fragment comes to lie anteriorly in the hip joint. Such pattern is difficult to recognize on radiography, hence pre-operative CT scan is of utmost importance. We describe 3 such cases, all caused by road traffic accidents in young patients. In all cases, the hip dislocation was reduced and hip found to be unstable post reduction. Open reduction was undertaken on an urgent basis in all cases. All were approached via Kocher Langenbeck approach. In 2 cases, safe surgical dislocation (SSD) of Ganz was used to retrieve the fragment followed by fixation. These patients recovered well. In one case, SSD was not used and this resulted in excessive soft tissue stripping from the fragment resulting in avascular necrosis and subsequent osteoarthritis of hip, which necessitated a total hip arthroplasty. Hence we highlight the importance of SSD in such difficult cases as it allows the surgeon to reach to the anterior fragments and retrieve them in an atraumatic way without much periosteal stripping. Careful studying the CT scans pre-operatively is important as one can anticipate the need for SSD. This study highlights the dual importance of CT scan in identifying the fracture pattern as well as predicting the need for SSD in such cases.

Abstract no.: 47752

CEMENTED PEGGED GLENOID COMPONENTS WITH VARIABLE BACKSIDE CURVATURES

Pierre MANSAT, Florence DAUZERE, Fanny ELIA, Julie LEBON, Vadim AZOULAY, Nicolas BONNEVIALLE
University Hospital of Toulouse, Toulouse (FRANCE)

AIMS: Follow-up and radiological assessments on patients who have received PerFORM pegged glenoid implants during shoulder replacement surgery, in order: to determine if there are any early instances of glenoid migration or loosening at 2-year follow-up and to report the outcome and complications with this implant. BACKGROUND: The PerFORM pegged glenoid system has been used since 2012. This system offers multiple backside curvatures per size to better match variable patient anatomy. As a result, less reaming is required and subchondral bone is preserved. METHOD: 39 patients who have received the PerForm pegged glenoid component between June 2012 and January 2014 for primary or secondary OA were reviewed at 2-years minimum follow-up. There were 13 men and 22 women of 67 years on average. Humeral components were uncemented short stem implants in 10 (26%) and resurfacing implants in 29 (74%). RESULTS : At 27 months average follow-up (24-36), Constant score recahed 60 points with active anterior elevation of 142° and active external rotation of 41°. Radiographic lucent lines were observed in 8 cases (21%). There was an increase of the RLL score at last follow-up in 74% of the cases (RLL=0.37±0.8 vs 1.85±2; $p<0.001$) without sign of loosening (RLL>12). One revision has been performed after anterior shoulder dislocation, rotator cuff tear and glenoid component avulsion. DISCUSSION: Cemented pegged glenoid component with multiple backside curvatures gave satisfactory results at 2-years minimum follow-up up to 3 years. Rigorous surgical technique must limit immediate radio-lucent lines. Long-term studies are mandatory to confirm these results.

Abstract no.: 47757

A COMPARISON OF HEMIARTHROPLASTY VERSUS DYNAMIC HIP SCREW FIXATION FOR INTERTROCHANTERIC FEMORAL FRACTURES: A SYSTEMATIC REVIEW

Alex CHOWDHURY[1], Max EDWARDS[2]
[1]King's College Hospital NHS Foundation Trust, Manchester (UNITED KINGDOM), [2]King's College Hospital NHS Foundation Trust, London (UNITED KINGDOM)

Introduction: Intertrochanteric hip fractures are associated with significant morbidity and mortality. The mainstay of treatment is internal fixation, most frequently with a dynamic hip screw. However, there is evidence that hemiarthroplasty represents an appropriate alternative, particularly for unstable fractures. Aims and Objectives: The aim was to compare hemiarthroplasty with dynamic hip screw fixation for intertrochanteric fractures. The objective was to perform a systematic review to obtain comparative data between the two modalities. Methods: A search of EMBASE, Medline and the Cochrane Central Register was performed in December 2016, supplemented by a search of Google Scholar and bibliographies of relevant texts. Comparative data was extracted and quality assessment of the studies undertaken. Results: Seven studies satisfied the inclusion criteria: One randomised controlled trial, one non-randomised controlled trial and five retrospective cohort studies. Five studies revealed greater functional scores (predominantly Harris Hip Scores) following hemiarthroplasty. Four studies reported shorter times to full weight bearing following hemiarthroplasty. No difference was found in terms of pain and mortality. The studies were conflicting regarding blood loss and length of stay. Conclusions: This review supports the use of hemiarthroplasty as a suitable alternative to dynamic hip screw fixation for intertrochanteric hip fractures, particularly in unstable fracture patterns.

Abstract no.: 47758

BLOOD ON SCREWDRIVER TIP TO AID SCREW INSERTION AT DEPTH IN HIP ARTHROPLASTY

Alex CHOWDHURY[1], Obinna NZEAKO[2], Birgeris PAULIUS[2], Max EDWARDS[2]

[1]King's College Hospital NHS Foundation Trust, Manchester (UNITED KINGDOM), [2]King's College Hospital NHS Foundation Trust, London (UNITED KINGDOM)

Background: In performing a total hip arthroplasty, many surgeons undertake screw fixation of the acetabular component. Whilst inserting the screw at depth, it sometimes proves difficult to ensure that the head of the screw remains engaged on the tip of the screwdriver. This may result in dropping of the screw into the acetabulum or elsewhere within the surgical field. To address this problem many medical manufacturers have designed instruments to stabilise and hold the screw onto the screwdriver (for example, the Stryker screw holding forceps) The use of these instruments may prove cumbersome and results in the occupation of both of the surgeon’s hands. We describe a simple alternative method to prevent the screw falling off the end of the screwdriver. Technique: The tip of the screwdriver briefly placed into drop of blood, such that surface of the tip is completely covered. The screw can then be attached to the screwdriver and subsequently inserted into the acetabulum, without the requirement for an additional stabilising instrument. Discussion: This simple technique aids attachment of the screw onto the screwdriver tip, for screw insertion at depth; thus allowing the surgeon the free use of one hand. We have observed that it is more difficult to intentionally drop a screw, with the use of force, when the technique is used. This phenomenon may be explained by the interrelated concepts of capillary action and liquid adhesion.

Abstract no.: 47759

GEOMETRIC APPOSITIONAL SUTURES TO AID TATTOO REPAIR FOLLOWING SURGERY

Alex CHOWDHURY[1], Paulius BIRGERIS[2], Caesar WEK[2], Max EDWARDS[2]
[1]King's College Hospital NHS Foundation Trust, Manchester (UNITED KINGDOM), [2]King's College Hospital NHS Foundation Trust, London (UNITED KINGDOM)

Background: The presence of tattoos in the operative field is a challenge of increasing frequency to the surgeon in the United Kingdom. Their preservation is often of great importance to the patient. Previously described strategies include modifying the placement of the incision to avoid the tattoo and using an alternative surgical technique (such as a minimally invasive approach). However, sometimes it may not be possible to avoid incising through a tattoo. Described here is a simple approach to improve the accuracyof tattoo repair. Technique: Following the closure of deeper tissues, the edges of the tattoo to approximate will become apparent. At discrete points of intersection of the incision, with lines of the tattoo, a simple interrupted suture is placed (for example, with nylon 3-0). Presented here is a geometric patterned tattoo; the limbs of the star were apposed with this method. When the alignment of these points is satisfactory, a continuous subcuticular stitch is then placed to close the skin. The interrupted sutures can then be removed. Discussion: This simple use of tacking stitches at discrete disrupted intervals along the wound will aid in the accurate repair of a tattoo, incised through during an operation.

Abstract no.: 47760

THE IMPACT OF A DEDICATED ORTHOGERIATRIC CONSULTANT ON THE ACUTE POST-OPERATIVE CARE OF HIP FRACTURE PATIENTS

Alex CHOWDHURY[1], Swagatesh BASTIA[2], Paulius BIRGERIS[2], Osman KHAN[2]

[1]King's College Hospital NHS Foundation Trust, Manchester (UNITED KINGDOM), [2]King's College Hospital NHS Foundation Trust, London (UNITED KINGDOM)

Introduction: Fractured hips, of which over 70,000 per year occur in the United Kingdom, are associated with a significant morbidity and mortality. In recent years, the adoption of an orthogeriatrician-led multidisciplinary team approach has resulted in improved outcomes. Aim: to assess the impact of the appointment of a new dedicated orthogeriatrician on the acute postoperative care of hip fracture patients. Methods: Data was collected retrospectively at the Princess Royal University Hospital, of all hip fracture patients from January to March 2016. Outcome measures included time to blood testing, time to x-ray and time to mobilisation with physiotherapy. Following the appointment of a dedicated orthogeriatrician, repeat data was collected from October to December 2016. Results: There was an increase in the proportion of patients receiving blood tests at day one post-op (70.1% vs 64.6%). However, there was a reduction in the proportion of timely x-rays performed (41.2% vs 56.6%) and of patients being mobilised at day one (62.7% vs 67.9%). Discussion: The appointment of a dedicated orthogeriatrician improves the timely ordering of post-operative blood tests following a fractured hip. These patients are particularly susceptible to operative blood loss, thus close monitoring is imperative. The requesting of post-operative radiographs (where indicated) should remain the responsibility of the operating team

Abstract no.: 47761

CONSENTING FOR RISKS IN HIP FRACTURE SURGERY: THE IMPACT OF REGULAR EDUCATION

Alex CHOWDHURY[1], Swagatesh BASTIA[2], Paulius BIRGERIS[2], Osman KHAN[2]

[1]King's College Hospital NHS Foundation Trust, Manchester (UNITED KINGDOM), [2]King's College Hospital NHS Foundation Trust, London (UNITED KINGDOM)

Introduction: In the United Kingdom, fractured hips have an incidence of greater than 70,000 per year. Valid consent consists of discussing the risks inherent to the procedure and the condition, no matter how small the possibility. Aims: To assess the proportion of recognised risks that are routinely consented for in hip fracture surgery. To evaluate the impact of regular education session. Methods: All hip fracture consent forms in the orthopaedic department of a district general hospital were reviewed prospectively on three separate occasions in December 2016. Each was given a percentage score against standards provided by the British Orthopaedic Association. Following this, an educational session was provided with all junior doctors in the department. This session was then incorporated into the induction of new staff members. Consent forms were again assessed in February 2017. Results: The mean score in December 2016 was 44.0% compliance per consent form. Particularly poor areas included consenting for death (26.7% of forms), leg leg discrepancy (20.0%), avascular necrosis (5.9%) and dislocation (60.0%). Following the introduction of the teaching programme, there was a modest improvement of the mean score (53.7%). Discussion: The study has demonstrated a poor standard of consenting for risks in hip fracture surgery. Routine education has conferred a modest improvement; though this study would certainly support the use of template consent forms.

Abstract no.: 47764

CONSENT FORM COMPLETION FOR TRAUMA PATIENTS: A SERVICE IMPROVEMENT PROJECT

Alex CHOWDHURY[1], Swagatesh BASTIA[2], Paulius BIRGERIS[2], Osman KHAN[2]

[1]King's College Hospital NHS Foundation Trust, Manchester (UNITED KINGDOM), [2]King's College Hospital NHS Foundation Trust, London (UNITED KINGDOM)

Introduction: Written consent is required for operative procedures in trauma and orthopaedics. The form itself does not render the consent valid, though it serves as evidence that the consent procedure has taken place. Failure to correctly complete a consent form may result in operative delay, medico-legal action or patient harm. Methods: A consent form checklist was created, based on the individual aspects if the standard forms. Legibility and the use of abbreviations was also considered. All consent forms in the orthopaedic department were reviewed on three separate occasions in December 2016. Following this, an educational session, with distribution of the consent checklist, was undertaken. Similar data was collected in February 2017. Results: 76 forms were reviewed in December, 62 in February. The mean compliance score improved from 88.9% to 96.5%. The mean junior grade score was 86.6% and middle grade score 86.8%. Discussion: Consent forms in the trauma and orthopaedic department are completed to a relatively high standard. This study supports the use of teaching programme for new members of staff, particularly for junior members who may not have had much consenting experience.

Abstract no.: 47765

THE ACCURACY OF PLAIN RADIOGRAPHS IN DIAGNOSING DEGENERATE ROTATOR CUFF DISEASE

Alex CHOWDHURY[1], Kuen CHIN[2], Dimitra LEIVADIOTOU[2], Helen MARMERY[2], Philip AHRENS[2]

[1]Royal Free NHS Foundation Trust, Manchester (UNITED KINGDOM),
[2]Royal Free NHS Foundation Trust, London (UNITED KINGDOM)

Introduction: A number of studies have deomnstrated certain radiographic signs to be associated with degenerative rotator cuff tears. An ability to predict the presence of a tear by radiography would permit the early commencement of appropriate treatment and the avoidance of unnecessary invasive investigations. The purpose of this study was to determine the accuracy of using radiographic signs to predict the presence of a cuff tear on arthroscopy. Methods: 50 consecutive patients who had undergone shoulder arthroscopy and had preoperative plain radiographs were included. Pre-operative radiographs were reviewed by a consultant shoulder surgeon, a consultant radiologist and a senior clinical fellow for the following signs: acromial spur; subjective reduction of subacromial space; sourcil sign; acromial acetabularisation; os acromiale; greater tuberosity cortical irregularity; greater tuberosity sclerosis; humeral head rounding; cyst and reduction in acromiohumeral head distance. Results: The presence of tuberosity sclerosis ($p<0.0001$), tuberosity irregularities ($p<0.0001$), tuberosity cyst ($p=0.004$) and sourcil sign ($p=0.019$) were associated with the presence of rotator cuff tear. The combined sensitivity of prediction of tear by the observers, following radiographic review, was 91.7%, with a combined negative predictive value of 80%. Discussion: The assessment of radiographs by senior clinicians is a useful tool in excluding the presence of rotator cuff tear.

Abstract no.: 47766

MANAGMENT OF ASPTIC NON UNION TIBIA USING INTERLOCKING NAIL VERSUS PLATING

Ali MESHNEB[1], Hassan EL NOAMANY[2], Ahmed SALEH[2], Anis SHEHA[2], Ashraf MARZOUK[2]

[1]sohag university, Sohag (EGYPT), [2]sohag university, sohag (EGYPT)

Background :The purpose of this study is to compare results of usage of reamed interlocking nail versus plating in management of aseptic non union fracture shaft tibia .Methods :30 patients with aseptic non union tibia were managed in our department between june 2015 and june 2016. Patients were dividedin this retrospective study into two groups : plating group (15 patients) and nailing group (15 patients). Mean age of patients (plating group) was 40.3 years old, while in (nailing group) was 30.3 years old. Illac bone graft was used in 6 patients (plating group) and 5 patients (nailing group).Initial fracture was simple in 12 cases (6 in plating group and 6 in nailing group)and compound in 18 cases (9 in plating group and 9 in nailing group).Results :All patients were followed up in our patient clinic, with a mean period of follow up was 36.9 weeks. 29 cases healed and one case lost from (plating group). Mean period of healing was 6.7 months (plating group) while 4.7 months in (nailing group).According to Olerud and Molander score ,4 patients excellent , 4 good and 6 fair (plating group) ,while 3 patients excellent , 9 good and 3 fair (nailing group).No significant complications rate difference was found between the two groups . Conclusion:Reamed interlocking nail can obtain higher union rate , shorter time to union incidence and less complcations rate than plating in the treatment of asptic non union fracture shaft tibia.

Abstract no.: 47768

ARTHROSCOPIC TREATMENT OF GREATER TUBEROSITY FRACTURES: RETROSPECTIVE REVIEW OF CLINICAL AND RADIOLOGICAL OUTCOMES

Sungwook CHOI[1], Hyunseong KANG[2], Kyubum SEO[3], Darryl DLIMA[4]
[1]The Scripps Research Institute, Jeju National University, Jeju (SOUTH KOREA), [2]Jeju National University Hospital, Jeju (SOUTH KOREA), [3]Jeju National University, Jeju (SOUTH KOREA), [4]Shiley Center for Orthopaedic Research & Education at Scripps Clinic, San Diego (UNITED STATES)

Purpose: The purpose of this retrospective study was to analyze the clinical and radiological outcomes and discuss the value of arthroscopic suture bridge technique in patients with isolated greater tuberosity fractures. Methods: Between October 2009 and July 2014, 37 patients with greater tuberosity fractures were analyzed. Thirteen of these patients were treated with arthroscopic reduction and fixation. Analysis of the clinical outcome was performed by comparing final range of motion, UCLA and Constant score. Radiological outcome was analyzed with time for union. Results: Postoperative results were analyzed by range of motion, UCLA and constant score. Each figure resulted as: UCLA from 27 to 35 (average: 29); range of motion in forward flexion from 160° to 180° (average: 173°); Constant score from 69 to 100 (average: 73). Conclusions: Using arthroscopic treatment with a suture-bridge technique can be a useful method in terms of clinical and functional outcomes and be considered as a viable alternative to conventional open techniques Key Words: Greater tuberosity fracture, suture bridge technique

Abstract no.: 47769

TREATMENT OF PROXIMAL OR DISTAL TIBIA SHAFT FRACTURES; LOCKING INTRAMEDULLARY NAIL VS MINIMALLY INVASIVE PLATE OSTEOSYNTHESIS

Sungwook CHOI[1], Hyunseong KANG[2], Kyubum SEO[3], Seongil BIN[4], Darryl DLIMA[5]

[1]The Scripps Research Institute, Jeju National University, Jeju (SOUTH KOREA), [2]Jeju National University Hospital, Jeju (SOUTH KOREA), [3]Jeju National University, Jeju (SOUTH KOREA), [4]Asan medical center, seoul (SOUTH KOREA), [5]Shiley Center for Orthopaedic Research & Education at Scripps Clinic, San Diego (UNITED STATES)

Introduction: In this randomized prospective study, we aimed to compare minimally invasive plate osteosynthesis(MIPO), locking intramedullary nailing(IMN) for proximal or distal one third tibial shaft fractures. Materal and methods: 85 patients with meta-diaphyseal shaft fracture in the proximal or distal tibia who had undergone IMN or MIPO were enrolled. Group A included 42 patients who had undergone IMN. Group B consisted of 43 patients who had been treated by MIPO. Each clinical outcome was assessed; operative time, time to radiographic union, union status, infection and the incidence of re-operation and complications of malunion, nonunion, angulation, and shortening. Each patient was followed up at least 2 years postoperatively. Modified WOMAC scoring was used for functional evaluation Result: There was no significant difference (P>0.05) in hospital stay, time to radiographic union and the incidence of union status among the two groups. As for postoperative complications, two cases of nonunion, four cases of malunions in group A, whereas three cases of delayed union, one case of neuropathy, and one case of surgical wound infection were observed in group B. There was no difference in functional evaluation between the two methods after operation (P>0.05). Conclusion: We consider that the minimally invasive plate osteosynthesis and locking intramedullary nail stabilization are all efficient methods for treating proximal or distal tibia shaft fractures. Conventional IMN using interlocking technique alone had higher incidence of malalignment and deformity than MIPO.

Abstract no.: 47770

MINIMALLY INVASIVE PLATE OSTEOSYNTHESIS FOR COMPLEX TIBIAL SHAFT FRACTURE

Hyunseong KANG[1], Sungwook CHOI[2], Kyubum SEO[3], Seongil BIN[4]
[1]Jeju National University Hospital, Jeju (SOUTH KOREA), [2]The Scripps Research Institute, Jeju National University, Jeju (SOUTH KOREA), [3]Jeju National University, Jeju (SOUTH KOREA), [4]Asan medical center, Seoul (SOUTH KOREA)

Introduction: To evaluate the clinical and radiological results of the treatment of complex tibial shaft fracture (AO/OTA type 42-C) with minimally invasive plate osteosynthesis (MIPO). Materials and Methods: Twenty patients diagnosed with complex tibial shaft fracture without extension to the articular surface and treated with MIPO, including 9 cases of AO/OTA type 42-C2 and 11 cases of AO/OTA type 42-C3, 6 of which were open fractures. External fixation was used for open fractures until the soft tissue damage had healed; then, 2nd stage operation with MIPO was performed to stabilize the fracture. Each patient was followed up for a minimum of 12 months. Results: The mean time to union was 20.1 weeks. Delayed union was observed in 4 cases. Angular deformity, length shortening and non-union were not observed. Conclusion: Severely comminuted and open fractures of the tibial shaft may benefit from temporary external fixation prior to performing MIPO.
Key words: Complex tibial shaft fracture, Minimally Invasive Plate Osteosynthesis, Temporary external fixation, Locking compression plate

Abstract no.: 47771

TREATMENT TACTICS OF POLYTRAUMA PATIENTS

Nurlan BATPENOV[1], Kuanysh OSPANOV[2], Yergali NABIYEV[2], Birzhan DOSMAILOV[2], Alexander STEPANOV[2]

[1]Scientific - Research Institute of Traumatology and Orthopedics, ASTANA (KAZAKHSTAN), [2]Scientific - Research Institute of Traumatology and Orthopedics, Astana (KAZAKHSTAN)

Introduction: Development of surgical treatment of patients polytrauma is an actual problem of modern traumatology. Purpose of study is to improve the treatment results of polytrauma patients by improving surgical approach of treating patients in acute period of polytrauma using minimally invasive fracture fixation method. Methods: 85 patients with combined and multiple injuries of skeleton bones, treated in polytrauma unit of Institute in period from 2012 to 2014. There were 55 male (64.7%), 30 female (35.3%). Results: In 85 patients, 130 fractures were diagnosed. Shin bones fractures (39%) and hip (21%), humerus, forearm, hand, foot - up to 40%. Long bones open fractures were observed in 29 (34%) cases, closed fractures in 49 (58%), combination of open and closed fractures in 19 (22.3%), intraarticular fractures in 17 (20%). In 12 (14%) cases limb bones fractures were combined with pelvic bones trauma. In 85 patients operative treatment was performed in 63 patients, conservative - 22 (32 segments). In total 63 patients underwent 88 operations, transosseous osteosynthesis comprised 28 (32%) surgeries, external osteosynthesis 10(11,4%), BIOS – 34 (38,6%), using pins, wires – 15 (17%), amputation – 1(1,0%). Minimally invasive fracture fixation technology reduces traumatic manipulation, fixing fractures facilitates process, which makes it possible widely use them for osteosynthesis of musculoskeletal system fractures with polytrauma. Conclusion: Introduction of surgical approach of treating polytrauma patients in acute period using minimally invasive fracture fixation method made it possible to provide early stabilization, avoid diagnostic mistakes and obtain positive results in 98% of cases.

Abstract no.: 47773

SERUM LIPID ABNORMALITIES IN DIABETIC FROZEN SHOULDER: A CASE-CONTROL STUDY

Hyung Bin PARK, Gwark JI-YONG
Department of Orthopaedic Surgery, School of Medicine and Gyeongsang National University Changwon Hospital, Changwon (SOUTH KOREA)

Introduction: This study's purpose was to investigate any as-yet unreported associations between serum lipid profiles and diabetic frozen shoulder (FS). Methods: Our case group comprised 30 newly diagnosed diabetic FS patients without other diagnosed systemic diseases or rotator cuff tear. Two control groups each comprised 90 age- and sex-matched subjects with normal shoulder function, no thyroid dysfunction, and no previously diagnosed systemic diseases. The first control group’s subjects were not diabetic; the second control group’s subjects were newly diagnosed diabetics. We evaluated any differences between the diabetic FS group and each control group, following continuous and categorical data on total cholesterol, low-density lipoprotein (LDL), high-density lipoprotein (HDL), triglyceride (TG), and non-high-density lipoprotein (non-HDL). Conditional logistic regression analysis was used. Results: A comparison of case group with first control group indicated that all continuous and categorical values were significantly associated with diabetic FS, except HDL and hypo-HDLemia. A comparison of case group with second control group indicated that total cholesterol, LDL, and non-HDL were significantly associated with diabetic FS in continuous values, and that hyper-LDLemia and hyper-non-HDLemia were significantly associated with diabetic FS in categorical values. Conclusions: Inflammatory lipoproteinemias, particularly hyper-LDLemia and hyper-non-HDLemia, have significant associations with diabetic FS.

Abstract no.: 47775

TREATMENT OF PATIENTS WITH VERTEBRAL FRACTURES OF THE FEMUR

Nurlan BATPENOV[1], Kuanysh OSPANOV[2], Yergali NABIYEV[2], Birzhan DOSMAILOV[2], Alexander STEPANOV[2]

[1]Scientific - Research Institute of Traumatology and Orthopedics, ASTANA (KAZAKHSTAN), [2]Scientific - Research Institute of Traumatology and Orthopedics, Astana (KAZAKHSTAN)

Introduction: Trochanteric femoral fractures account, according to the literature, from 2 to 17% of total skeletal bone fractures. In spite of the progress in modern medicine, the problem of the treatment of the trochanteric fractures of the femur is still relevant nowadays. Methods: Over last five years 380 patients with trochanteric fractures of femur were treated in traumatology unit #2 of Institute. There were 210 (55.3%) men and 170 (44.7%) women. 98 (25.8%) patients of the total amount needed in the preoperative period of correction in vital organ functions due to comorbidities. As a fixator, proximal femoral nail with blocking (PFN) was used in 355 (93.4%) patients (Ch-M, Osteomed), in 15 (3.9%) dynamic hip screw (DHS), and in 10 (2.6%) dynamic condylar screw (DCS). Results: Long-term results of treatment from 1 to 3 years were traced in 98 patients. We did not observe signs of non-occurrence, false joint. Death rate in patients was not noted. Good and satisfactory results were achieved in 89 (90.8%) patients. Unsatisfactory result was observed in 9 (9.2%) patients. Causes of unsatisfactory outcomes of treatment were development of coxarthrosis, varus deformity and femoral shortening, inflammatory process in wound area. Conclusion: Thus, the use of new technology in surgical treatment of patients with femur vertebral fractures, depending on age, patients' general condition, concomitant diseases, time from moment of trauma and nature of fracture, allowed perform stable bone fragments fixation and conduct patients' early rehabilitation, to achieve in 90.8% cases of good and satisfactory results.

Abstract no.: 47790

EARLY DIAGNOSIS OF PERIPROSTHETIC INFECTION OF THE HIP AND KNEE JOINTS

Victor VOLOSHIN[1], Anatoliy EREMIN[2], Sergey OSHKUKOV[2], Saravanan SANKARANARAYANAN ARUMUGAM[2], Nikolai VARLAMOV[3]
[1]Moscow regional research and clinical institute, MOSCOW (RUSSIA),
[2]Moscow regional research and clinical institute, Moscow (RUSSIA), [3]Russian Scientific Center for Molecular Diagnosis and Treatment, Moscow (RUSSIA)

Objective: To improve the early diagnosis of periprosthetic infection of the hip and knee joints, using the magnitude of alpha defensin 1,2,3 in synovial fluid. Materials and methods: Data of 12 patients with periprosthetic hip and knee joint infection (8 hip, 4 knee) from September 2016 to February 2017 were analyzed. Age varied from 45 to 70 years, of them 7 were men and 5 were women. In the preoperative period, the following diagnostic tests were performed: the determination of the general inflammatory reaction in blood analysis (ESR and CRP), microbiological and cytological studies of joint fluid aspirate, a test for leukocyte esterase, and rapid histological examination during surgery. Results: Diagnosis of periprosthetic infection based on alpha-defensin 1,2,3 in synovial fluid was performed on experimental test strips. In 6 cases, a strong positive result was found (two pronounced bands). In 2 cases, a weak positive reaction (one bright band, the second was weakly expressed). In 4 cases, a negative result (one bright band) was obtained. As a result of complex diagnostic procedures, in 6 cases, we performed two-stage method: Removal of endoprosthetic components and installation of a cement spacer impregnated with antibiotics. One-stage revision arthroplasty was performed in 6 cases with negative or weak positive results of alpha-defensin 1,2,3. Discussion: The use of test strips to determine alpha-defensin 1,2,3 in synovial fluid allows to identify the high probability of periprosthetic infection.

Abstract no.: 47792

EVALUATION OF VARIOUS SURGICAL OPTIONS IN MANAGEMENT OF PAEDIATRIC GENU VARUM

Akhil AGNIHOTRI
LADY HARDINGE MEDICAL COLLEGE, NEW DELHI, NEW DELHI (INDIA)

Introduction: Genu varum is a common presenting complain in an orthopaedic clinic. It causes alterations in normal biomechanics of the knee causing not only cosmetic but also functional impairment. Genu varum doesn't get corrected normally after 4 years and so is regarded pathological. No single technique works best in all cases. We evaluated various treatment modalities - growth modulation, illizarov and osteotomy. Methods: 35 knee deformities from age 4-16 years were evaluated in our study. Those presenting before physeal closure with adequte growth remaining were treated with figure of 8 plate. Older individuals were treated with illizarov or opening wedge osteotomy. Patients were followed for 3 years.Results: Figure of 8 plates were able to achieve good correction in all cases with minimal complications however rebound growth after removal was important problem. High tibial osteotomy had advantage of single step correction but amount of correction that was achieved was limited. Illizarov had an advantage of post op correction of deformities, severe deformities could be corrected. However, this is a time taking process and had problems with pin-sites.Result: We concluded that no single method is ideal in all cases and a careful selection of cases pre-operatively is required. Growth plates are good if adequate growth is remaining and over-correction is always useful. Minor degree of varum deformities could be corrected with high tibial osteotomy and plate fixation and illizarov was better method when degree of correction required is large, or the patient is short statured.

Abstract no.: 47793

IS KNEE ARTHROSCOPIC SURGERY STILL A GOOD OPTION IN MIDDLE AGED PATIENTS?

Anca DUCA[1], Asterios DRAMIS[2]
[1]George Eliot NHS trust, Atherstone (UNITED KINGDOM), [2]George Eliot NHS Trust, Nuneaton (UNITED KINGDOM)

Introduction:The aim of this study is to determine if arthroscopic knee surgery is still a good option in middle aged patients .We used clinical examination, radiologic and magnetic resonance imaging and patient outcome measure.Methods:This study was carried out on 61 patients aged 50-59 years old between July 2015 and December 2015.All patients complained of persistent pain with or without occasional locking or giving way and impaired physical function for more than 6 months. Kellgren and Lawrence classification was used for preoperative X ray.The vast majority of the patients ,49.18% ,presented grade 3 changes on the Xrays.MRI scan showed that 76% of patients included in this study presented meniscal tear and chondral lesions.All 61 patients underwent arthroscopic surgery involving partial meniscectomy, debridement or both.The minimum follow up was 6 months.Results:At the latest follow up 44 patients (72.13%)complained of pain at the same level as before the surgery, 12(19.67%) found an improvement in the pain level and only 5 patients(8.19%) were pain free.Moreover 10 patients (16.3%) underwent surgery for total knee replacement in 1 year time.In conclusion ,the poor outcome after arthroscopic knee surgery in the middle age patients does not support this procedure to be carried in the future for this group of patients.

Abstract no.: 47794

TOTAL HIP ARTHROPLASTY AFTER PREVIOUS COMBINED CHIARI PELVIC AND FEMORAL VALGUS OSTEOTOMIES.

Takuya URYU[1], Takahiro OKAWA[2], Shinichiro KUME[2]
[1]Saiseikai Fukuoka General Hospital, - (JAPAN), [2]Kurume University Medical Center, Kurume (JAPAN)

Combined Chiari pelvic and femoral valgus osteotomies are joint-conserving surgeries in patients with advanced or terminal stage osteoarthritis due to a dysplastic hip. The main goal is to delay inevitable degenerative changes and the progression of osteoarthritis would require subsequent total hip arthroplasty (THA). The objective of this study was to investigate the mid-term clinical and radiological outcomes of THA after previous combined Chiari pelvic and femoral valgus osteotomies. Databases from our institution were reviewed to identify 28 patients (32 hips) who underwent combined osteotomies and also later the implantation of a total hip prosthesis. There were 24 women and 4 men who had a mean age of 60.1 years. The mean follow-up duration was 8.1 years (3.0 to 15.2).The mean interval between osteotomy and THA was 15.5 years (3 to 24). We conducted a retrospective chart and radiographic review to obtain outcome measures for complications, Japanese Orthopaedic Association (JOA) score, acetabular and femoral component revisions and survivorship. The mean operating time was 111 minutes and the mean intraoperative blood loss was 451g. Six cases were performed with the use of autologous morcellized bone-grafts, but not using bulk bone grafts. Clinically, the mean JOA hip scores improved from 52.5 points preoperatively to 88.5points at the latest follow-up. There was one case of dislocation but no recurrence. There were no loosening cases and no revision cases. THA after previous combined Chiari pelvic and femoral valgus osteotomies achieved good mid-term clinical and radiographic outcomes.

Abstract no.: 47797

IMAGING FACTORS IN MRI FOR PREDICTING RESPIRATORY DISTRESS IN CERVICAL SPINAL CORD INJURY- A RETROSPECTIVE ANALYSIS

Gn KHARE[1], Sanjay YADAV[2], Saurabh SINGH[1], Ramvilas NAG[1], Mukund M OJHA[1], Rupesh B JUNG[1], Alok K RAI[1]

[1]IMS, BHU, Varanasi (INDIA), [2]Institute of Medical Sciences, BHU, varanasi (INDIA)

Introduction: Acute spinal cord injury(SCI) is an important cause of morbidity-mortality in adults. About 1/3rd patients have C-spinal cord injury. Pulmonary involvement may need definitive airway support. Factors necessitating respiratory support in cervical-SCI have been infrequently analyzed. Here, we performed retrospective review of patients with cervical-SCI to identify imaging factors that can predict respiratory failure. Methods: We included 19 patients with cervical-SCI over 1-year period. Respiratory failure was considered when definitive airway and mechanical ventilation was required. Neurological function was assessed using ASIA-classification. C-spine MRI features were evaluated. Results: Most common injury mechanism was fall from height (15/19 pts). Cord contusion was present in 12/19 pts and cord transaction in 7/19 pts. Upper level of cord edema was at C2-3 in 11/19 pts. Respiratory failure occurred in 11/19(57.8%) patients. Initial ASIA-classification of 19 patients was A(13) and B(6); and 11 respiratory failure patients were A(9), B(1) and Expired(1). All patients with respiratory failure had a neurological level of C5 or above. Spinal cord edema at C2-3 level was identified in all patients that developed respiratory failure. Bony injury level showed poor correlation with respiratory distress. Conclusion: MRI can accurately localize C-spine cord injury and identify patients at risk of respiratory failure. Imaging level of injury at C4-5 and presence of cord edema extending to C2-3 levels are predictors of respiratory involvement. Early establishment of definitive airway may be considered in high-risk patients. This may lower the incidence of secondary cord injury related to prolonged hypoxia or trauma from intubation.

Abstract no.: 47800

ARTHRODESIS VERSUS ARTHROPLASTY OF THE FIRST METATARSOPHALANGEAL JOINT IN THE TREATMENT OF HALLUX RIGIDUS - COMPARATIVE STUDY

Marta Sofia SANTOS SILVA, Pedro SERRANO, Luís BARROS, João ESTEVES, Arnaldo SOUSA, Ricardo RODRIGUES-PINTO, José MURAS
Centro Hospitalar do Porto, Porto (PORTUGAL)

Introduction: Hallux rigidus is a degenerative disease of the first metatarsophalangeal joint (1MTF), which manifests itself with pain and decreased mobility. Surgical treatment is indicated when conservative treatment fails. The aim of this study is to compare the results of two surgical methods. Methods: Between 2010 and 2015, 30 patients with hallux rigidus were treated. 12 patients underwent arthrodesis and 18 patients underwent total 1MTF arthroplasty. The mean age was 57.6 years (arthroplasty group) and 63.5 years (arthrodesis group) ($p = 0.021$). The mean follow-up was 47.7 months in the arthroplasty group and 40.1 months in the arthrodesis group. Pain was assessed using visual analogue scale (VAS) and functional status using the AOFAS-HMI scale. Results: All patients reported significant improvement in pain and functional status after surgery. Patients submitted to arthroplasty reported better functional results on the AOFAS-HMI scale (90.8 vs 65.4; $p = 0.001$) and better pain control (1.6 vs 4.1; $p = 0.007$). All patients were satisfied, improved their quality of life and would accept to repeat surgery in the arthrodesis group and only 1 patient in the arthroplasty group wouldn`t repeat surgery. There was one case of infection (arthroplasty group) and 2 cases of pseudoarthrosis (arthrodesis group). Conclusion: Arthrodesis provides pain relief and satisfactory results but alters the biomechanics of gait. Like arthrodesis, arthroplasty improves pain significantly, being a more physiological alternative to keep the mechanics of the foot more conserved. But this technique is more expensive and is susceptible to wear and failure over time.

Abstract no.: 47815

ARTHROSCOPIC REPAIR FOR CHRONIC ANKLE INSTABILITY – AN EFFECTIVE ALTERNATIVE TO OPEN REPAIR

Yousufuddin SHAIK[1], Samena CHAUDHRY[2], Ashgar Seyed ALI[2], Kamal Faheem ALI[2]

[1]University Hospital Birmingham, Walsall (UNITED KINGDOM), [2]University Hospital Birmingham, Birmingham (UNITED KINGDOM)

The gold standard for chronic ankle instability remains the Bostrum Gold Procedure. Yet reports of all arthroscopic techniques continue to evolve. Most report good success rates and have the added benefit of identifying other concomitant pathology. Our study reports the outcome of an anatomical lateral ligament repair/reinforcement procedure 26 patients with chronic ankle instability. Ankle instability was identified by clinical examination sulcus and drawer tests as well as an MRI scan reported by an musculoskeletal radiologist. A previously described technique Corte-Real et al 2009using a suture anchor in the fibula was used. A 4.4x14mm biodegradable screw(Arthrex) with 4 strands was used to create a sliding knot as well as create a double breast repair. Patients were placed in a bandage in eversion for 3 weeks non weight bearing and subsequently allowed to weightbear (touch toe)for a further two weeks before full weight bearing. Average follow-up was 13 months (range, 6-25 months). Patients were evaluated using the American Orthopaedic Foot and Ankle Society ,hindfoot ankle score and MRI scans . All 28 patients had an improvement in the AOFAS hindfoot ankle score at the latest follow up. 4 patients had an additional osteochondral lesion identified at the time of arthroscopy. Our complication rate was less than 10 percent and consisted of a fractured fibula and one case of stiffness requiring release. All patients returned to their previous activity level. Arthroscopic ligament reconstruction for chronic lateral ankle instability is an effective alternative option and with similar results to the open techniques.

Abstract no.: 47816

NEW TECHNIQUE FOR TIBIOTALAR ARTHRODESIS USING A NEW INTRAMEDULLARY NAIL DEVICE: A CADAVERIC STUDY

Amr ABDELGAWAD[1], Emmanuel EISENSTEIN[2], Mario RODRIGUEZ[3]
[1]Texas Tech University Health Sciences Center, el paso (UNITED STATES), [2]Department of Orthopaedic Surgery and Rehabilitation, William Beaumont Army Medical Center, El Paso, TX, USA, El Paso (UNITED STATES), [3]Merdo Innovation and Engineering, LLC, El Paso, TX, USA, El Paso (UNITED STATES)

Introduction. Ankle arthrodesis is performed in a variety of methods. We propose a new technique for tibiotalar arthrodesis using a newly designed intramedullary nail. Methods. We proposed development of an intramedullary device for ankle arthrodesis which spared the subtalar joint using a sinus tarsi approach. Standard saw bones models and computer assisted modeling and stress analysis were used to develop different nail design geometries and determine the feasibility of insertion. After the final design was constructed, the device was tested on three cadaveric specimens. Results. Four basic nail geometries were developed. The optimal design was composed of two relatively straight segments, each with a different radius of curvature for their respective tibial and talar component. We successfully implemented this design into three cadaveric specimens. Conclusion. Our newly designed tibiotalar nail provides a new technique for isolated tibiotalar fusion. It utilizes the advantages of a tibiotalar calcaneal nail and spares the subtalar joint. This design serves as the foundation for future research to include compression options across the tibiotalar joint and eventual transition to clinical practice.

Abstract no.: 47818

VANCOUVER B1 PERI-PROSTHETIC HIP FRACTURES-IS INTERNAL FIXATION ADEQUATE?

Giri SITARAM, Serahdin AJNIN, Mahesh THIBAIAH, Yaganti SAIDAIAH, Khaldoon WAHAB

Heart of England NHS Foundation Trust, Sutton Coldfield (UNITED KINGDOM)

Introduction: Difficulty involved in the management of Vancouver B1 femoral fractures is evidenced by the array of treatment options described in the literature. Material and methods: 20 patients with Vancouver type B1 fracture treated with osteosynthesis using cable plate were reviewed. There were 12 females and 8 males with average age of 81 years. 11 fractures were in cemented and 9 in uncemented stems. Clinical notes and x-rays were assessed until the fracture united or the patient had a reoperation. Results: 3 patients died within 4 months of the injury. Fracture union occurred in 12 out of the remaining 17 patients (71%). The fracture patterns in this group were long oblique or spiral. Non-union was recorded in 4 out of 17 patients (29%). The fracture patterns noted in this group were short oblique or transverse fractures around the stem tip. All failed osteosynsthesis were revised successfully using long stem prosthesis. Conclusion: Our experience shows that we should consider subcategorising Vancouver B1 periprosthetic fractures into fractures around the body of the stem and those around the lower third or the tip of the stem. Long oblique or spiral around the body of the stem can be treated with internal fixation but the short oblique or the transverse fractures around the lower end of the prosthesis should be treated either with primary revision to a long stem prosthesis or combination of internal fixation with strut grafts as the non-union rate is higher in these subgroups of fractures treated with internal fixation only.

Abstract no.: 47820

EPIDEMIOLOGICAL EVALUATION OF FEMUR FRACTURES IN BRAZIL: TEMPORAL TREND

Fernando GARCIA[1], Magda LEAO PINHEIRO[2], Gustavo CASTRO DE QUEIROZ[2], Matheus VASCONCELOS GOES MENDES[2], Lucas CORTIZO GARCIA[1], Fabio MATOS[1], Marcelo BONANZA[1], Daniel ANDION[1], Fernanda CORTIZO GARCIA[1], Maria Beatriz CORTIZO GARCIA[3]

[1]Martagão Gesteira Children`s Hospital, SALVADOR (BRAZIL), [2]Faculdade de Tecnologia e Ciencias, Salvador (BRAZIL), [3]martagão Gesteira Children`s Hospital, salvador (BRAZIL)

Introduction: In recent years, femoral fractures have received attention from Brazilian health authorities because of their evident impact on the health of adults and the elderly and its consequences for the public sector. They have a high financial and social cost, since patients require care until their full recovery. Methods:Data collection was done through the datasus database by the tabnet tool. The period from 2008 to 2015 was used. A temporal trend was made by simple linear regression. Results: Between 2008-2016, in Brazil, 912222 people were hospitalized for femur fracture, with the majority of hospitalizations occurring in the age group of 20 to 49 years with 32.58%(n=297155, IC 95% 32,48 – 32,67);The majority of deaths occurred in patients older than 80 years, with 58.52% of femur fracture deaths (n = 12395, 95% CI 57.85 - 59.18); Deaths occurred mainly in females with 58.67% of the cases (n = 12427, 95% CI 58.00 - 59.33); Conclusion:There is a trend of an increase of 0.0039 per thousand per year in the rate of incidence of Femur fracture in Brazil, the model being explained by the year only by 58%; It may indicate that other factors interfere with the model.

Abstract no.: 47821

EXTRA-ARTICULAR SYNOVIAL SARCOMA: A CASE REPORT

Nadhir MERAGHNI[1], Mohamed KIHAL[2], Anissa TAIBI[2], Riad BENKAIDALI[2], Mhamed NOUAR[2], Zoubir KARA[2]

[1]Orthopedic Department, CHU Mustapha Bacha, Algiers (ALGERIA),

[2]Orthopedic Department, CHU Mustapha Bacha, algiers (ALGERIA)

Introduction: synovial sarcoma represents 5 to 10% of soft tissue malignant tumors. It most commonly affects adults in the third decade of life. The tumor is frequently in contact with a joint. The authors report a particular extra-articular thigh localization of synovial sarcoma. Methods: a 21-year-old male, who has a firm mass, in the lateral side of the right thigh. The radiographs showed a mass of the soft parts, without a regional or general extension. Pathological examination of the tumor biopsy confirmed the diagnosis of a synovial sarcoma. The patient underwent a large tumor resection of the tumor and surrounding soft tissues. A secondary skin graft was required. The pathological examination of the tumor part did not conclude between synovial sarcoma and fusiform cells sarcoma. Results: with 2 years follow-up, there is no local or regional recurrence. There is a good evolution without functional impact. Discussion: In its classical description, synovial sarcoma predominates at the limbs and extremities. The tumor is frequently in contact with a joint. The knee is the joint most frequently affected. Its prognosis is poor with an estimated survival rate of 55% at 5 years. The case described represents an atypical extra-articular localization. Even if the biopsy was in favor of a synovial sarcoma, the pathological examination of the tumor was unable to decide between Synovial sarcoma and spindle cell sarcoma. Conclusion: even if the extra-articular localization is exceptional, it is necessary to think about it in front of a sarcoma of the soft tissues.

Abstract no.: 47828

HISTOLOGICAL FINDINGS OF RETRIEVED PASTEURIZED AUTOGENOUS GRAFT

Won-Jong BAHK[1], Hyun-Guy KANG[2], Whan-Sung CHO[3]
[1]Uijeongbu St. Mary's Hospital, Uijeongbu (SOUTH KOREA), [2]Orthopaedic Oncology Clinic, National Cancer Center, Goyang-si, Gyeonggi-do, Korea, Ilsan (SOUTH KOREA), [3]Bundang Seoul National University Hospital, Bundang (SOUTH KOREA)

Introduction: Although several studies described encouraging outcome and suggested incorporation of Pasteurized graft bone based on radiologic evaluation, there has been a scanty reports to document histologic findings. Herein, we present histological features of retrieved Pasteurized bone. Methods: Seven patients were included for this study. Pasteurized bone was totally retrieved in 5 patients and partially resected in 2 patients. The retrieved specimens were fixed, decalcified, embedded in paraffin, cut into 6 micrometer sections, and stained with hematoxylin and eosin. Eight high-power fields (magnification, x400) were randomly selected for each patient, and the number of empty osseous lacunae and that of lacunae with nucleated cells in new bone formation in each field were counted. Regeneration of pasteurized bone, defined as the repair rate, was assessed with the ratio of the number of lacunae with nucleated cells to that of whole lacunae. Results: The bone was retrieved because of osteolysis or resorption in 3, fracture in 2, infection and local recurrence in 1 patient respectively at average 4.8 years (range, 1 – 16 years) after reconstruction. The average of repair rate was 29.8 % (range, 17.8 - 64.4%). There was also no histological difference of regeneration between small and large tubular bone. Partially removed tibia at the adjacent osteomyelitis showed 17.8% repair rate. Two small tubular bones showed early graft failure. The pasteurized bone and prosthesis composite reconstruction have longer longevity. Conclusions: Pasteurized autogenous bone is seemed to be a useful biologic temporary spacer in terms of histologic finding.

Abstract no.: 47829

SPARGANOSIS OF LOWER EXTREMITY MIMICKING

Won-Jong BAHK[1], Yong-Koo KANG[2], Min-Wook JOO[3]
[1]Uijeongbu St. Mary's Hospital, Uijeongbu (SOUTH KOREA), [2]St. vinvent Hospital, Suweon (SOUTH KOREA), [3]St. Vincent Hospital, Suweon (SOUTH KOREA)

Introduction: Sparganosis is rare even in endemic area including Korea, Japan and China. It could be easily mistaken for various other conditions such as soft tissue tumor, varicose vein or abscess because of its rarity and lack of suspicion. We present possible transmission route and MR findings in 8 patients with sparganosis in the lower extremity, some of which was mistaken for soft tissue tumor including hemangioma or other inflammatory conditions. Materials and Method: Six patients with sparganosis were included for this review. Medical records, plain radiograph, MRI, and laboratory findings were evaluated retrospectively. Results: Six patients had palpable mass and 2 patient complained pain. The locations were thigh in 7 patients and calf in 1 patient. All patients denied any ingestion history of raw flesh of snake or frog. However, 3 patients definitely remembered several episodes of drinking of spring water. In 5 patients, MR images showed ill-defined mass with inhomogenous signal which was initially mistaken for panniculitis, hemangioma and myxoid tumor. However, sparganosis was correctly diagnosed by positive sparganum IgG using Micro-ELISA and MRI in other 3 patients. The spargamum worm was surgically removed and there was no recurrence or complication after surgical excision without anti-parasitic medication. Conclusion: Without suspicion, parganosis might be mistaken for a soft tissue tumor such as hemangioma or inflammation on MRI. The fact that three of our patients have frequently drunk spring water urges that mount climber should be careful to drink spring water during their mountain climbing in endemic area.

Abstract no.: 47830

OPTIMIZED INDICATIONS FOR TOTAL HIP ARTHROPLASTY IN TRANSACETABULAR FRACTURES

Victor VOLOSHIN[1], Anatoliy GALKIN[2], Saravanan SANKARANARAYANAN ARUMUGAM[2]

[1]Moscow regional research and clinical institute, MOSCOW (RUSSIA),

[2]Moscow regional research and clinical institute, Moscow (RUSSIA)

From 2005 to 2015, 184 surgeries (96 osteosynthesis, 88 THA) were performed in 152 patients (aged 17-76 years) with transacetabular fractures. 27 patients underwent osteosynthesis and THA at one setting (Group1). In the 2nd group, 26 patients were initially treated conservatively, then THA was needed. The same was done in 31 patients who underwent osteosynthesis initially(Group3). The following risk factors are considered. 1. The time interval is more than 3 weeks from the onset of injury to surgery; 2. Comminuted fracture of the acetabulum; 3. Combined damage to the posterior border of acetabulum; 4. Age over 45 years. 55 of 84 patients got satisfactory results after osteosynthesis. Good or satisfactory results were obtained in 18 patients, who had 3 negative factors (<45 years). 25 (80.6%) out of 31 patients (>45 years),had unsatisfactory outcome after osteosynthesis. 15 (23.1%) patients out of 65 (<45 years), required THA. Patients with two negative factors, THA was required in 50% of cases in both age groups. THA was needed in the first 2 years for the patients aged >45 years. For patients<45 years, THA was needed after 3.5-11 years from the time of osteosynthesis. The Harris Hip Score for 1st, 2nd and the 3rd groups were 86, 89 and 84 respectively. The age of the patient is the most important negative factor. In the first 2 years, 80% of unsatisfactory results were obtained in the group older than 45 years. Doing primary THA may be the rational way of treating these patients.

Abstract no.: 47833

DIFFERENCE BETWEEN RADIOLOGICAL AND FUNCTIONAL OUTCOME WITH DELTOID SPLITTING APPROACH VERSUS DELTOPECTORAL APPROACH FOR THE MANAGEMENT OF PROXIMAL HUMERAL FRACTURES WITH PHILOS PLATE

Narendra Singh Kushwaha NARENDRA
KING GEORGES MEDICAL UNIVERSITY, LUCKNOW (INDIA)

Introduction: Proximal humerus fractures form 5% of all fractures. There exists disagreement in the classification and fixation techniques and approaches. This study reports the difference in the clinio-radiological outcome in patients managed by a deltopectoral approach versus a deltoid splitting approach with PHILOS plate. Materials and Methods: Fifty seven patients were included of which 29 were put in group A managed by deltopectoral approach while 28 were in put in group B which were managed by the deltoid splitting approach. The outcome was assessed by the Constant Scoring System at 18 months. Results: Group A had a mean union time of 11.6 weeks and group B of 11.4 weeks. The difference in functional outcome at 18 months by Constant score was 79 in group A and 81 in group B. The difference was not found to be significant (p=0.76). Fourteen patients in Group A while 18 in group had an excellent outcome while 45 had in group A had a good outcome. Conclusion: Deltoid splitting approach can be used in 3 or 4 part complex proximal humerus fractures as it provides better visualization and reduction as compared to the standard deltopectoral approach with similar functional outcomes. The approach should be based on patient and injury variables and surgeon’s experience.
Keywords: proximal humerus, deltopectoral, deltoid splitting, constant score

Abstract no.: 47836

THE ACCURACY OF ARTHROSCOPIC FLUID PUMP SYSTEMS IN SHOULDER SURGERY. A COMPARISON OF FIVE DIFFERENT PUMP SYSTEMS AND SETTINGS

Mohy TAHA[1], Margaret SMITH[2], Gregory CUNNINGHAM[3], Allan YOUNG[4], Benjamin CASS[5]

[1]Basel University Hospital, Suhr (SWITZERLAND), [2]Raymond Pures Research Labs, Sydney (AUSTRALIA), [3]Department of Orthopaedics, University of Geneva, Geneva (SWITZERLAND), [4]Sydney Shoulder Research Institute, Sydney (AUSTRALIA), [5]Sydney Shoulder Research Institute, Sydney, Australia, Sydney (AUSTRALIA)

Introduction: Potential fluid management complications, including extraarticular fluid extravasation, can arise during shoulder arthroscopy. We compared the pressure measurement accuracy of three common arthroscopic fluid pump systems in five different settings Methods: Patients (n=25) undergoing shoulder arthroscopy were randomly selected for this study. One of three arthroscopic fluid pump systems in our hospitals (Conmed 24K, Stryker Crossflow, Arthrex Dual Wave) was present in the operating theatre. The Stryker pump was tested in standard and dynamic mode. The Conmed pump was tested with and without the TIPS (extra tubing detecting intra-articular pressure). Each pump was tested on 5 different patients. The intra-articular fluid pressure was measured via an artery line. Results: The mean intra-articular pressure was not different to the set pressure for Conmed 24K with TIPS (0.98 ± 0.02 fold) and Stryker Crossflow in standard mode (0.98 ± 0.02), however it was significantly higher than the set pressure for Conmed 24K without TIPS (1.30 ± 0.13 fold), Stryker Crossflow in dynamic mode (1.82 ± 0.08) and Arthex Dual Wave (2.19 ± 0.06; all $P<0.001$). The mean differences between the displayed pump pressure and measured intra-articular pressure in mmHg were as follows: Conmed 24K with (2.9 ± 2.6) or without (29 ± 16) TIPS, Stryker Crossflow in dynamic (80 ± 19) or standard (7.7 ± 2.6) mode and Arthex Continuous Wave III (76 ± 25) Conclusions: Actual intra-articular pressure can be more than double the set pressure on some arthroscopic pumps. Measuring intra-articular pressure can aid in adjusting the set-pressure.

Abstract no.: 47838

RESULTS OF TOTAL HIP REPLACEMENT IN YOUNG PATIENTS OF AGE<35 YEARS

Vijay KUMAR, Roshan BANJARA, Deep SRIVASTAVA, Rajesh MALHOTRA
AIIMS, New Delhi (INDIA)

Hip arthroplasty is commonly performed for secondary osteoarthritis in young patients in the Indian population. 110 hips in 88 patients with 62(69.46%) males and 26 (29.54%) females, with mean age of 27.57 years (range, 16 to 25 years) that underwent hip arthroplasties between 1994 and 2015 were evaluated. Mean follow-up was 5.86 years (range, 1 to 22 years).Most common diagnoses were Avascular Necrosis of Femoral Head (30.7%), Ankylosing Spondylitis (27.3%), Rheumatoid Arthritis (9.1%), Post-traumatic secondary osteoarthritis (8%), Tubercular arthritis (5.7%) and others. Ceramic on Ceramic bearing surface was used in 79 hips (71.82%), Metal on Metal in 22 hips (20%), Metal on Poly in 8 hips (7.27%) and Ceramic on Poly in 1 hip (0.91%) with Metal on Metal bearing surface used less frequently in female patients (6.25%). Standard size femoral stem was used in 84 (84.85%) hips while short stem was used in 15(15.15%) hips. There was marked improvement in Modified Harris Hip score and Oxford Hip score from the pre-operative period to the latest follow-up. Modified Harris Hip score improved from 30.45 (range, 5 to 76) to 82.28 (range, 52 to 91) while Oxford Hip score improved from 15.9(range, 2 to 40) to 42.2 (range, 21 to 48). 84.11% of the acetabular components were osseo-integrated and 82.24% of the femoral stem had stable bony growth at the latest follow-up. 2 hips (1.82%) underwent revision, one at follow up of 5 years while the other at 22 years

Abstract no.: 47842

COMMUNAL MULTIDISCIPLINARY MANAGEMENT OF MUSCULOSKELETAL TUMOURS: THE LAGOS EXPERIENCE

Akinola AKINMADE[1], Oluwaseyi IDOWU[2], Adesegun ABUDU[3], Suleiman GIWA[4], Uwale EYESAN[5], Mohammed HABEEBU[4], Obiageli NNODU[6], Fatima ABDULKAREEM[4]

[1]Obafemi Awolowo University Teaching Hospital Ile-Ife, Osun state, Nigeria, Osun (NIGERIA), [2]National orthopaedic hospital, Igbobi, Lagos (NIGERIA), [3]Royal orthopaedic hospital,, Birmingham (UNITED KINGDOM), [4]Lagos university teaching hospital, Lagos (NIGERIA), [5]Bowen university teaching hospital, Ogbomosho (NIGERIA), [6]University of Abuja teaching hospital, Abuja (NIGERIA)

INTRODUCTION: There are numerous challenges hindering the management of musculoskeletal tumours in low to medium income countries. Communal multidisciplinary teams maybe be a viable option for effective management of musculoskeletal tumours. This study highlights the development of an integrated care pathway for patients with musculoskeletal tumours via multi institutional networking in the Lagos metropolis. PURPOSES: The organization, characteristics, treatments and outcomes of patients seen within thirty months are described. METHODOLOGY: Consenting patients with musculoskeletal tumours from different institutions in the Lagos metropolis were included for discussion at monthly meetings, under the aegis of the Lagos Musculoskeletal Oncology Network [LAMON]. The network extended to 26 volunteer specialists within the city. Decisions about surgery, chemotherapy, radiotherapy and timing of the modalities, were planned at the meetings aimed at adhering with international standards. RESULTS: In the first 30 months, 212 patients were reviewed, of whom 192 (91%) patients had definitive histological diagnoses. Limb salvage was achievable in 142 (67%) patients with a local recurrence rate of 8.5 %. The common histological diagnoses include osteosarcoma 22%, giant cell tumour 13%, soft tissue sarcoma 11%, and metastatic bone disease 8%. Time to diagnosis also improved with an overall increase in survival rates. CONCLUSION: The network resulted in improvement in diagnosis, limb salvage rate and follow up care for musculoskeletal tumours. Perhaps, with appropriate social, institutional and corporate support, communal tumour boards like LAMON may translate into model for multidisciplinary cancer care in resource poor environment like the west-African sub-region.

Abstract no.: 47844

HIP DISARTICULATION FOR INTRACTABLE PRESSURE ULCER IN A SPINAL CORD INJURY PATIENT: A CASE REPORT

Wei-Ting WANG[1], Chiang- Sang CHEN[2]
[1]Far eastern memorial hospital, Taipei city (TAIWAN), [2]Far eastern memorial hospital, New taipei city (TAIWAN)

Pressure ulcers are often seen in spinal cord injury patients with the prevalence up to 30%. SCI patients possess high recurrence rate even after multiple surgical interventions and may develop massive ulcers complicated by chronic wound infection. Hip disarticulation was undertaken as a final treatment to ensure enough soft tissue coverage and infection control. We described the management of a 41-year-old man with T12-L1 complete paraplegia who exhibited recurrent bilateral pressure ulcers over ischium and sacrum regions with septic shock. Empirical antibiotics for MRSA coverage was given and followed by colonstomy to move away contamination source. Then, we performed bilateral hip disarticulation and total thigh flap with an interval of one week. After operation, the patient suffered wound dehiscence that was healed after another operative wound closure. We improved malnutrition (Albumin 1.5) by providing adequate food and oral glutamine, anemia (Hemoglobin 7.0) with several times of component therapy. Physical therapy with upper extremity training for trunk balance was started one month after operation. Psychiatrist and social workers devoted to helping the patient keep a positive attitude. A small cavity was noted and managed with wet dressings till it's discharged. After one year follow-up, the skin and flap are viable and intact without recurrence of pressure ulcer. He is able to ambulate smoothly with wheelchair without body imbalance. In conclusion, bilateral hip disarticulation with total thigh flap are the rescue procedures that provided as the last resort for sepsis due to massive pressure ulcers in malnutrition SCI patient.

Abstract no.: 47847

ARTHROSCOPIC TREATMENT OF ANTERIOR BONE ANKLE CONFLICTS: ABOUT 04 CASES.

Youssef BENYASS[1], Valdumir Ravid MENDES TEIXEIRA[2], Mohamed Jalal EL MEKKAOUI[2], Driss BENCHEBBA[2], Salim BOUABID[2], Bouchaib CHAFRY[2], Mostapha BOUSSOUGA[2]

[1]Orthopedic Trauma Service II, Military Hospital-Rabat, - (MOROCCO),

[2]Orthopedic Trauma Service II, Military Hospital-Rabat, Rabat (MOROCCO)

The anterior tibiotal osteophytes may be responsible for chronic ankle pain due to anterior bone conflict. These osteophytes are usually secondary to repeated microtrauma or ankle fractures. The aim of this work was to present the arthroscopic surgical technique of treating the anterior ankle conflict with stiffness and to present the first short-term results on tibiotal mobility and pain by the study of 4 cases. We report 4 cases of the previous osteous conflict of the arthroscopic joint-treated tibio-talus joint, performed between 2010 and 2013 in the orthopedic traumatology department 2 of the Military Hospital Mohammed V Rabat. The average age is 36 years. They were operated according to the same arthroscopic technique with anterior ankle synovectomy, resection of osteophytes and extensive anterior capsuloligamentar release. Rehabilitation was started immediately. The results were very good in all cases. The improvement was very clear for the criteria pain, walking in rough terrain and physical activity. At the 16-month follow-up, all patients had resumed their sports activity. The arthroscopic treatment of the anterior bone ankle conflicts is therefore a very effective treatment. The association of an anterior synovectomy, an extensive anterior capsulo-ligament release, an important resection of the osteophytes and the liberation of the malleolar gutters followed-up with immediate rehabilitation improves the pain symptoms and the mobility of the ankle joint. The short-term results of this intervention are encouraging and allow for a clear functional improvement and a gain on the overall mobility of the ankle.

Abstract no.: 47848

PLATELET RICH PLASMA INJECTION IN TREATMENT OF DELAYED AND NON UNION OF LONG BONES

Shantanu SHANTANU GUPTA[1], Khan SOHAEL[2], Akhita SINGHANIA[2], Jain SHASHANK[2], Suvarn GUPTA[2], Sandeep SHRIVASTAVA[2], Singh PRADEEP[3], Shraddha SINGHANIA[2], Saherish KHAN[2]

[1]Datta Meghe Institute of Medical Sciences, bilaspur (INDIA), [2]Datta Meghe Institute of Medical Sciences, Wardha (INDIA), [3]Dr.H.L.Hiranandani Hospital, Mumbai (INDIA)

ABSTRACT Introduction: Despite recent developments in fracture treatment and in spite of aggressive and uncomplicated initial stabilization, cases of failed union after a long bone fracture still are encountered. It remains challenge for the treating surgeon to treat these cases of Delayed and Non-union Design – Consecutive case series . Setting – Acharya Vinoba Bhave Rural Hospital, (Sawangi) Wardha . Patients : There were 23 patients , out of which 16 were of delayed union and 7 were of Non union with bone gap of less than 5mm . All patients were treated with Percutaneous injection of Platelet rich plasma at delayed and non union site . Main outcome Measurements : All patients were evaluated clinically and Radiologically for union. Clinical evaluation was done on the basis of VAS score and Functional scoring system. Radiological evaluation was done on the basis of Bridging callus formation at the fracture site in 3 successive follow ups at 1, 3 and 6 months. Results: out of 16 patients of delayed union 14 had union at the fracture site with mean union time of 12.28 weeks with significant improvement in VAS score and functional score. Out of 7 patients of Non union 6 had union at the fracture site with mean union time of 16 weeks and with significant improvement in VAS and Functional score . Conclusion: Platelet rich plasma promotes healing of long bones if bone gap is less than 5mm.

Abstract no.: 47850

VOLLEYBALL IS NOT A SAFE SPORT : PROSPECTIVE ANALYSIS OF PROFESSIONAL PLAYERS` INJURIES DURING TWO LEAGUE SEASONS.

Jedrzej Jerzy LESMAN[1], Marcin DOMZALSKI[2]
[1]Clinic of Orthopedics, University Clinical Hospital Military Memorial Medical Academy - Central Veterans' Hospital in Lodz, Lodz (POLAND), [2]University Clinical Hospital Military Memorial Clinic of Orthopedics, Medical Academy - Central Veterans' Hospital in Lodz, Lodz (POLAND)

Background: Recently there has been a considerable surge in interest in volleyball by both physiotherapists and orthopedic surgeons. Only a few of the previous studies specified the nature, frequency, and demographics of volleyball injuries. The aim was to analyze the frequency and patterns of injuries that occurred during two league seasons. Study design The study was conducted during two league seasons. After the approvals of local bioethics committee and clubs` authorities were gained, contact with the club's physiotherapists was established. Methods: A special survey was designed to standardize the process of acquiring data on a weekly basis. 198 women and 301 men were under supervision of the research. Results: On average, 45% of all players (56% males and 26% females) suffered from injuries and musculoskeletal disorders over two seasons. Relatively high incidence of injuries during matches was between 17,3 and 33,8 injuries per each1000 hours of playing. Almost 50% of musculoskeletal problems occurred in the first phase of the season. Over 50% of musculoskeletal problems were reported during trainings. The blockers are the most affected players in both sex groups. Acute injuries involved mainly knee and ankle joints, while chronic problems affected knee, shoulder, back and abdominal muscles. Conclusion: Professional volleyball is not a safe sport, especially during a league season. Attention should be paid especially to ankle, shoulder and knee joints, which are the most commonly injured structures. The study revealed that blockers were the most susceptible to injuries and should be protected by special training regime.

Abstract no.: 47852

RISK OF VASCULAR INJURY WHEN SCREW DRILLING FOR TIBIAL TUBEROSITY TRANSFER

Jacques HERNIGOU[1], Esfandiar CHAHIDI[2], Eric MOEST[3], Antoine CALLEWIER[3], Frédéric SCHUIND[2], Olivier BATH[3]
[1]Hopital Erasme, - (BELGIUM), [2]Hôpital Erasme, Bruxelles (BELGIUM), [3]Epicura (Baudour), Baudour (BELGIUM)

Purpose: During tibial tubercle transfer, drills and screws are at risk for the popliteal vessels. We reviewed knee injected CT scan for analysis of the location of arteries, identified landmarks allowing minimizing risks, and defined a safe zone. Material and Method: Distances between the posterior cortex and arteries were measured on CT scans from 30 adults (60 knees) at three levels (proximal part of the tibial tuberosity, 20 mm and 40 mm distally). Data were used to create a “risk map” with different angular sectors where the frequency of the presence of arteries was analyzed in each areas. We also analyzed the position of 68 screws of 47 patients who underwent a medial tibial tuberosity transfer. Results: The nearest distance between artery and the posterior tibial cortex was found at the level corresponding to top of the tuberosity with less than 1 mm, while the largest distance was found at the distal level. We were able to define a safe zone for drilling through the posterior tibial cortex which allows a safe fixation for the screws. This zone corresponds to the medial third of the posterior cortex. When the safe zone is not respected, screws that overtake the posterior cortex may be closed to artery as observed for 37 of the 68 screws analyzed. Conclusion: Risks of artery injuries in proximal tibia surgery is important. We described new landmarks and recommendations to avoid this complication during tibial tuberosity transfer.

Abstract no.: 47855

SPINAL CORD PRIMARY AND SECONDARY DISTANT DISORDERS: PECULIARITIES OF THE DIAGNOSIS AND THE TREATMENT. PROSPECTIVE OBSERVATIONAL STUDY.

Oleg DULUB[1], Alexander BELETSKY[1], Inessa ILIASEVICH[2]
[1]Republic scientific-practical center of traumatology and orthopedics, Minsk, Belarus, Minsk (BELARUS), [2]Republic scientific-practical center of traumatology and orthopedics, Minsk (BELARUS)

We have studied primary distant injuries and secondary distant disorders of a spinal cord in 54 patients with a vertebra column and a spinal cord trauma. The prevalence of patients were young and up to 30 years. There were 43 men and 11 women. The high-energy trauma (road accident, katatrauma) took place at 43 injured. Distraction and axial trauma of the cervical spinal cord and forced impact on a cauda equina were the main reasons of the primary distant injuries. The posttraumatic syringohydromyelia diagnosed in 28 patients, the progressive posttraumatic myelomalacic myelopathy diagnosed in 15 patients. 43 injured patients (79,6%) corresponded to group A of a neurologic deficiency on the Frankel scale. Progressive neurologic disturbances, especially ascending motor and sensor deficiency, spread of cystic or myelomalacic process on a MRI, negative dynamic electrophysiological researches include a blink reflex there were basic principles diagnosis of a character distant disorders. Neuroprotective therapy was used in patients with primary distant injuries and with the progressive posttraumatic myelomalacic myelopathy. Surgical treatment of the patients with the progressive current of a syringohydromyelia included myelolisis, decompression of a spinal cord and/or shunting surgery (cysterno-vertebral or cysterno-peritoneal shunting). Positive results achieved in the majority of observations. Restoration of motor activity had wavy character in 20 patients (37,0%) at the same time.

Abstract no.: 47856

ANALYSIS OF THE MANAGEMENT AFTER CONTAMINATED ANTERIOR CRUCIATE LIGAMENT GRAFT - A PROSPECTIVE STUDY AMONG MEMBERS OF POLISH ARTHROSCOPIC SOCIETY

Jedrzej Jerzy LESMAN[1], Marcin DOMZALSKI[2]

[1]Clinic of Orthopedics, University Clinical Hospital Military Memorial Medical Academy - Central Veterans' Hospital in Lodz, Lodz (POLAND), [2]Clinic of Orthopedics, University Clinical Hospital Military Memorial Clinic of Orthopedics, Medical Academy - Central Veterans' Hospital in Lodz, Lodz (POLAND)

Purpose: Accidental graft contamination during the ACL reconstruction is a non-explored topic of knee surgery. The objective of this survey study was to collect and analyse the data from the members of Polish Arthroscopic Society about their experience with intraoperative graft contamination. Methods: A prospective study was performed among members of Polish Arthroscopic Society. Voluntary orthopaedists answered the survey, in which the following questions were asked: their experience in ACL operations, number of accidental contaminations, circumstances of this accident, the management, patients' awareness of the contamination and the final outcome. Results: The occurrence of accidental ACL is correlated with years after specialization, years performing these surgeries, the number of operations, and the number of operations annually. Assistant surgeons were responsible for 61% of all incidences. No statistically significant correlations were observed between the accident and the member of operating team responsible for this or the duration of the operation. Rinsing in Chlorhexidine solution and graft rejection were two most popular procedures, none of them reach statistical significance. The results were better among the group after the rejection, rather than after disinfection. Conclusions: Accidental graft contamination is unavoidable during the whole career of performing ACL reconstructions. All members of the team should be focused during the whole operation in order to decrease the risk of contamination incidence. The better final results are achieved, when the contaminated graft is rejected and a new one is implemented, rather than when the graft is disinfected.

Abstract no.: 47857

SPONDYLOLISTHESIS WITH SURGICAL TREATMENT: MULTILEVEL STABILIZATION. PROSPECTIVE COMPARATIVE STUDY

Oleg DULUB

Republic scientific-practical center of traumatology and orthopedics, Minsk (BELARUS)

The analysis of surgical treatment of 186 patients with degenerative forms of a spondylolisthesis was carried out. 22 patients had displacement of L3 vertebra, 83 patients – L4 vertebra and 72 patients – L5 vertebra. Multilevel spondylolisthesis was diagnosed in 9 patients. Displacement didn't exceed the I-II degree in the majority of observations, only 14 cases had progressing to the III degree. There were 114 women and 72 men. Diagnosis was based on data functional roentgenography, CT and MRI. Degenerative forms of a spondylolisthesis are characterized by frequent development of a multilevel stenosis and unusual instability at the slipping level and adjacent levels, secondary development of the interarticular arch defect (spondylolysis). At the same time the long existing process quite often defines development a combination severe spondylosis, spondyloarthrosis, Baastrup's disease with secondary stabilization of vertebral segments. Among clinical manifestations painful and radicular syndromes the most often developed, 49 patients had cauda equina intermittent claudication syndrome, and 32 – lower mono- or paraparesis. At monosegmentary defeat four-screw transpedicular fixation was used, existence of multilevel spondylolisthesis or unstable forms of a degenerative stenosis caused using of a large number of screws (41 patients) - keeping the spine from moving and stabilizing it. Surgical intervention was supplemented with performance of a decompression of a cauda equina in the most cases.

Abstract no.: 47859

THE BURDEN OF FRACTURES IN FOUR HOSPITALS IN MALAWI: RESULTS FROM FRACTURE CARE REGISTRIES

Linda CHOKOTHO[1], Nicholas LUBEGA[1], Jes BATES[2], Leonard BANZA[3], Sven YOUNG[4], Nyengo MKANDAWIRE[5], William HARRISON[6], Claude MARTIN[7]

[1]Beit Cure International Hospital, Blantyre (MALAWI), [2]Queen Elizabeth Central Hospital, Blantyre (MALAWI), [3]Kamuzu Central Hospital, Lilongwe (MALAWI), [4]Kamuzu Central Hospital, Lilongwe (MALAWI), [5]Department of Surgery, College of Medicine, University of Malawi, Blantyre (MALAWI), [6]chester County Hospital, Chester (UNITED KINGDOM), [7]AO Alliance Foundation, Davos (SWITZERLAND)

Introduction: A significant proportion of trauma cases consists of fractures. It is vital to have a good data collection system that can accurately estimate the burden of fractures. Such information can be used to prioritise resource allocation, improve fracture care, and formulate interventional strategies that will have an impact in reducing the burden of fractures. Aim: The aim of this study was to quantify the hospital burden of fractures seen in some hospitals in Malawi. Methods: Fracture care registries were established in in 2 district and 2Central hospitals. Demographic, injury, fracture and treatment details were collected on paper forms. Results: In 3 months, there were 880 patients with fractures, 63.9% were males, and 62.7% were children less than 17 years of age. Falls accounted for the majority of cases (69.7%), seconded by sports injuries (11.8%) and road traffic collisions (7.5%). Falls were the commonest cause of fractures across all age groups. There were significantly more falls in females than males ($p<0.0001$), and more sports related injuries in males ($p< 0.001$). The most common type of fractures seen were radius fractures (31.3%), radius/ulna (15.3%) and ankle (10.7%). More than two thirds of the radius fractures were located in the distal metaphyseal region. The majority of all fractures (71.5%) were treated by applying plaster of Paris cast in clinic without need for anaesthesia. Only 13.2% of cases were admitted. Conclusion: Interventions that will help to reduce falls will reduce the burden of fractures seen in hospitals.

Abstract no.: 47861

THE BENEFITS OF TRANSEXAMIC ACID AND EARLY HAEMOSTASIS IN TOTAL KNEE ARTHROPLASTY

Rohan PRAKASH[1], Ali NAJEFI[2], Anita CHITHIRAMOHAN[3], Justin NG[2], Senthil MUTHIAN[2], Arthur GALEA[2]

[1]Royal Free Hospital, London, Birmingham (UNITED KINGDOM), [2]Royal Free Hospital, London (UNITED KINGDOM), [3]University College London, London (UNITED KINGDOM)

Introduction: Transexamic acid (TXA) has been shown to be beneficial for early rehabilitation and blood loss after Total Knee Arthroplasty (TKA). Early release of tourniquet, intra-operative haemostasis, and the use of drains, is controversial. Methods: We retrospectively reviewed 200 Zimmer Nexgen Posterior Stabilised TKA by a single surgeon over a 5-year period. Group A (100 patients) consisted of patients with tourniquet for the duration of surgery, a surgical drain (removed 24 hours post-operatively) and no TXA. Group B (100 patients) consisted of patients with early tourniquet release, no surgical drain and administration of 1gram intravenous TXA on induction. Patient demographics, pre- and post-operative haemoglobin (Hb) and haematocrit (Hct), pre-operative platelet count and INR, transfusion rates, length of stay and complications were recorded. Results: There was no significant difference between age, BMI, pre-operative Hb, INR or platelets between groups. Mean tourniquet time was 92±12 minutes in Group A, and 71±16 minutes in B ($p< 0.001$). There was a significant difference in Hb loss between groups (A: 2.9±1.1g/dl, B: 2.1±1.1g/dl; $p < 0.001$). There was no significant difference in transfusion rates or venous thromboembolic complications between groups. Length of stay was longer in group A (4.8 (2-7) days) compared with B (3.9 (2-7) days) ($p<0.03$). Post-operative Hb in patients with BMI <30 (10.1±1.7g/dl) demonstrated increased blood loss compared with BMI>30 (11.0±1.6g/dl) in both groups ($p=0.05$). Conclusion: A combination of early tourniquet release, TXA and no surgical drain can reduce bleeding and length of stay. Higher BMI may protect against blood loss.

Abstract no.: 47864
ISELINS DISEASE
Richard FORRESTER
Scarborough General Hospital, YORK (UNITED KINGDOM)

Iselin's disease was first described in 1912. It is a condition affecting the tuberosity of the base of the fifth metatarsal. It is described as a traction apophysitis predominately affecting adolescents, in particular those who partake in regular sporting activity. The condition is rarely reported and likely to be undiagnosed, possibly mistaken for a fracture. We undertook a systematic review of the published scientific literature regarding this condition. We aim to show that Iselins disease is a poorly diagnosed condition due to limited knowledge of its existence. This may result in over treatment of a condition that does not require extensive treatment as a fracture may warrant. We wish to highlight this condition as a differential diagnosis in patients with fifth metatarsal pain. Investigations, treatments and outcomes into this condition are described, to support the management and diagnosis of this condition. We hope to raise awareness of this condition to potentially reduce unnecessary referrals to acute fracture clinic, aid parental understanding and provide a literature based framework for its management.

Abstract no.: 47866

TISSUE ADHESIVE IN KNEE ARTHROPLASTY WOUNDS.

Richard FORRESTER[1], Mike COOPER[2], Jon SMITH[2]
[1]Mid Yorks NHS Trust., YORK (UNITED KINGDOM), [2]Mid Yorks NHS Trust., Wakefield (UNITED KINGDOM)

Tissue adhesive has been used in the treatment and closure of both traumatic and surgical wounds for many years with a wealth of literature supporting its use. In our department, there is variation in the use of tissue adhesive in the closure of knee arthroplasty wounds by our knee surgeons. We have undertaken a systematic review of the published literature evidence regarding its use in total knee arthroplasty wounds. Many papers exist regarding its use in knee and hip arthroplasty but the evidence regarding the use as an adjunct to wound closure as it is used in our department is limited. Overall several papers exist to show the usefulness of tissue adhesive in knee arthroplasty wounds. There is a large variation in the research methodology, outcome measures and strength of evidence to show it is a superior wound closure technique but the evidence does not show it should not be used. Overall the papers solely focused on knee arthroplasty are few in number with small patient numbers. These specific papers suggest that tissue adhesive may be a useful adjuvant in the closure of knee arthroplasty wounds. The evidence currently in existence does not conclusively show that tissue adhesive used in isolation is an acceptable skin closure method in knee arthroplasty wounds. This review however highlights the limitations of the studies in existence, the need for more robust trials but that there may well be a role for tissue adhesive as an adjunct to wound closure in knee arthroplasty.

Abstract no.: 47867

OUTCOME OF NEOPLASTIC LESIONS OF SCAPULA - OVER 30 YEAR EXPERIENCE.

Shahbaz MALIK[1], Oke NWANNEKA@NHS.NET[1], Ridwan HASSAN[2], Muaaz TAHIR[1], Chindanai HONGSAPRABHAS[1], Adriana HERNANDEZ[1], Robert JORDAN[3], Scott EVANS[1], Lee JEYS[1]

[1]The Royal Orthopaedic Hospital, Birmingham, Birmingham (UNITED KINGDOM), [2]Univeristy of Birmingham, Birmingham (UNITED KINGDOM), [3]University Hospitals Coventry & Warwickshire NHS Trust, Coventry (UNITED KINGDOM)

Introduction: Approximately 3% of bone tumours are found in the scapula. Patients often present with pain, swelling, limited range of movement and brachalgia. Presentation is often delayed due to the deep-seated location of the scapula. In this abstract we present data relating to our experience of scapula lesions since 1978. Methods: We conducted a search of our database, which holds prospectively gathered data on over 41,212 patients, including over 3,800 primary bone sarcomas, to identify patients who were referred for any lesion of scapula. Data collected included patient demographics, diagnosis and management. The diagnosis and management of each patient was decided following multidisciplinary discussion within our supra-regional bone tumour unit. Results: Over the 39-year period currently under review 448 cases have been identified. The median age of presentation was 47 years (range 2 – 90 years). 55% of cases were malignant bone tumours, 40% were benign bone tumours. The most common malignant bone tumour was metastatic tumours (20%) and the most common benign bone tumour was osteochondroma (16%). Treatment strategies were dependent on the nature of the lesion, suitability for surgery and prognosis. All patients with chondrosarcoma underwent surgery ranging from excision through to scapulectomy. 11/26 patients with Ewings sarcoma underwent excision/scapulectomy. 49/71 patients with Osteochondroma underwent excision with the remainder being managed expectantly. Conclusion: Our experience demonstrates that the scapula is a recognised site of both malignant and benign tumours. The mortality rate in our series is less than 40% for all neoplastic lesions of scapula.

Abstract no.: 47870

GIANT LIPOMA OF THE HAND: CLINICAL CASE PRESENTATION AND LITERATURE REVIEW.

Youssef BENYASS[1], Bouchaib CHAFRY[2], Mohammed BOUSSAIDANE[2], Valdumir Ravid MENDES TEIXEIRA[2], Salim BOUABID[2], Driss BENCHEBBA[2], Mostapha BOUSSOUGA[2]

[1]Orthopedic Trauma Service II, Military Hospital-Rabat, - (MOROCCO),

[2]Orthopedic Trauma Service II, Military Hospital-Rabat, Rabat (MOROCCO)

Giant lipomas of the hand are rare (3.8%). Carpal tunnel syndrome following this condition is rare. Magnetic resonance imaging is the gold standard for studying the local extension of the tumor. We report the case of a 50-year-old woman who has presented for 5 years a tumefaction in the palm of the right hand, progressively increasing volume with the installation of dysthésie in the territory of the median nerve. On examination, a soft mass with decreased sensitivity was found in the right median nerve, with no motor deficit or vascular involvement. The Magnetic resonance imaging showed a greasy tumor process about 5 cm, occupying the palm. An electromyogram has obeyed a right carpal tunnel syndrome. A cytopunction was performed, which diagnosed a benign lipoma. Treatment consisted of a complete resection of the tumor, by a longitudinal approach, following the fold of opposition of the thumb to the fold of palmar flexion of the wrist. Histology confirmed the diagnosis. After a one-year follow-up, the patient did not present a recurrence and the function of the hand was excellent, with disappearance of the signs of the ductal syndrome. Lipoma is a benign tumor that often occurs between 50 to 60 years of age. By hand, it may be supra- or sub-aponeurotic, exceptionally intramuscular. Magnetic resonance imaging is the benchmark. In a deep fatty tumor of more than 5 cm, a biopsy is necessary to remove the fibrolipoma from the median nerve and especially the liposarcoma. Marginal excision is the treatment of choice.

Abstract no.: 47871

HIP ARTHROSCOPY FOR FEMOROACETABULAR IMPINGEMENT: IS THE MINIMUM DATA SET OF THE UK NON-ARTHROPLASTY HIP REGISTER A USEFUL MEASURE OF PATIENT OUTCOMES?

Julian MAEMPEL[1], Jason TING[2], Gavin BROWN[2], Paul GASTON[1]
[1]Royal infirmary of Edinburgh, Edinburgh (UNITED KINGDOM), [2]Royal Infirmary of Edinburgh, Edinburgh (UNITED KINGDOM)

Introduction: The Non-Arthroplasty Hip Register (NAHR) minimum dataset (MDS) collects iHOT12 and EQ5D scores, however evidence of its usefulness in assessing hip arthroscopy outcomes is lacking. This study aims to assess minimum 1-year outcomes of hip arthroscopy for femoroacetabular impingement (FAI) using the MDS of the NAHR by comparing these to a patient satisfaction questionnaire. Methods: Pre-operative scores for 91 consecutive hips (52F/39M, mean age 31.62±9.88years) undergoing hip arthroscopy for FAI at our institution between February 2013-June 2015 were entered into the NAHR. Postoperative iHOT12, EQ5D and satisfaction data was collected by postal and telephone survey. Results: Preoperative mean iHOT-12 score was 32.93±15.31, median EQ5D Index score 0.654 (IQR 0.277). Postoperative scores were available for 73 cases (80.2%) at median 22.65 months (IQR 16.75). There was significant postoperative improvement in iHOT-12 score (mean 33.3±25.14 points, $p<0.001$) and EQ5DIndex scores (median +0.127, IQR 0.311, $p<0.001$). 34 patients were very satisfied, 22 satisfied, 7 neutral, 6 dissatisfied and 2 very dissatisfied. Satisfied patients exhibited greater improvement in iHOT-12 (mean 40.52±20.83 vs 1.43±19.83, $p=0.001$) and EQ5D index (median +0.205 vs -0.076, $p=0.004$) scores. Improvement in iHOT12 correlated with improvement in EQ5DIndex ($r=0.629$, $p<0.001$). Conclusion: Hip arthroscopy for FAI yielded significant improvements in iHOT-12 and EQ5DIndex scores. 78.87% of responders were satisfied/very satisfied at a minimum one year postoperative. iHOT12 and EQ5DIndex correlated with patient satisfaction and improvements in iHOT12 correlated with improvements in general quality of life. Our findings suggest the MDS of the NAHR is useful for assessing outcomes in these patients.

Abstract no.: 47878

FAILED BACK SURGERY SYNDROME AND FAILED NECK SURGERY SYNDROME IN ONE PATIENT – A CASE REPORT

Kathryn Anne JIMENEZ, Antonio SISON
Veterans Memorial Medical Ceter, Quezon City (PHILIPPINES)

Failed Back Surgery Syndrome and Failed Neck Surgery Syndrome can be physically disabling that impact on the socioeconomic life, but when a patient suffers from both, the effect is devastating. Treatment is a challenge because the success rate is lowered to 50%, decreasing after each succeeding revision surgery. Case report: 36 year old male has undergone 8 operations in 12 years period from 2003-2015 varying from anterior to posterior decompression and instrumented fusion, indicated for cervical and lumbar disc disease and subsequent complications like stenosis, pseudoarthrosis and implant failure. Conservative measures including nerve root injections were tried and careful patient evaluation correlated with records including imaging studies before proceeding to the last cervical and lumbar spine revision surgeries. Outcome was very satisfactory. There was relief of neck to shoulder and low back to leg pain. He eventually returned to work and follow up duration is now 2 years. Discussion: As the number of elective spine surgeries continue to increase, significant number of patients report persistent or recurrent symptoms. Failure rate as quoted in the literature range between 10% to 40%. FBSS and FNSS together represents a significant and costly health care problem with usually a high rate of narcotic dependence that impacts on the life of patients. Like in primary surgery, strict patient selection and performing the appropriate operation is the key to success or improved outcome. In our patient, how he managed to cope with his affliction for 12 long years and maintain his composure throughout is truly remarkable.

Abstract no.: 47880

RCT COMPARING CLOSED REDUCTION AND PERCUTANEOUS VERSUS OPEN REDUCTION AND VOLAR LOCKING PLATE IN TREATMENT OF DISTAL RADIUS FRACTURES IN ADULTS

Pashupati CHAUDHARY
BPKIHS, Dharan (NEPAL)

Introduction: Displaced distal radius fractures are very common injuries and present regularly to all orthopaedic surgeons. Several documented treatment modalities for these fractures have been described with a recent trend for internal fixation with volar plating. However, the literature suggests that there is still no consensus as to the best treatment of these injuries. Distal radius fractures are among the most common bone fractures all over the world. Close reduction and fixation by percutaneous pinning is a less invasive method comparing with other open surgeries. Aim & Objective: To compare percutaneous pinning versus volar locking plate in treatment of distal radius fractures in adults in term of :fracture union, post operative pain, functunal outcome, post operative complication(stiffness,CRPS). Materials and Methods: All Adults Patients aged 16 and above with displaced distal radius fractures fpresented to the Emergency department and out Patient Department of Orthopaedics at BPKIHS from August 2010 to September 2012 were included in the study.Results: 60 patients with fracture distal end of radius who met the inclusion criteria were included in the study, out of which 30 were randamized into group A, treated by closed reduction and percutaneous fixation supplemented by cast and 30 in group B, treated by volar locking plate. Conclusion: ORIF with volar locking plating provide better radilogical outcomes with more stable fixation thus lesser degree of loss of reduction in comparation to percutaneous pinning. It also had better ROM at wrist initially however this difference is not significant in later months.

Abstract no.: 47882

PATIENT INFORMATION PRIOR TO URGENT TRAUMA SURGERY : A QUALITY IMPROVEMENT PROJECT

Oliver ADEBAYO[1], Moritz LEBE[2], Anoushka AYUB[2], Joe TURNER[3], Mahbub ALAM[2]

[1]Queens Hospital Romford, Ilford (UNITED KINGDOM), [2]Queens Hospital Romford, Romford (UNITED KINGDOM), [3]Kings College Hospital, London (UNITED KINGDOM)

Patient Information Prior to Urgent Trauma Surgery : A Quality Improvement Project Introduction: Patients with acute traumatic injuries that are not deemed life-threatening are often sent home and placed on a TCI (To-Come-In) list for their trauma operation. At a busy London district general hospital with a large trauma and orthopaedic department we carried out a quality improvement project to enhance the standard of information being given to patients awaiting a trauma operation. Method: We conducted a questionnaire which was given to patients who had arrived for their trauma surgery. They were asked questions on the quality of information provided prior to surgery. Following on from the questionnaire, as part of a multi-disciplinary team including patients, physiotherapists, trauma facilitators and doctors, a leaflet was developed. The leaflet was then distributed to all patients who met TCI criteria and quality of information was assessed again. Results: Overall, patients felt that the amount of information provided was not enough. 30% of patients would prefer written/ paper instructions. 35% of patients did not feel suitably prepared for their admission. After developing and producing patient leaflet with improved communication via telephone and email, there was an improvement in patient satisfaction in the level of information received. Conclusion: Patient information prior to surgery is vital to relieve anxiety, by improving the method of information delivery we can help patients feel better prepared for their operations.

Abstract no.: 47883

HOW ACCURATE ARE MRI SCANS IN IDENTIFYING OPERABLE ROTATOR CUFF PATHOLOGIES?

Chinyelu MENAKAYA[1], N RANAEI[2], G MURPHY[2], Omar HADDO[2]
[1]Whittington Hospital, -London (UNITED KINGDOM), [2]Whittington Hospital, London (UNITED KINGDOM)

Background: This study aimed to compare diagnostic value of magnetic resonance imaging (MRI) in identifying rotator cuff tears and compare it with findings during arthroscopy. Methods: A retrospective review of consecutive patients who underwent shoulder arthroscopy over a 2-year period was carried out. Medical, radiological and surgical records were studied. Results: 51 patients were identified with MRI findings of rotator cuff tears requiring surgical intervention. The average age at presentation was 57 years. 51 patients were identified as having possibly operable rotator cuff pathologies. Following shoulder arthroscopy, only 28 required rotator cuff repair. 4 patients with tears had inoperable rotator cuff. 17 patients did not have a rotator cuff injury. Conclusion: Although MRI is a good diagnostic tool for rotator cuff pathologies, results need to be interpreted keeping in mind clinical presentation. Surgeons also have to counsel patients on the possibility of inoperable findings intraoperatively in order to manage expectations.

Abstract no.: 47887

HIP-SPINE SYNDROME IN THE ETIOPATHOGENESIS OF AVASCULAR NECROSIS OF THE FEMORAL HEAD

Viktor SHILNIKOV[1], Alexey DENISOV[2], Rashid TIKHILOV[1], Igor SHUBNYAKOV[1]

[1]Vreden Russian research institute of Traumatology and orthopaedics, S-Petersburg (RUSSIA), [2]Vreden Russian research institute of Traumatology and orthopaedics, - (RUSSIA)

The combination of pathology of the lumbosacral spine and the hip is called a hip - spine syndrome. One of the manifestations of such an alliance may be avascular necrosis of the femoral head (AVN) and the transition of the lumbar vertebra. The aim of the study was to analyze the frequency of occurrence of a combination of idiopathic AVN and other degenerative diseases of the hip joint with the transitional vertebra of the lumbosacral spine and the identification of cause-and- effect relationship between them In our Institute during 2011-2013 were analyzed by X-ray in patients with degenerative- dystrophic diseases of the hip joint in the number of 617 people. Of these, 184 (30%) were diagnosed with idiopathic avascular necrosis - I group in 6 % (40 patients) AVN diagnosed in conjunction with the secondary coxarthrosis - II group and in 64 % of patients (393 patients), respectively - diagnosed idiopathic coxarthrosis - III group A total of 617 studies in 230 (37%) of patients diagnosed transitional vertebra of the lumbosacral spine. Patients with an AVN incidence of vertebral transition was 63% (116 of 184 patients). The incidence of transitional vertebrae in group II was 20 %. In patients with idiopathic coxarthrosis incidence transition vertebra was 10%. Thus, the transitional vertebra as the most demonstrative X-ray pattern, which is one of the links of the hip - spine syndrome can affect the etiopathogenesis AVN and other degenerative diseases of the hip joint.

Abstract no.: 47889

PATIENT SUBJECTIVE SATISFACTION FOLLOWING BIPLANAR MEDIAL OPENING-WEDGE HIGH TIBIAL OSTEOTOMY

Seung Beom HAN[1], Kimo JANG[2], Jae Hyeok CHOI[3]
[1]Korea Univesity Medical Center, Seoul (SOUTH KOREA), [2]Korea University Medical center, Seoul (SOUTH KOREA), [3]Korea univ. Medical center, Seoul (SOUTH KOREA)

Background: The purpose of this study was to assess post-operative patient subjective satisfaction and to analyze associated peri-operative factors followingl open wedge high tibial osteotomy (OWHTO). Methods: The study cohort consisted of 86 knees who underwent a minimum of two years of follow-up following biplanar medial OWHTO. Patient satisfaction was evaluated with a questionnaire that assessed (1) overall satisfaction, (2) pain relief, (3) daily living activities, and (4) cosmesis. Patients were categorized into two groups (satisfied or unsatisfied) based on overall satisfaction questionnaire.Results: Mean patient age was 57.2 years. The mean post-operative follow-up period was 38.3 months. Of the 86 knees evaluated, 74 (84.1%) were graded as satisfied, and 14 (15.9%) were graded as unsatisfied according to the overall satisfaction estimation. The number of patients satisfied with pain relief, daily living activities, and cosmesis were 74 (84.1%), 75 (85.2%), and 76 (86.4%), respectively. Multivariable logistic regression analysis demonstrated that pre-operative mechanical axis (MA) (odds ratio (OR) = 1.812), post-operative AKS knee score (OR = 1.156), and post-operative MA (OR = 0.717) wereassociated with overall satisfaction. Pre-operative MA (OR = 1.436), post-operative WOMAC activity score (OR = 0.865), and post-operative MA (OR = 0.505) were significant predictors for satisfaction with pain reduction, daily living activity satisfaction, and cosmesis, respectively. Conclusion: Biplanar medial OWHTO is an effective treatment for osteoarthritis with varus deformity in terms of subjective satisfactory outcome. Several peri-operative factors, including pre- and post-operative MA, post-operative AKS knee score, and post-operative WOMAC score, were significant predictors for post-operative satisfaction.

Abstract no.: 47892

DOES MEDIAL MENISCAL ALLOGRAFT TRANSPLANTATION WITH THE BONE-PLUG TECHNIQUE RESTORE THE ANATOMIC LOCATION OF THE NATIVE MEDIAL MENISCUS?

Sung-Mok OH, Seong-Il BIN
Orthopaedic Surgery, Asan medical center, Seoul (SOUTH KOREA)

Purpose: The purpose of this study was to compare the anatomic positions of the anterior horn(AH) and posterior horn(PH) between the preoperative medial meniscus(MM) and the postoperative meniscal allograft after medial meniscal allograft transplantation(MMAT) with the bone-plug technique. Methods: Between December 1999 and December 2013, 59 patients (49 male, 10 female) underwent MMAT by use of the bone-plug technique. The anatomic positions of both horns in the native MM and in the meniscal allograft were measured via MRI. The percentage reference method was used to measure the locations of both horns. Results: On coronal MRI, the mean absolute distance of the PH from the lateral border of the tibial plateau changed from 45.2±3.3 to 48.1±4.2 mm (P<.05). On sagittal MRI, the mean absolute distance of the PH from the anterior reference point changed from 40.3±3.0 to 42.0±3.5 mm (P<.05). On coronal MRI, the mean absolute distance of the AH from the lateral border of the tibial plateau changed from 41.3±4.2 to 48.5±5.6 mm (P<.05. On sagittal MRI, the mean absolute distance of the AH from the anterior reference point changed from 5.5±1.0 to 9.9±2.9 mm (P<.05). Conclusion: Anatomic locations of both horns were shifted posteromedially compared with those of the native MM. There were significant differences. However, the PH showed a location change of <5 mm, on average, in both the coronal and sagittal planes, whereas the AH showed a location change of <5 mm in the coronal plane but <5 mm in the sagittal plane.

Abstract no.: 47901

EVALUATION OF LUMBAR DISC SURGERIES

Varun SHAH, Anirudha CHANDAK
Dutta Meghe Institute of Medical Sciences, Wardha (INDIA)

Background: Back pain has been known since the start of written history, probably the first report being the so-called Edwin Smith Surgical Papyrus presumably around 1550 B.C. The cost of both time lost from work and medical care, as well as the cost of litigation and disability claims, make back pain an industry in itself . Purpose: The main purpose of this study was to evaluate the clinical, radiological outcome of the lumbar disc patients managed surgically and to compare the results of different surgeries performed. Method :This study was prospective, non-randomized, cohort study it was carried out in the Department of Orthopaedics, AVBRH, Wardha.Patients with more than 18 years were included with persistent bothersome sciatic pain, despite conservative management for a period of 6-12 weeks. Results:Out of total 67 patients the mean age was 49.85±8.75 years ranging from 40 to 72 years. Male gender was predominantly forming 66% of the sample size whereas 34% of females L4-L5 level was the most common level to get involved. Mean Pre operative VAS score for male patients was 6.64 and female patients was 6.78, which was reduced to 3.14 and 3.48 respectively after 6 months of operative management. Mean Pre operative Oswestery score for male patients was observed to be 44.05 and female patients was 44.87. Conclusion :Minimally invasive surgeries are cost-effective treatment for lumbar herniated discs. Results and complications were comparable with those associated with standard discectomy techniques.However technical expertise and learning curve of the technique could be the limitation

Abstract no.: 47907

LATERAL WALL PRESERVATIONFOR UNSTABLE FRACTURE INTERTROCHANTERIC NECK FEMUR

Hrishikesh SAODEKAR
suyash hospital, AMRAVATI (INDIA)

Integrity of the lateral wall ,the greater trochanter is an important arbiter of surgery for type A2.2andA2.3 (AO type).many authors iam and chung have suggested augmentation with a trochanteric plate or a intramedullary device. Medialisation of the femoral shaft causes a considerable morbidity at the cost of stability.The four parts of the unstable intertrochanteric fractures usually are the femoral head.the lesser trochanter, the post part of the gr trochand the femoral shaft with the attached anterior part of gr troch. In this technique the surgeon puts a guide pin through the two parts of the fractured gr troch and obtain a optimal position under flouroscopic control.Now it is highly probable that while passing the triple reamer the anterior part may break thus destroying the lateral buttress,. to avoid thi complication we drill multiple holes in the anterior segmentfor one fourth of this segment.Effectively the lat buttress is maintained. once the osteosynthesis is done the post part of the gr troch can be stabilised using a antero post lag screw or cerclage wire to restore the abductor mechanism.this technique obviates the need for trochanteric stabilisation plate or the intramedullary device and is cost effective.we have done 70 cases successfully

Abstract no.: 47909

INTRAOPERATIVE GRAFT ISOMETRY IN ANATOMIC SINGLE BUNDLE ANTERIOR CRUCIATE LIGAMENT RECONSTRUCTION.

Jae Doo YOO, You Keun KIM
Ewha Womans University Mokdong hospital, Seoul (SOUTH KOREA)

We assessed graft length change before bio-screw fixation in tibial tunnel with pulling graft by 20lb and 30lb in full extension, 30°, 60°, 90°, and 120° at each flexion angle. At 30° of flexion, 20 lb tension and 30 lb tension showed a negative 0.4 and negative 0.6mm length change respectively. The more flexion of knee, the shorter graft length in the joint. At 90° and above, there was a significant difference between the 20 lb and 30 lb tension. Anatomic single bundle ACL reconstruction is non-isometric. And graft length is longest in full extension and tension of graft become loose in flexion. At more than 90° flexion of knee, there was a difference in graft length change between 20 lb tension and 30 lb tension.

Abstract no.: 47910

MEDICAL RECORD KEEPING IN ORTHOPAEDIC TRAUMA PATIENTS: ARE WE CLEARLY DOCUMENTING THE WEIGHT-BEARING STATUS?

Prithish NARAYAN[1], Panteleimon TSANTANIS[2], James BAILEY[1], David James FORD[1]

[1]Royal Shrewsbury Hospital, Shrewsbury (UNITED KINGDOM), [2]Royal Shrewsbury Hospital, Birmingham (UNITED KINGDOM)

Background:The medical record is critical for documentation and communication between healthcare professionals. Objective:The aim of the study was to evaluate important aspects of the orthopaedic medical record to determine whether any deficiencies exist in this area.Methods:Review of 48 medical records of orthopaedic inpatients was undertaken. The operative report, dictated letter and the medical notes from the current admission were evaluated. Results:30 patients were female and 18 were male. The median age of the patients was 74.8 years. 16 of the patients were treated conservatively and 32 have undergone surgical treatment. In all cases, an operative report has been completed. Weight-bearing status was adequately documented in 75% of reports. Dictated letters have been uploaded on clinical portal for all the admissions, with 71% of these having instructions reflective of those in the operative report. On review of the medical notes, only 42% of all the patients have had their weight-bearing status clearly documented in the management plan. Following implementation of change, a re-audit was conducted. The weight-bearing status was clearly documented in 96% of the medical notes. Conclusions: Orthopaedic medical record documentation remains an area for improvement. In addition, medical documentation by the junior doctors is suboptimal and may affect patient outcomes. The present study has highlighted that the standard of the orthopaedic trauma medical record keeping at a NHS District General Hospital is below what is expected and several keys areas of documentation require improvement. The re-audit results have demonstrated significant improvement.

Abstract no.: 47915

INCREASED IL-6, FIBRINOGEN, D-DIMER, F1.2 AND SICAM-1 IN PATIENTS WITH HIP FRACTURE.

Jan KVASNICKA[1], Zdenek KRSKA[2], Zuzana KUDRNOVA[2]
[1]General University Hospital VFN, Prague 2 (CZECH REPUBLIC), [2]General University Hospital VFN, Prague (CZECH REPUBLIC)

Introduction: Hip fracture surgery (HFS), is associated with high risk of peri-operative venous thromboembolism (VTE). The aim of our study was to determine how hip fracture trauma affects hemostasis by comparison with hemostasis of the patients indicated for another operation. Methods: The study selected 125 patients with a hip fracture (HF), blood samples of whom were taken for laboratory tests before HFS, and 86 patients before hernia surgery or cholecystectomy. The control group consisted of 114 healthy people. None of the patients has been treated with anticoagulants. Among these groups were compared results of INR, APTT, fibrinogen (FBG), D-dimer, sIL-6 and markers of thrombogenesis (F1.2) and endothelial dysfunction (sICAM-1) tests. The STATISTICA programme was used for statistical analysis. Results: FBG, D-dimer, F1.2, sIL-6 and sICAM-1 were higher in the patients with HF compared to the findings of patients before another operation ($p<0,05$; for all) and control group ($p<0,05$; for all). Conclusion: Patients admitted for HFS have already elevated levels of biomarkers of thrombogenesis and inflammation, including endothelial dysfunction, in the period prior to the HFS. It is the result of HF trauma with which they come to surgery. The study was supported by grant RVO VFN 64165.

Abstract no.: 47916

ANALGESIA IN FRACTURED NECK OF FEMUR PATIENT WITH A FASCIA ILIACA COMPARTMENT BLOCK PROTOCOL

James BAILEY[1], Panteleimon TSANTANIS[1], Prithish NARAYAN[2]
[1]Royal Shrewsbury Hospital, Birmingham (UNITED KINGDOM), [2]Royal Shrewsbury Hospital, Shrewsbury (UNITED KINGDOM)

Background:Fractured neck of femur is a common cause of admission among the elderly population to our hospital. Many patients have their pain treated with systemic analgesia while waiting for surgery.It can be difficult to balance adequate analgesia with side effects of opiates. Objectives: Patients with greater pain are at higher risk of delirium, slower to mobilise, have poorer health-related quality of life and are more likely to report persistent pain three to six months after fracture. NICE guidance suggested that regional anaesthesia be considered for all these patients. Methods:We have examined whether a femoral nerve block or fascia iliaca block had been performed. An initial retrospective audit of 35 patients was conducted from patient notes. Results: 35 patients (23F, 12M. Mean age 81.9y, range 60–92y).Only 5 (14%) blocks were performed. Techniques included femoral nerve block and fascia iliaca block. The procedure was not clearly documented for 2 of the blocks performed. We drew up a protocol and held training sessions bringing about a culture change to provide an excellent standard of analgesia for these patients. Conclusions: We found that most junior and middle grade doctors in the emergency and the orthopaedic departments had no experience in performing any type of nerve block.A culture change came about where FICB was considered for all patients with fractured NOF. Key to supporting this change was a proforma that was developed to act as both aide-memoir and documentation of the block. Education of junior doctors was vital to this culture change.

Abstract no.: 47918

CORRELATION OF KNEE MRI AND ARTHROSCOPIC FINDINGS AND THE EFFECT OF TIME ON DIAGNOSTIC RELIABILITY

Thando NCUBE, Sebastian MAGOBOTHA
Department of Orthopaedic Surgery, University of the Witwatersrand, Johannesburg (SOUTH AFRICA)

MRI helps further elucidate intra-articular injuries but it has its shortcomings and may provide spurious results. This study aims to test the diagnostic reliability of pre-operative MRI and the effect of time on the reliability of the result. A retrospective review of consecutive adults (16-60 years) was done. Arthroscopic findings of anterior cruciate ligament (ACL) and medial (MM) or lateral meniscal (LM) injuries were compared to MRI findings. 72 patients (74 knees) qualified for review. The median age was 35 years (IQR 26-43). Leading causes of injury were traffic accidents (32.4%), falls (27.0%) and sports injuries (17.6%). Median interval from MRI to surgery was 71.5 days (IQR 29-143). The sensitivity of MRI for ACL, MM and LM injuries was (63.6%, 58.8% and 52.6%), specificity (92.7%, 86.0% and 80.0%) and diagnostic accuracy (79.7%, 79.7% and 73.0%) respectively. The patients were divided into subgroups of early (<6 weeks), intermediate (6-16 weeks) and late intervention (>16 weeks) post-MRI. There were marked differences in the diagnostic accuracy in the three groups for the ACL (70.8% vs 92.6% vs 73.9%) and LM (62.5% vs 81.5% vs 73.9%). This was unremarkable for the MM (75.0% vs 81.5% vs 82.6%). MRI findings correlate well with arthroscopic findings making it a reliable preoperative screening tool. However its diagnostic accuracy appears to change with time. It is apparent that the diagnostic accuracy is higher between 6-16 weeks post MRI. A bigger cohort would help determine a waiting time interval that leads to significant depreciation in MRI diagnostic accuracy.

Abstract no.: 47921

FUNCTIONAL OUTCOME OF OPERATIVE MANAGEMENT OF ADULT DEGENERATIVE SCOLIOSIS WITH NEUROVASCULAR SYMPTOMS: A STUDY OF 24 PATIENTS

Sahil SANGHAVI
Sancheti Institute for Orthopaedics and Rehabilitation, Pune (INDIA)

Aim: To evaluate the functional outcomes of operative management of Adult Degenerative Scoliosis(ADS) with neurovascular symptoms in a tertiary care centre. We also wanted to study the outcomes in patients with and without sagittal balance problems. Materials and methods: We studied 24 cases of adult degenerative scoliosis, between July 2013 to January 2016. 11 males and 13 females were part of this study, with ages ranging from 59 to 72 yrs, with a mean of 65.8 +/- 5.09 years. 11 patients (45.8%) had an abnormal sagittal balance, while 13 (54.2%) had a normal balance. Surgical procedures carried out included decompression in 3 (12.5%), instrumentation in 12 (50%), and instrumentation with fusion in 9 cases (37.5%). Results: All patients had a significant reduction in the Cobbs Angle reducing from an average of 20.25 degrees pre-operatively to 7.5 degrees post-operatively. Claudication distance too increased among patients. SF-36 Scores improved significantly in all subgroups, except social functioning. (All tests were with a p value of <0.001) Conclusion: Surgery shows better functional outcome for patients with Adult Degenerative Scoliosis. Patients with negative and neutral sagittal balance tend to fare better than the positive ones. There was no correlation between sagittal balance and functional outcome.

Abstract no.: 47927

ISCHIAL TUBEROSITY AVULSION IN ADOLESCENTS

Petr HAVRANEK[1], Valer DZUPA[2], Tomas PESL[1]

[1]3rd Faculty of Medicine, Charles University and Thomayer Teaching Hospital, Prague, Prague 4 (CZECH REPUBLIC), [2]3rd Faculty of Medicine, Charles University and University Hospital Kralovske Vinohrady, Prague, Prague 10 (CZECH REPUBLIC)

Introduction: Ischial tuberosity avulsion fracture is a rare injury afflicting predominantly adolescent athletes. Due to anatomic conditions of muscle attachements, variable displacement of fragments and frequent sequels, the optimal therapeutic approach is still diverse. The aim of the paper is to present a cohort of five adolescents treated surgically in authors institution. Material: Five adolescent boys suffering from ischial tuberosity avulsion aged from 15,16 to 16,32 years (average 15,72 years) were treated during three years (2013-2015). Three of them were injured during soccer, one during floorball and the last during athletic sprint. Three of five patients had acute injuries (3 to 7 days), two remaining were treated with nonunion (5 and 11 months postinjury). All boys were operated on, open reduction and internal fixation with screws was performed. Results: Internal fixation in one patient failed and had to be remade using more screws, all four other patients healed uneventfully. No sitting problems, sciatic nerve neuropathy or chronic pain were recorded. Conclusions: according to authors opinion ischial tuberosity avulsions with moderate displacement up to 1,5-2,0 cm especially with horizontal shift could be treated nonoperatively. Avulsions with marked displacement, over 1,5-2,0 cm and predominantly distal shift, should be treated by open reduction and internal fixation.

Abstract no.: 47928

RESULTS OF EARLY DIAGNOSIS AND RAPID DETECTION OF RIFAMPICIN RESISTANCE BY CARTRIDGE BASED NUCLEIC ACID AMPLIFICATION (CBNAAT) TEST IN MUSCULOSKELETAL TUBERCULOSIS.

Sumit SURAL[1], Hari KISHAN[1], Anil DHAL[1], Ashwani KHANNA[2], Mahmud HANIF[3]

[1]Maulana Azad Medical College, New Delhi, Delhi (INDIA), [2]Lok Nayak Hospital, New Delhi, Delhi (INDIA), [3]New Delhi Tuberculosis Centre, Delhi (INDIA)

Introduction : Diagnosis of musculoskeletal tuberculosis in endemic countries is often based on clinico-radiological criteria. Inadequate samples, poor growth of the paucibacillary organism in culture precludes early diagnosis. Biopsy, still the gold standard for diagnosis, but not for assessment of resistance of the organism, may not be justified in all typical clinico- radiological cases like spinal tuberculosis if therapeutic surgical decompression is not indicated. Early diagnosis and rapid detection of rifampicin resistance is important to initiate appropriate antitubercular therapy. Objective : To compare cartridge based nucleic acid amplification test (CBNAAT) with liquid culture using Mycobacterium Growth Inhibitor Tubes (MGIT) to diagnose musculoskeletal tuberculosis and also detect rifampicin resistance. Study Design : Samples (abscess pus 23/30, discharge from sinus 5/30, synovial fluid from knee 2/30) were taken from 30 cases of clinico-radiologically suspected musculoskeletal tuberculosis for CBNAAT, MGIT and Ziehl Neelson stain for Acid Fast Bacillus detection. Results : Mycobacterium tuberculosis was detected in 29/30(96.67%) cases by CBNAAT compared to 15/30(50%) by MGIT and 12/30(40%) by Ziehl Neelson stain. Rifampicin resistance was detected in 9/30 by CBNAAT and 4/30 by MGIT5, while 5 did not show growth in MGIT. Biopsy was done in 5 of these cases showing tuberculosis and all 5 also detected Mycobacterium tuberculosis by CBNAAT but 3 of them showed no growth in culture. Conclusion : CBNAAT is an excellent screening test for rapid diagnosis of musculoskeletal tuberculosis as well as for the detection of rifampicin resistance.

Abstract no.: 47929

TWO STAGED LESS INVASIVE SURGERY FOR CHRONIC PYOGENIC DISCITIS FOLLOWING STAND-ALONE PLIF USING INTERVERTEBRAL CARBON CAGE; A CASE REPORT.

Yuichi KONDO[1], Kei MIYAMOTO[2], Katsuji SHIMIZU[2], Atsushi GOTO[2]
[1]Gifu Municipal Hospital, Gifu Prefecture (JAPAN), [2]Gifu Municipal Hospital, Gifu Pref. (JAPAN)

Forty-five years old man underwent posterior decompression and stand-alone PLIF using intervertebral carbon cage for lumbar spinal stenosis at L3-4 and L5-6 one year before. Because postoperative surgical cite infection happened, cage removal and autogenous iliac bone grafting were performed. However, infection was not cured perfectly, and he complained a recurrent fever, low back pain, pain and numbness in his legs. Computed tomography scan showed intervertebral union at L5-6, but nonunion at L3-4. Magnetic resonance imaging revealed a discitis at L3-4. For first surgery, he underwent single-level posterior instrumentation at L3-4 using percutaneous pedicle screws. After treatment by antibiotics, for second surgery, he underwent anterior debridement of intervertebral space and iliac autogenous bone grafting. The surgery improved both his infectious and neurological symptoms. Eventually, this case had iatrogenic intervertebral instability by resection of the facet at the stand-alone PLIF as the initial operation, which consequently made the secondary pyogenic discitis all the more difficult to cure. While there are several reports regarding the efficacy of posterior instrumentation in managing infected spine, they usually avoid placing instrumentation anchor at affected vertebrae, resulting in applying relatively long instrumentation. In this case, we placed pedicle screw meticulously at intact area of the affected vertebrae. Therefore, he was far less invasively managed by single-level fusion.

Abstract no.: 47930

THE INDIVIDUAL APPROACH TO CORRECTION LEG LENGTH WITH TOTAL HIP REPLACEMENT

Viktor SHILNIKOV[1], Alexey DENISOV[2], Rashid TIKHILOV[1], Igor SHUBNYAKOV[1]

[1]Vreden Russian research institute of Traumatology and orthopaedics, S-Petersburg (RUSSIA), [2]Vreden Russian research institute of Traumatology and orthopaedics, - (RUSSIA)

Among the many problems of hip replacement surgery, the operated limb length compensation is not paid enough attention. The aim of this study was to optimize the length of the limb at the hip joint in a shortening of more than 3 cm in view of the objective and subjective factors to improve treatment outcomes During the studied 109 patients before and after total hip arthroplasty with the initial shortening of the lower limb more than 3 cm with the Harris hip score and the " Questionnaire patients' expectations ," in which patients reported their main hope of the operation: pain relief, restoration of movements, alignment limb length, the overall increase in the "quality of life". A study of more than 95 % of patients with limb shortening eliminated happy outcome of joint replacement, although in some patients significantly decreased range of motion and pain appeared on the front of the thigh. During the analysis of the " Questionnaire patient expectations " before the operation was heavily weighted towards the restoration of limb length in certain age groups, and in the postoperative period, the majority of patients would prefer a better mobility. Thus, it is necessary to take into account that does not always eliminate limb shortening can give a positive result, so preoperative careful analysis of all factors that may have an influence, and to identify priorities individually from the patient.

Abstract no.: 47933

POSTERIOR-LATERAL ELBOW LUXATION IN A 3-YEAR-OLD CHILD - A RARE CASE

Marta Sofia SANTOS SILVA, Pedro SERRANO, Pedro BARREIRA, Luís COUTINHO, João ESTEVES, Daniel SOARES
Centro Hospitalar do Porto, Porto (PORTUGAL)

Introduction: Traumatic elbow dislocations are rare in children. Most of these lesions occur between 13 and 14 years of age and are often associated with fractures of the medial epicondyle. Methods: A 3-year-old female was observed in the emergency department after trauma of the elbow in extension. She had a painful and deformed elbow with reduced range of motion (ROM) and no signs of neurovascular compromise. The radiographic study revealed a posterolateral dislocation of the elbow without apparent fractures. Results: The reduction was performed immediately. Immobilization in 90º of elbow flexion was performed. During follow-up an MRI study confirmed the absence of associated bone and cartilage lesions. After a period of 2 and a half weeks the plaster immobilization was removed and physiotherapy treatment was initiated, which allowed the progressive recovery of the ROM. 12 months after the injury, the child was asymptomatic, with complete mobility and without instability of the joint. Conclusion: Traumatic elbow dislocations in children are potentially serious. In view of this rarity and the complexity of the child's elbow, their evaluation may be technically difficult. Simple dislocations are less frequent than dislocations associated with fractures, and the latter may condition the need for additional surgical intervention for fixation. This paper reports a rare clinical case due to the absence of associated lesions and the age group in which it occurred. In fact, and particularly at this age, it is essential to perform the study of the bony and cartilaginous components of the joint through an MRI.

Abstract no.: 47936

TENOSYNOVIAL GIANT CELL TUMOUR OF THE FOOT: A CASE REPORT

Nadhir MERAGHNI[1], Riad BENKAIDALI[2], Abdelrezak CHOUITI[2], Mohamed KIHAL[2], Zoubir KARA[2]

[1]Orthopedic Department, CHU Mustapha Bacha, Algiers (ALGERIA),

[2]Orthopedic Department, CHU Mustapha Bacha, algiers (ALGERIA)

Introduction: giant cell tumors of soft tissue (GCTs) are a relatively rare entity. It is a distinct but uncommon group of neoplasms morphologically identical to osseous giant cell tumor The authors report a case of GCTs of soft tissue at the foot. Methods: we report the case of a 39-year-old female who presented a mass of the left hallux. Clinical examination found a 2 cm firm, painless and mobile mass at the postero medial side of the left hallux. X rays and MRI showed a mass of the soft tissue without articular or bone lesion. Pathological examination of the tumor biopsy confirmed the diagnosis of tenosynovial giant cell tumour. The patient underwent a tumor resection. Results: with a 12 months follow-up, there is no local or regional recurrence. There is a good evolution without functional impact. Discussion: giant cell tumour of soft tissue, first described by Salm and Sissons in 1972, is a rare neoplasm located in both superficial and deep soft tissue. GCTs most commonly involves the upper and lower extremeties, but the trunk, head and neck are not unusual sites. It often presents as a painless, firm, mobile, well-demarcated mass with no connection to the underlying muscle, tendon or bone. There are no reported gross features that distinguish between benign and malignant variants. Conclusion: giant cell tumors of soft tissue are rare. Because of the high incidence of recurrence, complete surgical excision is the treatment of choice.

Abstract no.: 47937

TREATMENT OF PROSTHETIC INFECTIONS WITH SURGICAL DEBRIDEMENT AND PRESERVATION OF THE PROSTHESIS - RESULTS AND SUCCESS DETERMINANT FACTORS

Marta Sofia SANTOS SILVA, Pedro SERRANO, Arnaldo SOUSA, Luís BARROS, João ESTEVES, Ricardo SOUSA
Centro Hospitalar do Porto, Porto (PORTUGAL)

Introduction: Infection remains one of the most feared complications after arthroplasties. The treatment through surgical debridement (prosthesis preservation) is often associated with high failure rate. Our hypothesis is that with proper selection of patients and a structured treatment it is possible to obtain excellent results. Methods: A retrospective study between June 2010 and June 2015. Patients included underwent attempt to solve prosthetic infection of the hip or knee through surgical debridement without removal of the implant. Success was defined as cure of infection with preservation of the prosthesis with at minimum 12 months follow-up. Persistent infection or need for further surgery were assumed as failure. Results: 50 patients included with mean age of 66 years. Overall success rate of 46% (23). The statistically significant determinants of success were: shorter duration of infection prior to surgery (21.4 vs. 73.1 days, p=0.05; g=-0.53), exchange of mobile components during debridement (87.0% vs. 29.6 %, p<0.001; OR=15.8 [IC 95% 3.6-68.7]), and appropriate antibiotic therapy (78.2% vs. 25.9%; p<0.001; OR=10.3 [IC 95% 2.8-38.2]). Strict compliance with the protocol was the main determinant of success (73.9% vs. 11.1%; p<0.001; OR=22.7 [IC 95% 5.0-103.5]). Success rate of treatment in 20 cases where the proposed protocol was strictly performed was 85% and when the protocol wasn’t followed, success rate was 20%. Discussion: Surgical debridement as a prosthesis preservation attempt is a attractive alternative. However, short duration of infection symptoms, rigorous surgical debridement with exchange of mobile components and antibiotic therapy with “anti-biofilm" regimens are essential conditions for success.

Abstract no.: 47938

PERCUTANEOUS CORRECTION OF HALLUX VALGUS DEFORMITY: CLINICAL AND RADIOGRAPHIC EVALUATION AND COMPLICATIONS

Marta Sofia SANTOS SILVA, Pedro SERRANO, Luís BARROS, João ESTEVES, Pedro LEITE, Luís COSTA, José MURAS
Centro Hospitalar do Porto, Porto (PORTUGAL)

Introduction: Hallux valgus is characterized by a progressive deformity of the foot, with pain as well as functional and cosmetic implications. The development of minimally invasive techniques, has allowed for fewer complications and equivalent clinical results, in the surgical treatment of this pathology. Percutaneous surgery allows minimal soft tissue injury and avoids the use of metal implants. The objective of this study was to evaluate the clinical, radiographic and complications of this technique. Methods: A total of 250 feet were studied in 160 patients operated over a period of 10 years. The clinical criteria for surgery were the presence of painful valgus deformity of the hallux, regardless of the metatarsophalangeal angle and an intermetatarsal angle ≤ 20º. Patients underwent buniectomy, adductor hallucis tenotomy, and proximal phalanx osteotomy. Clinical evaluation was performed using the AOFAS-HMI score and radiological evaluation by means of on-load radiographs. Results: Mean AOFAS-HMI score was of 92.9 (60-100). The metatarsophalangeal angle was corrected by a mean of 14.5º. The proximal phalanx of hallux was significantly shortened. All complications (burns, infections, neurological alterations, recurrences and pseudarthroses) were recorded. The mean follow-up time and subjective assessment were recorded. Conclusion: The results show that percutaneous surgery is an excellent option for the valgus deformity (mild to moderate) of the hallux. Thus, this surgical technique, when correctly indicated, is a safe and effective method, with results comparable to open surgery and with all the advantages inherent to a minimally invasive procedure.

Abstract no.: 47941

ARTHROPLASTY VERSUS ARTHRODESIS IN THE TREATMENT OF ANKLE OSTEOARTHRITIS - MEDIUM TERM RESULTS

Marta Sofia SANTOS SILVA, Pedro NEVES, Bruno CORREIA, Pedro SERRANO, Pedro LEITE, Luís COSTA, André GOMES
Centro Hospitalar do Porto, Porto (PORTUGAL)

Introduction: Surgical treatment for advanced ankle osteoarthrosis includes total joint replacement and arthrodesis. Although arthrodesis is a simple, effective procedure with good clinical results, arthroplasty is often preferred by the patient. The aim of this study was to compare the results of the two surgical methods - arthrodesis versus ankle arthroplasty. Methods: Between 2006 and 2016, 41 patients with advanced ankle osteoarthrosis were treated. 27 patients underwent arthrodesis and 14 patients underwent arthroplasty. The mean age was 57.1 years (arthroplasty group) and 64.2 years (arthrodesis group) ($p = 0.021$). Pain was assessed using visual analogue scale (VAS) and functional status using the AOFAS scale. Mean follow-up time, comorbidities and complications were recorded. Results: All patients reported a significant improvement in pain and functional status after surgery. Patients undergoing arthroplasty reported better functional results on the AOFAS scale (87.2 vs 71.2; $p = 0.001$) and better pain control (1.7 vs 2.3; $p = 0.007$). Patients were satisfied, improved their quality of life and would agree to repeat the surgery. There were 3 cases of infection and 2 cases of pseudarthrosis. Conclusion: The two surgical methods used had satisfactory results. Arthrodesis provides pain relief but alters gait biomechanics, leading to earlier degenerative changes of adjacent joints. Arthroplasty will be a more physiological alternative; although it may have the disadvantage of an higher cost and possible implant wear/failure in the medium to long term.

Abstract no.: 47942

DOES EARLY WEIGHT BEARING INFLUENCE OUTCOME AND COMPLICATIONS AFTER INTRAMEDULLARY STABILISATION OF AN OSTEOPOROTIC UNSTABLE TROCHANTERIC FRACTURE IN ELDERLY? A PROSPECTIVE RANDOMISED TRIAL

Ashok Sunil GAVASKAR
Parvathy Hospital, Chennai (INDIA)

Weight bearing after surgical treatment of trochanteric fractures is often dictated by many factors like bone quality, fracture pattern, compliance, adequacy of reduction and fixation. We prospectively studied the effect of weight bearing on outcome in elderly patients with unstable trochanteric following stabilisation with an intramedullary device. 120 patients with 31-A2/ A3 fractures were treated with intramedullary fixation. Following computer assisted randomisation, immediate weight bearing as tolerated was allowed in group A - 63 patients and a protected weight bearing regime was followed in group B - 57 patients. At 6 months follow up, radiological union, varus collapse, neck shortening, limb length, fixation failures, sliding of the neck fixation element were assessed and compared between 2 groups. After exclusion, cross overs and loss in follow up, 54 patients in group A and 49 patients in group B were available for final analysis. Union rates, time to union, varus collapse, degree of femoral neck shortening, limb length shortening, sliding of the helical blade/screw and fixation failures were all similar in both groups ($P > 0.05$). Poor fracture reduction and tip apex distance > 20 mm lead to more instances of varus collapse ($P = 0.02$) and fixation failures ($P < 0.001$). Early weight bearing did not affect clinical or radiological outcomes following accurate reduction and fixation. Poor fracture reduction and implant positioning lead to more fixation failures and varus collapse irrespective of weight bearing status.

Abstract no.: 47945

FRACTURE OF THE 3RD METATARSAL BONE OF THE RIGHT FOOT - CLINICAL CASE

Marta Sofia SANTOS SILVA, Pedro BARREIRA, Pedro NEVES, Pedro LEITE, Helder FONTE, Claudia RODRIGUES, José MURAS
Centro Hospitalar do Porto, Porto (PORTUGAL)

Introduction: Metatarsal fractures are a common pathology. They may be acute traumatic fractures (direct contusion of the back of the foot) or secondary fractures. This paper describes the case of a fracture of the 3rd metatarsal, treated surgically, as well as the diagnostic options. Methods: 15 years old, male, healthy, water polo player. Suffered a fall, with right foot trauma (perpendicular to the ground), resulting in pain and functional impairment of the third toe. The imaging study showed an intra-articular fracture of the M3 head, with soft tissue edema, maintenance of cortical thickening and head shape. Results: The patient underwent surgical treatment - open reduction and osteosynthesis with mini fragment screws. He avoided weight bearing for 2 weeks. At 12 weeks started sports. He is currently asymptomatic, with preserved articular mobilities and without restrictions in sport activity. Conclusion: This clinical case may portray an acute traumatic fracture or may be secondary to Freiberg's disease (epiphyseal aseptic necrosis). The fact that this fracture resulted from indirect trauma, on an Egyptian foot, in a young sportsman, indicates that there could be a previous fragility of the bone, in favor of Freiberg's disease. The fact that the fracture resulted from an acute trauma and symptomatology and from the imaging study demonstrates the maintenance of the cortical thickening, the articular surface and the shape of the head, without areas of necrosis, points to an acute traumatic fracture. According to the literature, the various treatment options lead to quite satisfactory clinical and functional results.

Abstract no.: 47946

MOSAICOPLASTY IN THE TREATMENT OF OSTEOCHONDRAL ANKLE INJURIES

Marta Sofia SANTOS SILVA, Luís COUTINHO, Luís BARROS, João ESTEVES, Helder FONTE, Daniel SOARES, Luís COSTA
Centro Hospitalar do Porto, Porto (PORTUGAL)

Introduction: Osteochondral ankle injuries are frequently related to sprains. Although there is agreement on the microtraumatic etiology of osteochondral lesions, diagnosis and treatment are more controversial. Methods: We report a case of a healthy 27-year-old woman. He suffered minor trauma to the left ankle. A arthroscopic synovectomy and microfractures was done with transient improvement of complaints. After a year he resorted to the consultation for pain, stiffness and repeated spills of the ankle. Clinically and radiologically without instability or shaft malalignments. She underwent conservative initial treatment. The imaging study showed an osteochondral lesion of the antero-medial aspect of the talus with about 3 cm of greater diameter. Results: A mosaicplasty with an osteochondral graft of the external femoral condyle was performed (with osteotomy of the tibial malleolus). The patient completed 6 weeks of discharge of the member. At 4 months, the patient had mild mechanical pain, a mobility angle of 55º and 75 points on the AOFAS scale. At 10 months, he reported pain improvement, full mobility range and 98 points on the AOFAS scale. Conclusion: The choice of surgical treatment depends essentially on the size and location of the lesion, the age of the patient and associated symptoms. Arthroscopic therapy (lesions <1.5 cm2) consists on debriding, with resection of the osteochondral fragments, followed by stimulation of the bone marrow through microfractures of the subchondral bone. The mosaicoplasty (lesions> 1.5 cm2) consists on obtaining an osteochondral graft and transferring it to the injured areas on the loading surface.

Abstract no.: 47947

PERCUTANEOUS CORRECTION OF HALLUX VALGUS DEFORMITY: CLINICAL, RADIOGRAPHIC AND COMPLICATIONS

Marta Sofia SANTOS SILVA, Pedro SERRANO, Pedro NEVES, Luís BARROS, João ESTEVES, Daniel SOARES, José MURAS
Centro Hospitalar do Porto, Porto (PORTUGAL)

Introduction: Hallux valgus is characterized by a progressive deformity of the foot, with algic, functional and cosmetic implications. The development of minimally invasive techniques, with fewer complications and equivalent clinical results, has been observed in the surgical treatment of this pathology. Thus, percutaneous surgery allows minimal soft tissue injury and avoids the use of metal implants. The objective of this study was to evaluate the clinical, radiographic and complications of this technique. Methods: A total of 250 feet were studied in 160 patients operated in 10 years. The clinical criteria for surgery were the presence of painful valgus deformity of the hallux, regardless of the metatarsophalangeal angle and an intermetatarsal angle ≤ 20º. Patients underwent buniectomy, adductor hallucis tenotomy, and proximal phalanx osteotomy. Clinical evaluation was performed using the AOFAS-HMI score and radiological evaluation by means of on-load radiographs. Results: Mean AOFAS-HMI was 92.9 (60-100). The metatarsophalangeal angle was corrected by a mean of 14.5º. The proximal phalanx of hallux was significantly shortened. The complications (burns, infections, neurological alterations, recurrences and pseudarthroses) were recorded. The mean follow-up time and subjective assessment were recorded. Conclusions: The results show that percutaneous surgery is an excellent option for the valgus deformity (mild to moderate) of the hallux. Thus, this surgical technique, when correctly indicated, is a safe and effective method, with results comparable to open surgery and with all the advantages inherent in a minimally invasive procedure.

Abstract no.: 47948

ACCESS TO THE ISCHIUM: A SIMPLE EXTENSION OF THE POSTERIOR APPROACH IN REVISION HIP ARTHROPLASTY

Kilian RUECKL[1], Maximilian KASPAREK[2], Friedrich BOETTNER[1]
[1]Adult Reconstruction & Joint Replacement Division, Hospital for Special Surgery, New York (UNITED STATES), [2]Department of Orthopedics, Vienna General Hospital, Medical University of Vienna, Vienna (AUSTRIA)

This paper describes an extension of the standard posterior surgical approach to improve visualization of the ischium as required for acetabular defect reconstruction, insertion of standard and custom triflance cages as well as posterior column plating. The current surgical technique utilizes an intramuscular plane between the gemellus inferior- and the obturator externus muscle. It leads directly to the ischium and facilitates easy extension towards the insertion of the hamstrings without compromising the insertion of the external rotator insertion along the ischium. The paper describes the key features of the surgical technique and how to protect the sciatic nerve, superior gluteal vessels and medial femoral circumflex artery. This surgical technique provides an easy and reproducible access to the ischium during posterolateral revision total hip arthroplasty.

Abstract no.: 47949

LIGAMENT AND MUSCLE INJURIES IN CORONOID PROCESS FRACTURES DIAGNOSED BY MAGNETIC RESONANCE IMAGING

Joonyub KIM
Myongji Hospital Seonam University College of Medicine, Goyang-Si, Gyeonggi-do (SOUTH KOREA)

Introduction:The coronoid process fractures were often concurrent with the ligament and muscle injuries. The aim of this study was to verify the severity and location of concurrent ligament and muscle injuries in coronoid process fractures.Methods:This retrospective study was performed on 20 cases of coronoid process fractures with which the MRI(Magnetic Resonance Image) examinations were performed within two weeks of injury. We classified the coronoid process fracture following the O'Driscoll et al. and the severity of ligament injuries was classified into sprain, partial tear and complete tear. We identified the anatomical location of ligament injuries into proximal, midsubstance, distal and complex or more than two locations. Results:According to the O'Driscoll classification, we observed 9 cases of type 1 (coronoid tip fracture) and 2 (anteromedial facet fracture) at each and 2 cases of type 3 (base fracture). Eighty percent of coronoid process fractures (16 cases) were combined with the both side collateral ligament injuries. Each type of coronoid process fractures was not correlated with the severity and locations of injuries in LUCL and RCL as well as AMCL and PMCL (all $p>0.05$). The severity of radial collateral ligament injury was correlated with the severity of AMCL ($r=0.5$, $p=0.025$) and PMCL ($r=0.535$, $p=0.015$) injuries. Among complete tear of LUCL, the proximal avulsion type tear was most common ($p=0.002$). Conclusion:Irrespective of fracture type, the coronoid process fractures always be combined with the collateral ligament injury and eighty percent of collateral ligament tears occurred bilaterally.

Abstract no.: 47953

OSTEOID OSTEOMA OF THE TALUS: A CASE REPORT

Nadhir MERAGHNI[1], Anissa TAIBI[2], Riad BENKAIDALI[2], Mohamed KIHAL[2], Zoubir KARA[2]

[1]Orthopedic Department, CHU Mustapha Bacha, Algiers (ALGERIA),

[2]Orthopedic Department, CHU Mustapha Bacha, algiers (ALGERIA)

Introduction: osteoid osteoma is a benign osteoblastic tumor interesting the young adult. It was described first by Jaffe in 1935. The authors report a rare location at the talus. Methods: we report the case of a 50-year-old male with a one-year history of foot pain. The radiographs didn't show pathological image, but the clinical aspirin test was positive. CT scans, MRI and scintigraphy showed a lesion with hyperfixation, central nidus and sclerotic margins in talus; the nidus was located in the supero medial side of the talus. Results: the patient was operated by a medial approach with osteotomy of the malleolus exposing the superior and medial part of the talus. The excision of the tumor was complete and easy. The histopathological analysis confirmed the diagnosis of osteoid osteoma. Discussion: osteoid osteoma is a small benign circumscribed osteoblastic lesion occurring within bone. It is characterised clinically by pain, radiologically by a translucent sphere surrounded by an exaggerated zone of sclerosis, and pathologically by a nidus of osteoid surrounded by a network of fine new bone trabeculae in a vascular fibrous matrix. The treatment includes surgical resection, percutaneous trocar extraction, alcoholization and thermocoagulation by radio frequency and laser. In the case described we proceeded to a surgical resection. Conclusion: the diagnosis of osteoid osteoma is suspected on the basis of typical clinical signs, mainly night pain and response to aspirin in young male. Imaging is necessary to confirm the diagnosis and for accurate nidus localization, a prerequisite for successful treatment

Abstract no.: 47957

EFFECT OF DURATION OF INJURY AND MODE OF INJURY ON ACL ASSOCIATED MENISCAL AND CHONDRAL DAMAGE

Anil KAPOOR, Ravi GUPTA, Ashwani SONI, Sourabh KHATRI, David MASIH GLADSON, Mukta RAGHAV

Government medical college & hospital, Chandigarh, Chandigarh (INDIA)

209 patients (mean age-25.19 ±5 years;16-40 years) who undergoing ACL reconstruction were assessed for effect of delay in surgery and mode of injury on concomitant meniscal and chondral damage. For delay in surgery, all patients were divided into 3-groups depending upon duration of injury-group A(<3 months;72/209), group B(3–6months;39/209) and group C(>6 months; 98/209). For the mode of injury, patients with acute ACL tear were divided into 2 groups- group 1[non-contact (49/72)] and group 2[contact (23/72)]. Results:-Mean delay in surgery was 17.6 ±29.01months. Incidence of meniscal tear in group A, B and C was 61%(44/72), 51%(20/39) and 78%(76/98) respectively. The incidence of chondral damage observed in group A, B and C was 44%(32/72), 36%(14/39) and 73%(72/98) respectively. There was a significant difference in incidence of meniscal and chondral damage between group A and C (p-value<0.05); group B and C (p-value<0.05); however, there was no significant difference between group A and B(p-value>0.05). Incidence of meniscal tear in group 1 and 2 was 71%(35/49) and 39%(9/23) respectively(p-value<0.05). Incidence of chondral damage in group 1 and 2 was 53%(26/49) vs. 22%(5/23) respectively(p-value<0.05). 68% of patients had tear in posterior horn/posterior horn+body and 67.5%(131/194) of patients had vertical tear. Scissor grip(kabaddi;27/209), tackling(31/209) and collision(6/209) were observed to be causes of contact injury. Conclusion:- ACL reconstruction should not be delayed for more than 6 months as incidence of meniscal and chondral damage increase significantly. Non-contact mode of injury had more incidence of meniscal and chondral damage as compared to contact mode of injury

Abstract no.: 47959

FRAGMENT SPECIFIC FIXATION OF TRIMALLEOLAR FRACTURES UTILIZING THE POSTEROLATERAL APPROACH

Jagandeep VIRK[1], Sandeep GUPTA[2], Sudhir Kumar GARG[2]
[1]GMCH SECTOR 32 CHANDIGARH, MOHALI (INDIA), [2]GMCH SECTOR 32 CHANDIGARH, CHANDIGARH (INDIA)

Introduction: Ankle fractures involving posterior malleolus are disabling injuries. Studies have shown that the clinical and functional outcome of ankle fractures involving posterior tibial plafond is significantly worse. Although the surgical approach and techniques to reduce and fix this fracture are well described in literature, there still seems to be divided consensus among orthopaedic surgeons. Methods: In this case series of 8 patients with trimalleolar fractures a posterolateral approach was used for fixation of lateral and posterior malleoli. A Pre-operative CT scan for understanding fracture configuration and subsequent reconstruction formed an integral part of management. A monitored weight bearing protocol and close follow up at regular intervals were observed. The Olerud and Molendar scoring system was employed at 12 months of follow-up to assess the functional outcome. Weight-bearing X-rays were done to assess for any ankle arthritis. Results: The average age of patients was 48.8 years, of which 5 were females and 3 males. The average time to union and full weight bearing was 12.8 weeks (range 10- 16 weeks). Excellent functional outcome in 4 patients and a good outcome in the rest of the 4 patients were obtained at the end of 12 months follow-up. No significant ankle arthritis or complications were encountered. Conclusion: Appropriate preoperative imaging evaluation is an integral part of planning for these complex injuries. A posterolateral approach is a good technique for appropriate visualization. Stable fixation of posterior malleolus in trimalleolar fractures plays a vital role for a positive clinical and functional outcome.

Abstract no.: 47961

CHANGES IN PATIENT DEMOGRAPHICS, SOCIO-ECONOMIC CHARACTERISTICS, SURGICAL FACTORS AND OUTCOMES OF TOTAL HIP REPLACEMENT IN SWEDEN: AN ANALYSIS OF 193,253 OPERATIONS

Peter CNUDDE[1], Szilard NEMES[2], Bülow ERIK[2], John TIMPERLEY[3], Johan KÄRRHOLM[2], Henrik MALCHAU[2], Göran GARRELICK[2], Ola ROLFSON[2]
[1]Swedish Hip Arthroplasty Register, Llanelli (UNITED KINGDOM), [2]SHAR, Gothenburg (SWEDEN), [3]PEOC, Exeter (UNITED KINGDOM)

Introduction: Prospectively collected data is an important source of information subjected to change over time. Changes in clinical practice over time applies to a number of factors related to the performance and outcome of total hip replacement. We evaluated the evolution of factors related to the patient, the surgical procedure, socio-economics and various outcome parameters using nationwide arthroplasty register data linked with health and population databases. Material and methods: Data on 193,253 THRs (164,113 patients) operated between 1999 and 2012 were studied with regards to the evolution of surgical volume, patient demographics, socio-economic factors, surgical factors, length of stay, mortality, adverse events, re-operation and revision rates and patient-reported outcomes (PROMs). Results: Most patients were operated because of primary osteoarthritis. Comorbidity and ASA scores increased for each year. The share of all-cemented implants has dropped with a corresponding increase of all-uncemented implants. More than 88 percent of the bearings were metal-on-polyethylene. Length of stay decreased with about 50 percent. The 30- and 90-day mortality rate dropped. Re-operations at 30 days, 90 days and 2 years were decreasing. The postoperative PROMs have been improving despite the preoperative PROMS and pain scores getting worse. Discussion/Conclusion: Even in Sweden, always considered a very conservative country concerning hip replacement surgery, the demographics of the patients, the comorbidities and the primary diagnosis for surgery have changed. Despite these changes, the outcomes like mortality, re-operations and patient-reported outcomes were improving during the study period.

Abstract no.: 47963

LIFE-PATH FOLLOWING TOTAL HIP REPLACEMENT

Peter CNUDDE[1], Nemes SZILARD[2], Erik BÜLOW[2], John TIMPERLEY[3], Johan KÄRRHOLM[2], Ola ROLFSON[2]
[1]SHAR, Llanelli (UNITED KINGDOM), [2]SHAR, Gothenburg (SWEDEN), [3]PEOC, Exeter (UNITED KINGDOM)

Introduction: From the onset of a total hip replacement (THR) the life-path of the patients can vary. Ideally patients will live their life without complications or need for further surgery, however some will undergo replacement on the contralateral hip and/or reoperations. Methods: We performed a multi-state survival analysis on a prospectively followed cohort of 133,654 Swedish THR patients operated between 1999-2012. The analysis considered the patients' sex, age, prosthesis type, surgical approach, diagnosis, comorbidities, education and civil status. Results: For patients with a first THR surgery the most probable next stage was a THR on the second hip 0.62 (0.61-0.63). Death without any kind of further intervention (contralateral THR or reoperation) had a probability of 0.29 (0.28-0.30). The risk of undergoing reoperation was 0.08 (0.07-0.09). The probability of moving between stages was sex-dependent, a 75-year old male patient had death as next stage with a probability of 0.60 while a female of the same age only 0.47. However, probability of second hip operation for a 75-year old female patient was 0.47 while for a male patient only 0.33. Generally, a second THR was 7.59 (7.31-7.89) more likely as reoperation of the first hip. Reoperation of the first or the second hip was equally likely 0.92 (0.84- 1.01). Conclusion: THR patients follow different life-paths after surgery. This path is influenced by patient-related and socio-economic factors. Better knowledge of the patients' life-paths may improve patients', surgeons' and healthcare providers' understanding of the expected THR-related life-path and potentially facilitate decision-making.

Abstract no.: 47965

EXHALED CARBON MONOXIDE MONITORING AS A PREOPERATIVE TEST FOR SMOKING HABITUS IN ELECTIVE ORTHOPAEDIC PATIENTS

Peter CNUDDE[1], Benjamin ROTHSHIELD-PEARSON[2], Michelle GERARD-WILSON[1], Keir LEWIS[1]
[1]HDUHB, Llanelli (UNITED KINGDOM), [2]HDHB, Llanelli (UNITED KINGDOM)

Introduction: Smoking is negatively implicated in healing and may increase the risk of surgical complications in orthopaedic patients. Carbon monoxide (CO) breath testing provides a rapid way of measuring recent smoking activity, but so far, to our knowledge, this has not been studied in elective orthopaedic patients. We wanted to study whether CO-testing can be performed preoperatively in elective orthopaedic patients and whether testing accurately correlates with self-reported smoking status? Methods: CO breath testing was performed on and a brief smoking history was obtained from 154 elective orthopaedic patients on the day of surgery. All patients admitted over 6 weeks for elective orthopaedic intervention were enrolled. Results: 16.2% patients admitted to smoking. The mean CO levels were 15.16 ppm for self-reported smokers and 3.1 ppm for self-reporting non-smokers. One self-reporting non-smoker admitted to smoking after testing. 5 non-smoking patients had a CO breath of >=7, 1 had a CO level of >= 10 ppm. Using a cutoff of 7 ppm gave a sensitivity of 65.4% and a specificity of 96.1%, whilst a cutoff of 10 ppm gave a sensitivity of 57.6% and specificity of 99.2%. Conclusion: Whilst most patients are honest about smoking, CO testing can identify non-disclosing smokers undergoing elective orthopaedic procedures. Due to the high specificity, speed and cost-effectiveness, CO breath testing could be performed routinely to identify patients at risk from smoking-related complications in pre-assessment clinics. Smoking cessation services may reduce the risk of harm. CO testing on admission may demonstrate the efficacy of smoking cessation services.

Abstract no.: 47966

CLINICAL AND BIOMECHANICAL RECOVERY FOLLOWING SHOULDER INSTABILITY AND LABRAL REPAIR

Joanna WALECKA[1], Piotr KACZMAREK[2], Pawel CISOWSKI[2], Przemyslaw LUBIATOWSKI[1]

[1]Rehasport Clinic; Department of Traumatology, Orthopaedics and Hand Surgery, University of Medical Sciences in Poznan, Poznan (POLAND),
[2]Rehasport Clinic, Poznan (POLAND)

Clinical and biomechanical testing help in objective evaluation and decision making of the patients' return to sport or heavy labour following shoulder surgery. Recovery may run differently in various instability cases (anterior vs posterior) and procedures (labral repair vs Latarjet procedure). Aim of study was to evaluate the recovery of range of motion (ROM) and isokinetic parameters following surgical treatment for shoulder instability. Study was based on 67 patients operated in 2014-2017 for shoulder instability and having both clinical and isokinetic testing. Anterior instability was addressed by labral repair in 38 and by Latarjet procedure in 11 patients. Posterior instability was addressed by labral repair in 18 patients. ROM was evaluated preoperatively at 8,14 and 24 weeks postoperatively and isokinetic testing at 14 and 24 weeks postoperatively. Full range of flexion and abduction was achieved at 14 weeks following operation. External rotation (ER) was regained at 24 weeks, however it was significantly lower in Latarjet group. Isokinetic parameters improved over time, however some deficits in ER measures remained (8-12% at lowest, 33-55% at highest velocities). Posterior instability group had significantly better results comparing to other groups, especially to Latarjet. Lowest values were recorded for Latarjet patients, especially for internal rotation movement (larger deficits, lower peak tork/body weight $p<0,05$). All groups, except Latarjet patients improved internal rotation isokinetic parameters. Full strength and ROM recovery is possible within 6 months for posterior labral repair. Patients treated for anterior instability with both labral repair and coracoid transfer take longer to fully recover.

Abstract no.: 47967

INTRAOPERATIVE KINEMATICS EVALUATION AMONG DIFFERENT DESIGN OF INSERTS IN MODERN TOTAL KNEE ARTHROPLASTY

Nobuhiro ABE[1], Yoshinori TOJO[2], Kensuke TANAKA[2], Kazuki SHIMAMOTO[2], Kazuto HIRAI[2], Toshinori TAMADA[2]

[1]Department of Orthopaedic Surgery and Sport Medicine, Kawasaki Medical School General Medical Center, Okayama (JAPAN), [2]Department of Orthopaedic Surgery and Sports Medicine, Kawasaki Medical School, Okayama (JAPAN)

Total knee arthroplasty (TKA) is a relatively safe surgical procedure and most patients improve with regard to pain and physical functioning. The patient satisfaction for TKA is reported to be associated with postoperative range of motion (ROM), knee alignment, and pain reduction while performing daily activities. The purpose of this study was to evaluate the intraoperative kinematics and clinical outcomes with new designed TKA (Attune, DePuy) among the crucial retained (CR), the posterior stabilized (PS) fixed, and PS mobile. Various types of TKA were randomly performed according to the image-free navigation system (KolibliTM). Mean ROM improved from a 6–104 deg. preoperatively to 3–108 deg. post-operatively in CR, from 11-110 deg. to 1- 115 deg. in PS fixed, and from 8-117 deg. to 3-118 deg. The ratio of the patients who acquired more than 130 deg. flexion post-operatively was 33% in CR, 15% in PS fixed, 67% in PS mobile, respectively. The intraoperative kinematics indicated that small anterior paradoxical translation in all cases. In CR, medial pivot (MP) motion was gradually started from early flexion and then bi-condylar rollback (BCR) was shown from around 100 deg. In PS fixed, lateral femoral contact point placed anterior to compared with medial contact point at extension, and the central pivot (CP) was shown at 60 deg. and then BCR started from 90 deg. PS mobile kinematics was quite same as that in PS type, and MP was started from 40 deg. but CP was not shown. CP would cause the limitation of ROM.

Abstract no.: 47968

ARE WE FOLLOWING UP NON-OPERATIVELY MANAGED DISTAL RADIAL FRACTURES APPROPRIATELY?

Edward MATTHEWS[1], Nimesh PATEL[2], Mark BRINSDEN[3]
[1]Department of Trauma and Orthopaedics, Peninsula Major Trauma Centre, Plymouth, UK, Plymouth (UNITED KINGDOM), [2]Department of Trauma and Orthopaedics, Peninsula Major Trauma Centre,, Plymouth, UK (UNITED KINGDOM), [3]Department of Trauma and Orthopaedics, Peninsula Major Trauma Centre,, Plymouth, UK (UNITED KINGDOM)

Introduction : Non-operative treatment of distal radius fractures is the accepted treatment for un-displaced, stable injuries or in older patients with low functional demand. Our hypothesis is that further clinical review is not required once the fracture is considered in an acceptable position at the two week assessment. Methods : We undertook a retrospective, review of patients attending with a distal radius fracture over a three month period of whether a change of management or intervention had been initiated at final clinical review and at a 18 months post injury. Results : 157 patients were identified with a distal radius fractures that had been managed through a non-operative pathway. 155 (99.4%) patients were discharged with no further investigation or management at their final clinical review at five weeks. Two patients where re-referred to the service and managed non-operatively. Discussion : We found that 98.7% of patients were discharged without further investigation or management at the final review. In this study, this would have removed the requirement for 157 follow-up fracture clinic appointments with an attendant cost-saving of £13,345 (£85 per appointment over three months). Conclusion : We suggest that patients with distal radius fractures on a non-operative pathway maybe managed with appropriate surveillance x-rays and discharged from fracture clinic at the point that the injury is considered stable (two weeks).

Abstract no.: 47971

OSTEOID OSTEOMA OF THE ANTERIOR WALL OF THE ACETABULUM: A CASE REPORT

Nadhir MERAGHNI[1], Mohamed KIHAL[2], Rachid NEMMAR[2], Youcef SOUFFI[2], Youcef SOUFFI[2], Mhamed NOUAR[2], Zoubir KARA[2]
[1]Orthopedic Department, CHU Mustapha Bacha, Algiers (ALGERIA),
[2]Orthopedic Department, CHU Mustapha Bacha, algiers (ALGERIA)

Introduction: osteoid osteoma is a benign osteoblastic tumor interesting the young adult. It was described first by Jaffe in 1935.The acetabular location is very rare and poses a therapeutic problem to access to the tumor. Methods: we report the case of a 23-year-old male with a two-year history of mainly hip pain. The radiographs didn't show pathological image, but the clinical aspirin test was positive. CT scans and scintigraphy showed a lesion with hyperfixation, central nidus and sclerotic margins in the acetabulum bone. We used scan marks to precise the location of the tumor; the nidus was located in the middle and upper part of the anterior acetabular wall. Results: the patient was operated by an anterior Hip approach, exposing the entire anterior part of the acetabulum. The osteoid osteoma was easily identified near the acetabular eyebrow. The excision of the tumor was complete and easy. The histopathological analysis confirmed the diagnosis of osteoid osteoma. With a 36 months follow-up, the patient is considered cured. Conclusion: the osteoid osteoma of the acetabular wall is a very rare localization. Topographic diagnosis requires a radiological marking to precise the nidus site. The choice of the surgical approach depends on the topographical diagnosis. In our case, the surgery had not been difficult, either for the location or for the excision of the tumor. With a follow-up of 3 years, there is no residual functional sign.

Abstract no.: 47972

SICKLE CELL TRAIT IN ORTHOPEDIC SURGERY

Francesco PISANU[1], Gianfilippo CAGGIARI[2], Giacomo GIACHETTI[2], Marialuisa SATTA[3]

[1]AOU Sassari, NUORO (ITALY), [2]AOU Sassari, Sassari (ITALY), [3]ASL Olbia, Olbia (ITALY)

Sickle cell disease (SCD) is a hereditary blood disease characterized by the production of HbS, an abnormal haemoglobin. HbS precipitates in the red cells under specific circumstances distorting the cells and causing vaso-occlusion and hemolytic anemia. Painful vasoocclusive crises and bone avascular necrosis are the commonest clinical manifestation. The carrier status, (the sickle cell trait SCT), is widespread in the world, but for its frequent asymptomatic nature is often unknown by the patient and has been long considered a benignant condition. Nevertheless SCT is associated with significant morbidity and mortality: red blood cell sickling can occur in SCT as a result of physical stress and adverse environmental conditions. Major surgeries, and especially orthopedic surgery, are physically stressful events. The literature shows an increased complication rate in orthopedic surgery in SCD but does not report any special precautions for surgical patients with SCT. Adeguate knoledge of the disease and carrier condition and precautions to avoid factors predisposing to red-cell sickling could contribute to reduce morbidity and mortality theoretically associated with surgery stress. The patient's unawareness of their state of HbS carrier and the lack of screening programs can lead to an underestimation of surgical complications actually associated with the SCT. We therefore recommend to perform targeted screening on patients from high-risk populations for this mutation: a more complete clinical picture could lead to a greater awareness of risks and to a reduction of associated complications. Hopefully the analysis of a greater number of data may lead to an evidence based management.

Abstract no.: 47973

SIX-AXIS FREE MOTION ROBOT FOR LONG-BONE FRACTURE SURGERY

Joon-Woo KIM[1], Il-Hyung PARK[1], Chang-Wug OH[1], Kyeong-Hyeon PARK[1], Dong-Hyun KIM[1], Sanghyun JOUNG[2]
[1]Kyungpook National University Hospital, Daegu (SOUTH KOREA),
[2]Kyungpook National University, Daegu (SOUTH KOREA)

We have been developing master-slave type hard tissue surgical robot. This robot is composed of 3 parts, 1) 3D optic lens system for surgical navigation, 2) 6-axis free motion arm to withstand 200N to reduce and maintain the fractured bone, and 3) specialized ring-type jig and special Schanz pin as an end effector. To operate this robot, preoperative anteroposterior, lateral, and both oblique views of plain digital radiography of normal opposite bone are necessary to make 3D mirror image of anatomically reduced fractured bone. In the operation room, C-arm fluoroscopy is necessary to set the fiducial points of optic marker to synchronize the surgical navigation system. The accuracy is about 2mm and it is acceptable for reduction of fractured long bone. Once fiducial points were set and synchronized, C-arm fluoroscopy is no longer necessary during reduction and drilling of fractured bone for internal fixation. If minimally invasive plate osteosynthesis (MIPO) is scheduled, normal two-cortex Schanz pin be used. If intramedullary fixation is scheduled, special one-cortex Schanz pin should be used. Percutaneously inserted Schanz pins are connected with special ring-, or U-shaped jig, which is an end effector of 6-freedom robot arm. During reduction and drilling of fractured bone, surgeons sit on the chair behind the led-shield glass wall and operate the robot with master-slave method. Surgeons are completely protected from radiation exposure, and do not have to wear a heavy led-gown during surgery. This new robot is under clinical trial for approval and available on market in a near future.

Abstract no.: 47976

HIBERNOMA, A BROWN FAT TUMOUR: ABOUT FIVE CASES

Nadhir MERAGHNI[1], Mohamed KIHAL[2], Anissa TAIBI[2], Riad BENKAIDALI[2], Mhamed NOUAR[2], Zoubir KARA[2]

[1]Orthopedic Department, CHU Mustapha Bacha, Algiers (ALGERIA),

[2]Orthopedic Department, CHU Mustapha Bacha, algiers (ALGERIA)

Introduction: hibernoma is a rare and benign tumour of brown fat origin. Less than 250 cases have been reported in the literature. Differential Diagnosis is difficult and there is often confusion with a liposarcoma or intramuscular lipoma. The authors report five cases of hibernoma. Methods: case 1: a 41-year-old female, who presented a 10 cm firm, painless and mobile tumefaction of the right thigh. Case 2: a 43-year-old male who presented a 6 cm firm, painless and mobile tumefaction of the medial side of the arm. Case 3: a 23 year old female presented a firm, painless and mobile tumefaction of the shoulder. Case 4 and 5: a respectively 29 and 72 year old females, with a firm, painless and mobile tumefaction of the gluteal region.Pathological examination of the tumor biopsy for the 5 patients confirmed the diagnosis of hibernoma. All the patients underwent a tumor resection. Results: the evolution was good in all cases, without local or regional recurrence. Discussion: hibernomas are rare benign soft tissue tumors that are included in the broad spectrum of lipomatous neoplasms. The tumors are derived of brown fat, and the clinical and imaging presentation can mimic other neoplastic conditions. Biopsy is indicated to differentiate hibernoma from lipoma or well-differentiated liposarcoma. Complete excision is the treatment of choice. Conclusion: this is a benign tumor with no malignant potential. Excisional biopsy is indicated to differentiate hibernoma from lipoma or well-differentiated liposarcoma. Complete excision is the treatment of choice.

Abstract no.: 47979

EFFECT OF RECOMBINANT HUMAN GROWTH HORMONE ON ROTATOR CUFF HEALING AFTER ARTHROSCOPIC REPAIR

Seok Won CHUNG[1], Joo Han OH[2], Kyung-Soo OH[3], Jae Chul YOO[4], Yang Soo KIM[5], Jin Young PARK[6]

[1]Konkuk University School of Medicine, Seoul (SOUTH KOREA), [2]Seoul National University College of Medicine, Seoul (SOUTH KOREA), [3]Konkuk Universtiy School of Medicine, Seoul (SOUTH KOREA), [4]Samsung Medical Center, Seoul (SOUTH KOREA), [5]Catholic Universtiy College of Medicine, Seoul (SOUTH KOREA), [6]Neon Orthopaedic Clinic, Seoul (SOUTH KOREA)

Purpose:To evaluate the effect of systemic injection of recombinant human growth hormone(rhGH) on clinical outcomes and any adverse events after arthroscopic rotator cuff repair. Methods:In this multicenter prospective randomized comparative trial, patients who underwent arthroscopic rotator cuff repair in large sized tears and fell under inclusion and exclusion criteria were randomly divided into three groups:rhGH 4mg group, rhGH 8mg group, and control group (n=26, 24, and 26, respectively). The sustained release rhGH was injected subcutaneously once a week for 3months after surgery. The healing failure rate, and fatty infiltration and atrophy of the supraspinatus muscle were evaluated by MRI at 6months postoperatively. Range of motion(ROM), painVAS, and serum IGF-1 level were measured at each follow-up, and functional scores (Constant and ASES scores) were checked at the final follow-up. Results:There were no rhGH injection-related major safety issues. rhGH 8mg group showed more increased peak IGF-1 level (279.43ng/ml) compared to other groups (196.82ng/ml (rhGH 4mg group), 186.31ng/ml (Control group); p=0.083). The healing failure rate was lower in the rhGH 8mg group (16.7%) without statistical significance (p=0.203) than rhGH 4mg group (30.8%) and control group (34.6%). The proportion of severe fatty infiltration (Goutallier grade≥3) was 20.8% in rhGH 8mg group, 23.1% in rhGH 4mg group, and 34.6% in control group (p>0.05). There were no differences in painVAS, ROM, and functional scores between groups (all p>0.05). Conclusion: This was the first prospective randomized comparative trial investing the favorable effect of systemic growth hormone treatment on surgical outcomes of large sized rotator cuff tears.

Abstract no.: 47981

A BIOMECHANICAL COMPARISON OF DIFFERENT SUTURE MATERIALS COMMONLY USED FOR ARTHROSCOPIC SHOULDER PROCEDURES

Mohy TAHA[1], Elizabeth CLARKE[2], David O'BRIAIN[3], Margaret SMITH[4], Gregory CUNNINGHAM[5], Benjamin CASS[3], Allan YOUNG[3]
[1]Basel University Hospital, Basel (SWITZERLAND), [2]Murray Maxwell Biomechanics Laboratory, Sydney (AUSTRALIA), [3]Sydney Shoulder Research Institute, Sydney (AUSTRALIA), [4]Raymond Pures Research Labs, Sydney (AUSTRALIA), [5]University of Geneva, Geneva (SWITZERLAND)

Introduction: Although many other factors affect the success of rotator cuff repairs,the viscoelastic properties of sutures may be a useful predictor of suture performance.We evaluated the viscoelastic properties of 6 suture materials,commonly used in arthroscopic rotator cuff repairs. Methods: We evaluated 6 commercially available No. 2 sutures undergoing creep(n=7, 60N, 10min)testing to determine specimen stiffness,initial extension at 60-N load,total static creep(during 10 minutes loading),and relaxed elongation (material recovery 3 minutes after removal of load).Furthermore,cyclic (n=7, 10-45N, 0.5Hz, 500cycles) testing was carried on to determine dynamic creep, peak-to-peak displacement (displacement between peak and trough of loading cycle) and relaxed elongation.Mechanical testing was conducted on a material testing machine (Instron, Nordwood, MA)in phosphate-buffered saline solution (PBS) maintained at 37° C.The selected sutures were Ethibond (Ethicon), FiberWire/FiberTape (Arthrex), Orthocord (DePuy) and Ultrabraid/Ultratape (Smith & Nephew). Results: Regarding creep testing ($P<0.001$), FiberTape showed the greatest stiffness (23.9 ± 3.2 N/mm), and the smallest amount of static creep (0.38 ± 0.10 mm). FiberTape and FiberWire showed the smallest initial extension (1.17 ± 0.17 mm and 1.63 ± 0.25 mm respectively).Ultrabraid showed the largest relaxed elongation (4.73 ± 0.73 mm).Regarding cyclic testing,FibreTape exhibited the smallest dynamic creep (0.16 ± 0.09 mm, $P<0.003$), and the smallest peak-to-peak displacement (0.20 ± 0.02 mm, $P<0.001$). Ultrabraid showed the largest relaxed elongation (4.18 ± 0.83 mm, $P<0.002$). Conclusion: FiberTape consistently displayed smaller creep properties, greater stiffness and less extensibility than the other suture types studied. Ultrabraid showed the largest amount of relaxed elongation in both creep and cyclic testing.

Abstract no.: 47982

MODIFIED ANTEROLATERAL APPROACH FOR INTERNAL FIXATION OF THE HOLSTEIN-LEWIS HUMERAL SHAFT FRACTURES

Jongpil KIM, Phil Hyun CHUNG, Suk KANG, Young Sung KIM, Ho Min LEE, Kwang Suk CHO

Dongguk University Hospital, Gyeongju (SOUTH KOREA)

Treatment of Holstein-Lewis humeral shaft fractures using a plating technique through anterolateral approach is often difficult due to limited distal osseous fixation. The authors modified the anterolateral approach to achieve sufficient distal fixation by minimal splitting of the brachioradialis muscle to fix the most distal screws. The purpose of this retrospective study was to evaluate the efficacy of our modified anterolateral approach for Holstein-Lewis humeral fractures and its clinical and functional results. Materials: 18 patients with a Holstein-Lewis humeral shaft fracture that underwent open reduction and internal fixation with plate and screws using the modified anterolateral approach and followed for a minimum of 12 months were included. Radiologic fracture configurations, number of distal cortical fixations, union rate, and times to union were analyzed. Clinical outcomes were evaluated using the Mayo elbow performance index system, range of elbow motion, and postoperative complications.Results: Mean fracture length was 65.2±10.2 mm and mean distal cortical length was 44.1±7.04 mm. Using the modified anterolateral approach, distal fragments were fixated at a minimum of six cortical points in all cases. Average time to union was 10.5 weeks. Mean elbow range of motion at final follow-up was 3.2 degrees of extension lag and 135.4 degrees of flexion,and the average Mayo elbow performance score was 96.3 points. There were no non-union or metal failures. Conclusions: The results obtained indicate that the modified anterolateral approach is a safe and easy accessible method that provides sufficient distal osseous fixation for Holstein-Lewis humeral shaft fractures without serious complications.

Abstract no.: 47983

TREATMENT FOR PERIPROSTHETIC FEMORAL FRACTURE AFTER TOTAL HIP ARTHROPLASTY AND BIPOLAR HIP ARTHROPLASTY.

Takayuki KITAHARA[1], Tuyoshi NAKAI[2]
[1]Department of Orthopaedic Surgery, Itami City Hospital, Itami, Japan, Osaka (JAPAN), [2]Department of Orthopaedic Surgery, Itami City Hospital, Itami, Japan, Hyogo (JAPAN)

Total hip arthroplasty (THA) and Bipolar Hip Arthloplasty (BHA) have been extremely effective procedures in relieving pain and dysfunction for patients with hip arthritis. However, after a couple of decades of successful replacements, there has also been a substantial increase in the incidence of periprosthetic fractures following THA and BHA. Periprosthetic femoral fractures present many challenges to the reconstructive orthopedic surgeon. We report the treatment of eight cases that periprosthetic fractures following THA and BHA. Between January 2013 and June 2016, eight cases (three male and five female, 76.8years in average) were treated in our hospital. The causes of fractures were simple fall. Regarding the Vancouver Classification, the underlying fractures were TypeB1 in five cases, TypeB2 in one case, and TypeC in two cases. We reviewed medical records to identify surgical techniques, postoperative UCLA activity scores, and the duration to bone reunion. Four TypeB1 and two TypeC patients underwent open reduction and internal fixation. One TypeB1 patient was treated with wiring and one TypeB2 patient was operated with revision due to delayed union. Finally, all patients got bone union. The median time to bone reunion was 6 month. Regardind activities of Daily Living (ADL) decreased in all cases, Postoperative Median UCLA activity score worsed from 4 to 3.5. Periprosthetic femoral fractures associated with THA and BHA can remain challenging to treat.

Abstract no.: 47984

: HYPOVITAMINOSIS D IS A MAJOR FACTOR FOR PERSISTENT, NONSPECIFIC MUSCULOSKELETAL PAINS

Alok Chandra AGRAWAL
All India Institute of Medical Sciences, Raipur CG, Chhattisgarh (INDIA)

Vitamin D deficiency is very common in India and leads to defective bone mineralization and generalized or localized vague bone pain in different parts of the skeleton and/or proximal muscle weakness. Thisstudy was undertaken to find the prevalence and correlation of Vitamin D deficiency in outpatients with non-specific musculoskeletal pain. Material and method 145 out patients who presented with persistent, nonspecific musculoskeletal pain were included in this study and were evaluated by serological tests and Visual Analog Score . Result The prevalence of vitamin D <20ng /ml was 128/145(88.3%) with mean serum level of 12.05ng/ml and severe deficiency <10 ng/ml was 42/145(29%). The lowest mean 25(OH) Vitamin D, 11.86 ng/ml was seen in the age group 20-29 yrs. The pre and post therapy VAS difference was also highly significant (Paired t test, t=48.374 ,P=.000 or p<0.001) along with pre and post therapy Vitamin D level was also statistically significant (paired t test,p,0.0001), however there was no significant correlation between VAS and Vitamin D level(p>0.05 or p=.773,r = -0.024) and between Vitamin D level with sex or age P>0.05(t test). Conclusion Assessment of serum 25(OH) D level in patients with nonspecific musculoskeletal pains is an important investigation and it correlated with symptoms. Symptomatic improvement in pain found after Vitamin D supplementation proves its deficiency as a major cause of nonspecific musculoskeletal pain syndromes.

Abstract no.: 47985

OUR EXPERIENCE IN TREATING SYNDROMIC CLUBFOOT BY PONSETI'S METHOD

Alok Chandra AGRAWAL
All India Institute of Medical Sciences, Raipur CG, Chhattisgarh (INDIA)

Ponseti's method has established itself as the treatment of choice for idiopathic clubfoot. Syndromic clubfoot has their unique problems of rigidity, bony changes, vascularity and associated congenital abnormalities which makes the treatment difficult, incomplete or with relapses. We are reporting our results of Ponseti's method in Syndromic clubfoot. Material and method with Results:7 children below the age of one year with Syndromic clubfoot presented to us in the duration of 2015 to 2017 who were treated by us. At an average we could correct the foot from Pirani 9 to 2.5 with a relapse in 2 patients. These patients were treated again by Ponseti.s method with success. Discussion: the final position for bracing in idiopathic clubfoot is described as 70° Abduction & 15° Dorsiflexion in a foot abduction brace. Syndromic club foot seldom reached these properties and plantigrade foot was considered the ideal end point in these cases. It was difficult to apply foot abduction brace in these children and CTEV shoes/ orthosis where given in maximal correction. Only four cases had relapse that discontinued FAB due to FAB causing severe pain. We recommended Ponseti's technique in Syndromic clubfoot as a non-surgical modality with good results.

Abstract no.: 47992

TRANSILIAC ROD FIXATION FOR SACRAL FRACTURES

Masafumi KISHIMOTO
Nakakawachi Medical Center, OSAKA (JAPAN)

Aim:In sacral fractures, a form of pelvic fracture, stabilization and fixation of the fracture is necessary in case of dislocation. We performed surgery to fixate the sacral fracture using iliac screws with connecting rods, and examined the outcome of this treatment. Method:We examined 9 patients, four males and five females, between the ages of 21 to 65 years (average of 41.2) who underwent surgery after 2015. 6 of the cases were due to high falls, 2 cases from traffic accidents, and 1 case was crush injury. 8 of the fractures were Denis zone 2 injuries, and the other 1 was zone 3 injury. During the operation, two screws were inserted into the bilateral iliac bone, which were connected by a rod. We used the fixation material employed in spinal fixation. Results:Fusion of the bone was observed in all cases, functional performance was good, and no skin trouble was observed. Conclusion:In the treatment of pelvic fractures, stabilization of the posterior element is considered to be important. Although iliosacral screws are often used for sacral fractures, there are problems with fixation force and the possibility of nerve damage. Our method allows strong fixation without the possibility of nerve injury, an ideal surgical method.

Abstract no.: 47997

MINIMALLY INVASIVE OSTEOSYNTHESIS IN VANCOUVER TYPE B1 PERIPROSTHETIC FEMORAL SHAFT FRACTURES

Byung Woo MIN[1], Kyung-Jae LEE[2], Jae-Won JUNG[2], Gi-Hyun NAM[2]
[1]Keimyung University, Dongsan Medical Center, DAEGU (SOUTH KOREA),
[2]Keimyung University, Dongsan Medical Center, Daegu (SOUTH KOREA)

Periprosthetic femoral shaft fracture around a well fixed femoral stems (Vancouver type B1) present a clinical challenge due to the presence of femoral stem. There is a lack of consensus regarding the best fixation stategy. Some authors presented the high failure rate of LCP fixation of this type of fractrure. We hypothesized that improper use of LCP plate was main cause of high failure rate. The purpose of this study was to present reduction and fixation technique with minimally invasive plate osteosynthesis (MIPO) by using a locking compression plate (LCP). Sixteen consecutive patients were treated with MIPO technique by utilizing a LCP. All of the fractures occurred after a cementless total hip arthroplasty. The patients were assessed clinically and radiographically. The average follow-up was 36.4 months. The average duraion of operative time was 104 min (range 68-127 min). Blood loss was minimal and only three patients needed a blood transfusion. All fracutures were reduced percutaneously. All fracture healed with a mean time to union of 18 weeks (range 16-24 weeks). There was one loosening of femoral stem during the follow up time, which was revised with long stem. There was no implant failure, wound problems or infections. MIPO of the B1 periprosthetic fracture utilizing a LCP with proper reduction and fixation technique provided satisfactory result and healing. The authors also caution that this technique must be done very carefully in nondisplaced or minimally displaced fracture and it is very difficult to judge the stem stability during the operation.

Abstract no.: 47998

PREDICTION OF FEMORAL HEAD AVASCULAR NECROSIS FOLLOWING NECK FRACTURE WITH 99MTC-HDP PINHOLE BONE SCAN AFTER METALLIC FIXATION

Kee Haeng LEE, Jae-Young LEE
Department of Orthopedic Surgery, Bucheon St. Mary's Hospital, The Catholic University of Korea., Bucheon-si (SOUTH KOREA)

Objective To evaluate the predicting value of 99mTc-hydroxydiphosphonate (HDP) pinhole bone scan in development of avascular necrosis in patients with femoral neck fracture after cannulated screw fixation. Methods Pinhole bone scan of patients with metallically fixed femoral neck fracture from 2001 to 2015 were retrospectively reviewed. Initial pinhole bone scan was obtained within 2-3 weeks after surgery. Findings of initial pinhole bone scan were divided in to 4 groups. Group A1 included cold defect in affected femoral head, group A2 with no cold defect. Group B1 with increased uptake along the inserted screws and group B2 with no increased uptake along the inserted screws. More than 6 months of follow-up with pinhole bone scan and clinico-radiological evidence for avascular necrosis (AVN) was reviewed. Results 90 patients (mean age 60.5, male 27, female 63) were included. 30 patients were in group A1, 60 in group A2. 77 patients were in group B1, 13 in group B2. During the follow-up, 15 patients were diagnosed as AVN. 12(40%) patients in group A1 developed AVN and 3(5%) in group A2. 2(2.6%) patients in group B1 developed AVN and 13(100%) in group 2. Conclusions To predict AVN of femoral head followed by neck fracture, many imaging techniques with variable results were known. In this study, cold defect in early post-operative pinhole bone scan could predict AVN and loss of increased uptake along screw inserted site could be a strong indicative sign of AVN. Further evaluation with larger population is necessary.

Abstract no.: 47999

LESSER TUBEROSITY FRACTURE OF PROXIMAL HUMERUS-FIX IT OR NOT?

Balachandran RAJENDIRAN
PSG Institute of Medical Sciences and Research, Coimbatore (INDIA)

Isolated avulsion fracture of the lesser tuberosity is an unusual phenomenon that usually occurs in an association with fractures involving two or three segments of proximal humerus or as a part of a posterior fracture dislocation. The typical mechanism of injury is an abduction external rotation trauma to shoulder. The subscapularis muscle forcefully contracts to resist, leading to an avulsion of the lesser tuberosity. Here we describe 2 cases of isolated avulsion fracture of lesser tuberosity of humerus, one managed conservatively and another managed surgically by cancellous screw fixation. Case Reports: Case 1- A 28 year old male with alleged h/o RTA sustained isolated fracture of lesser tuberosity of right humerus. This patient was managed surgically by open reduction with cancellous screw fixation and repair of the subscapularis tendon which resulted in a satisfactory outcome. Case 2- A 28 year old male with alleged h/o RTA sustained isolated fracture of left lesser tuberosity. This patient was managed conservatively by immobilization using an arm sling, resulting in restricted range of movements after the fracture healed. Conclusion:Patient who underwent surgical fixation had better range of movements and the one who was managed conservatively has minimal pain and decreased range of internal rotation.

Abstract no.: 48005

COULD SINGLE-PHOTON EMISSION COMPUTED TOMOGRAPHY SCAN BE A NOVEL ALTERNATIVE TO DIFFERENTIATE ENCHONDROMAS AND ATYPICAL CARTILAGINOUS TUMORS?

Yong-Koo KANG[1], Min-Wook JOO[2], Woo-Hee CHOI[2], Yang-Guk CHUNG[3], Won-Jong BAHK[4]

[1]St. Vincent's Hospital, The Catholic University of Korea, Suwon (SOUTH KOREA), [2]St. Vincent's Hospital, Suwon (SOUTH KOREA), [3]Seoul St. Mary's Hospital, Seoul (SOUTH KOREA), [4]Uijungbu St. Mary's Hospital, Uijungbu city (SOUTH KOREA)

Differentiating enchondroma and atypical cartilaginous tumor (ACT, low grade chondrosarcoma) in the long bone is troublesome. even by pathological examinations. We tried to evaluate the efficacy of single-photon emission computed (SPECT) scan in differential diagnosis of the chondroid bone tumors. Among patients who were pathologically diagnosed as enchondroma or ACT from July 2015 to December 2016, we retrospectively reviewed the medical records on cases of which radiological and histological diagnoses were identical. Age, gender, associated symptom, location and length of lesion, radiological features including the values assessed in SPECT were elected as potential factors for differential diagnosis, and analyzed. Ten patients were investigated. There were 4 enchondromas, and 6 ACTs, with median ages of 50 (47 to 58) and 66 (55 to 76) years respectively. Median main lengths were 31.5 (17 to 46) mm in enchondromas, and 58.5 (51 to 71) mm in ACTs. Findings of endosteal scalloping were observed only in 4 (67 %) ACTs. Bone scintigraphy showed increased uptake in 2 enchondromas and all ACTs. In SPECT scan, median maximal standard uptake value (SUVmax), mean standard uptake value (SUVmean), and total lesion volume were 7.75 (5.98 to 9.97), 4.045 (2.98 to 5.43), and 8.35 (1.9 to 16.5) in enchondromas, and 16.645 (15.51 to 18.34), 6.13 (4.75 to 6.82), and 23.35 (16.3 to 30.1) in ACTs. While it is still challenging to distinguish chondroid bone tumor in the long bone, SPECT scan might facilitate the differential diagnosis. Further studies on more cases with longer follow-up period should be mandatory.

Abstract no.: 48006

PERIPROSTHETIC FRACTURES AFTER TOTAL KNEE REPLACEMENT: THE EFFECT OF ALIGNMENT AND LEG DOMINANCE

Suraya ZAINUL ABIDIN, Hamid Rahmatullah BIN ABDUL RAZAK, Beng Teck Jason LIM, Joyce KOH, Tet Sen HOWE
Singapore General Hospital, Singapore (SINGAPORE)

Introduction: Peri-prosthetic fractures (PPF) are a devastating and costly complication following total knee arthroplasty (TKA). Known risk factors such as osteoporosis, inflammatory arthritides and surgical factors like femoral notching have been extensively studied, but little is known about mechanical factors which may predispose to PPF. Our study aims to investigate the effect of mechanical factors like pre-operative range of motion, laterality and varus / valgus alignment on the incidence of PPF. Methods: 42 patients with PPF were identified from our hospital arthroplasty registry. These patients were age and gender matched to 84 patients without PPF. Prospectively recorded demographic information, mechanical alignment and preoperative range of motion were analysed using the Student's T-test, Univariate and multivariate analysis. Results: There was no significant difference in demographics. Preoperative FFD and flexion range were not significant predictive factors for PPF. Left sided TKA (non-dominant leg) was a predictor for PPF (Odds ratio 2.86). Patients with preoperative valgus alignment were 3.35 times more likely to sustain a PPF. Discussion: Left sided TKA and valgus alignment were found to be significant predictors of PPF. We postulate that this could be due to poorer coordination or a weaker quadriceps in the non dominant leg post surgery, leading to falls. A knee in Valgus alignment also could have an abnormal distal femur bone profile due to abnormal stress distribution. Conclusion: Valgus alignment and Non dominance of the operated knee are predictive factors for PPF after TKA. Poor pre-operative range of motion is not predictive of PPF.

Abstract no.: 48010

ANTERIOR SIJ PLATING FOR TILE C INJURIES

Rajkumar THANGARAJ[1], Tony CLAYSON[2], Henry WYNN-JONES[2], Amol CHITRE[2], Nikhil SHAH[2]

[1]NW pelvic Acetabular Surgery Service, Birmingham (UNITED KINGDOM), [2]NW pelvic Acetabular Surgery Service, Wrightington (UNITED KINGDOM)

Sacroiliac screw fixation has gained popularity but associated with malreduction, malunion, limb length discrepancy, L5 nerve root injury, improper screw placement and is difficult in obese patients, irreducible fractures. Anterior SIJ plating through the first window of ilioinguinal approach allows for direct vision for reduction of SI joint and protection of nerve root but is not commonly performed in the modern era. Retrospective case series from a single institution (2010 to 2016) reviewing case records and radiographs was performed on outcome of anterior SIJ plating. 19 patients (n=20) were identified from the data base with type C pelvic injury. 4 patients were lost to follow up. 5 patients had preoperative neurological deficit which improved following procedure.1 patient had residual limb length discrepancy (LLD). Though 4 patients were lost to follow up, they did not have major complications at the last review. 10 patients atleast 1 year follow up had returned back to work. 2 patients have persistent low back pain. All the patients' radiographs were satisfactory at the latest review. Though 10-22% of iatrogenic L5 nerve root injury has been described in the literature, our complication regarding nerve injury and infection requiring metal work is none. Satisfactory outcome in terms clinical and radiological features have been noted.Though, anterior SIJ had been preferred in past, it has become a lost art in era of percutaneous screws whose complications are being accepted. We feel that the anterior SIJ plating is safer procedure with low complication in irreducible type C fractures.

Abstract no.: 48011

EPIDEMIOLOGICAL CHARACTERISTICS OF METASTATIC BONE DISEASE: A RETROSPECTIVE STUDY ANALYSIS.

Saadon Bin IBRAHIM[1], Amit BHARDWAJ[2], Zolquarnian Bin AHMAD[1], Noreen Fazlina MAT NOR[1]

[1]Hospital Sultan Ismail, Johor, Johor (MALAYSIA), [2]NEWCASTLE UNIVERSITY, Johor (MALAYSIA)

INTRODUCTION-The bone is the third common site for metastatic disease which is associated with morbidity and mortality from the malignant diseases. METHODS-A retrospective study analysis was performed among all patients with metastatic bone disease presenting to Orthopaedic Department of Hospital Sultan Ismail, Malaysia, between 2006-2016.RESULTS-We identified a total of 112 patients (53.5% males, 46.4% females) with metastatic bone disease. The median age is 55 years with 76.5% of the patients were over 44 years. The common primary tumours were breast cancer (25%), thyroid cancer (11.6%), lung cancer (10.7%), gastrointestinal cancer (8.9%), prostate cancer (4.4%), lymphomas (4.4%) and unknown primary cancers (8%). The common metastatic sites were femur (51.4%), spine (33.7%), pelvis (12.3%), with both long bones and spine (2.6%). The main presenting symptoms were skeletal pain and pathological fractures was diagnosed in (76.5%). The osteolytic types accounted for 84.7% of the cases in radiographic patterns, and is followed by osteosclerotic (8.6%) and mixed types. Therapeutic and palliative intervention were undertaken in 64.2% of the patients. CONCLUSION-Metastatic bone tumours occur most frequently in fourth decade of life and commonly originate from breast, thyroid and lung. The long bones, spine and pelvis are the most common sites of metastasis. The clinical manifestations include pain and pathological fractures but can be extensive and non specific. Osteolytic lesions are the common radiographic patterns. Our improved understanding of the epidemiological characteristics and clinical presentations of pathologically confirmed metastatic bone tumors enables early diagnosis and timely intervention.

Abstract no.: 48013

KNEE INTRAARTICULAR INJURY IN CHILDHOOD

Vojtech HAVLAS[1], Teodoros PHILIPPOU[2]
[1]Department of Orthopaedics and Traumatology, 2nd Faculty of Medicine, Charles University Prague, Prague 5 (CZECH REPUBLIC), [2]Department of Orthopaedics and Traumatology, 2nd Faculty of Medicine, Charles University Prague, Prague (CZECH REPUBLIC)

There is an increased incidence of intra-articular injuries in children and adolescence. Early, accurate diagnosis is critical to ensure adequate clinical management to avoid permanent damage. The physical examination remain the backbone of medical diagnosis, on the other hand medical imaging is an essential part of examination that can determine what type of treatment a patient needs. Children have a unique ability for healing in comparison with adults, so with the appropriate indicated treatment we can achieve very good results. Treatment of the intra-articular injuries in children belongs to specialized centers with adequate technology and experience. The following article gives readers an overview of the most common intra-articular injuries of the knee in pediatric patients.

Abstract no.: 48016

COMPLICATIONS OF PROXIMAL HUMERUS FRACTURES TREATED BY THE PLATE SYSTEM WITH LOCKING SCREWS OR PHILOS

Juan MORENO RIVELLES[1], Damian MITSUF MIEDES[2], Daniel MONTANER ALONSO[3], Jose Luis RODRIGO PEREZ[3]

[1]Hospital UNiversitario Doctor Peset Aleixandre, BARCELONA (SPAIN), [2]hospital Universitario Clinico Malvarrosa, Valencia (SPAIN), [3]Hospital UNiversitario Doctor Peset, Valencia (SPAIN)

Objective: Assess and analyze complications of fractures of the proximal extremity of the humerus, treated by the system with locking screws or Philos. Material and methods: We performed a study of the incidence of complications in 37 patients (16 men, 21 women) with a average age of 65 years and a follow-up of the evolution between 12 and 36 months. Results: The incidence of complications was 40%, observing 5 cases of disassembly or protrusion of the screws, 3 of deep infection, 3 of pseudoarthrosis and 3 of vascular necrosis of the femoral head. The aforementioned complications were associated with fractures of the proximal extremity of the humerus in four fragments and in patients older than 65 years. Conclusions: Considering that the treatment by the plate with locking screws or Philos is a good option to resolve fractures of the proximal extremity of the humerus, there is an important percentage of complications, especially in those fractures with three or four fragments and in the patients of pld age (>65 years old)

Abstract no.: 48022

COMPARISON OF THE MODIFIED BROSTRöM PROCEDURE FOR CHRONIC LATERAL ANKLE INSTABILITY WITH AND WITHOUT SUBFIBULAR OSSICLE

Keun-Bae LEE, Hyeon-Wook AHN, Min-Cheol KIM
Department of Orthopedic Surgery, Chonnam National University Medical School and Hospital, Gwangju (SOUTH KOREA)

Background: There is a lack of consensus about the optimal surgical treatment for CLAI with subfibular ossicle. Purpose: To evaluate the clinical and radiographic outcomes of the modified Brostro¨m procedure with subfibular ossicle excision compared with the same procedure for CLAI without subfibular ossicle. Methods: Ninety-six patients(96 ankles) treated with the modified Brostro¨m procedure using bone tunnel and suture anchor techniques for CLAI constituted the study cohort. The 96 ankles were divided into 2 groups with and without subfibular ossicles. The ossicle group(42 ankles) and nonossicle group(54 ankles) consisted of patients with a mean age of 26.6 and 30.3 years, respectively, at the time of surgery with a mean follow-up duration of 63.7 and 62.1 months, respectively. Subfibular ossicles were excised in the ossicle group. Results: No significant differences were found between the 2 groups in terms of Karlsson score, AOFAS score, talar tilt angle, and anterior talar translation at final follow-up($P>0.05$). Conclusion: The modified Brostro¨m procedure with subfibular ossicle excision provided similarly good clinical and radiographic outcomes compared with the same procedure without subfibular ossicle excision. Accordingly, the study results suggest that these procedures appear to be effective and reliable method for the treatment of CLAI with subfibular ossicle.

Abstract no.: 48023

EVALUATION AND RESULTS OF TREATMENT OF FRACTURES OF PROXIMAL EXTREMITY OF THE HUMERUS IN PATIENTS OVER 65 YEARS WITH REVERSE PROSTHESIS

Juan MORENO RIVELLES[1], Damian MITSUF MIEDES[2], Daniel MONTANER ALONSO[3], Jose Luis RODRIGO PEREZ[4]

[1]universitary hospital Doctor Peset Aleixandre, BARCELONA (SPAIN),
[2]Universitary Hospital Clinico Malvarrosa, valencia (SPAIN),
[3]UNIVERSITARY HOSPITAL DOCTOR PESET, Valencia (SPAIN),
[4]universitary hospital Doctor Peset Aleixandre, Valencia (SPAIN)

Introduction: We conceptualize that treatment of fractures with 3 or 4 fragments of the proximal extremity of the humerus in patients over 65 years old is complicated. The binomial of poor bone quality and the involvement of the rotator cuff with functional limitations for rehabilitating treatment often leads to disappointing results, although radiological controls are moderately good. Objective: Clinical, radiological and functional outcomes in patients with fractures of the proximal extremity of humerus with 2,3 and 4 fragments after placement of reverse prosthesis in patients over 65 years. Material and methods: We assessed 20 patients with fractures of the proximal limb of the humerus (complex) treated with total reverse prosthesis of the shoulder. Out of whom (15 men and 5 women) the average age was 72 years old. Follow-up was up to 30 months. Results:Outcomes were assessed by the degree of antepulsion and external rotation (115º and 15º). In the Constant scale, score was 45 points, in the Ucla scale was 22 points and in the Quickdash questionnaire was 29 points. The analegesic score was 70% improvement. Complications occurred in 12%. 80% of patients were satisfied. Conclusions: this surgical technique in patients over 65 years affected by fractures of the proximal extremity of the humerus with two, three and four fragments is a good choice, although acknowledging the complications and limitations that we must correct: Anatomical reconstruction of the tuberosity and assess the length of the operated limb, which should not increase more than 2 centimeters

Abstract no.: 48024

COMPARISON OF INTERMEDIATE TO LONG-TERM OUTCOMES OF TOTAL ANKLE ARTHROPLASTY IN VARUS AND VALGUS ALIGNMENT COMPARED WITH NEUTRAL ALIGNMENT

Keun-Bae LEE, Shao-Hua WANG, Gun-Woo LEE
Department of Orthopedic Surgery, Chonnam National University Medical School and Hospital, Gwangju (SOUTH KOREA)

Background: Preoperative Ankle coronal malalignment has been considered to be relative the poor outcomes and high failure rates to the total ankle arthroplasty(TAA). The purpose of present study was to evaluate whether the clinical and radiographic outcomes of TAA in ankles with preoperative varus or valgus malalignment(5° to 20°) are comparable to those with neutral alignment(within <5°) and analyze concomitant results of each group. Methods: We enrolled 150 consecutive primary TAA using a mobile-bearing HINTEGRA prosthesis with a minimum follow-up of 4 years. We divided all patients into three groups according to the preoperative coronal plane tibiotalar angle: varus group(5°–20° of varus), valgus group(5°–20° of valgus), and neutral group(varus 5°–valgus 5°). Results: Mean postoperative AOFAS, SF-36 PCS, VAS scores and ankle ROM did not differ meaningfully among three groups. The final tibiotalar angle showed that the degree of coronal alignment of varus group was significantly less corrected compared to neutral group(p=0.004). Forty-two procedures in varus group(71.2%), 22 in valgus group(58.8%), and 20 in neutral group(39.2%) underwent additional procedures. There was meaningful difference in total number of additional procedures among groups, but the difference was less by considering just number of ankle(p=0.174). Conclusions: The patients with preoperative coronal deformity of up to 20° can safely achieve satisfactory intermediate to long-term outcomes regardless of type or severity of deformity. Additional procedures are generally necessary to address neutrally aligned ankle in varus or valgus groups, but they did not show significant increase of major complication.

Abstract no.: 48025

BIO-ISOS - A NOVEL BIODEGRADABLE INTRAMEDULLARY OSTEOSYNTHESIS DEVICE TO TREAT DIAPHYSEAL FRACTURES OF SMALL HOLLOW BONES

Axel GREINER[1], Felix MASSEN[1], Maximilian BAUER[2], Philipp PAPROTTKA[3], Fabian SOMMER[4], Bianca RUBENBAUER[4], Oliver PIESKE[5]
[1]LMU Dept. of trauma surgery LMU, Munich (GERMANY), [2]Dept of trauma surgery, Kiel (GERMANY), [3]Dept of radiology LMU, Munich (GERMANY), [4]Dept of trauma surgery LMU, Munich (GERMANY), [5]Dept. of trauma surgery ev. hospital, Oldenburg (GERMANY)

The treatment of diaphyseal fractures of small hollow bones is dominated by locking plates or k-wires which need second surgical removal. We developed a completely absorbable intramedullary osteosynthesis (Resomer704S®) named Bio-ISOS providing compression on the fracture site. After biomechanical evaluation a rabbit model was conducted to proof that Bio-ISOS provides enough stability to treat fractures under in vivo conditions. The animal study was conducted with 24 mature female New-Zealand-White-Rabbits in 4 groups with a follow up of 8, 16, 24 and 48 weeks. Bio-ISOS was used to stabilize standardized osteotomies of one femoral bone. Computed tomography and 4-point-bending was performed to evaluate osteolytic reactions, bone healing, malposition and maximal load. The untreated femoral bones served as control. Descriptive statistical analysis and Man-Whitney-U-Test were used to discover significant differences ($p<0,05$). During follow up no major complications like implant related foreign body or osteolytic reactions could be observed. 95.7% of all osteotomies healed via external callus formation. Malposition less than 10° angulation was seen in 2/3 of all osteosynthesis. 8 weeks after osteotomy Bio-ISOS showed comparable maximal load as the untreated side. This experimental study on rabbits is the first in vivo evaluation of Bio-ISOS stabilization system. It shows good results for bone healing, alignment and stability of the osteotomised rabbit femurs compared to similar studies with different kinds of osteosynthesis techniques. The promising results may indicate a future clinical use with potential economic and patient associated benefit of a minimal invasive procedure without a second surgery for implant removal.

Abstract no.: 48027

MENISCUS TRANSPLAT: THE IGNORED OPTION TO PREVENT OSTEOARTHROSIS

Dan COJOCARU[1], Sorin FLORESCU[2], Silviu BRAD[2], Jenel Marian PATRASCU[2]

[1]University of Medicine and Pharmacy "Victor Babes" Timisoara,Romania, timisoara (ROMANIA), [2]University of Medicine and Pharmacy "Victor Babes" Timisoara,Romania, Timisoara (ROMANIA)

Abstract. The Meniscus: are not unimportant anatomical structures as was believed until the early 2000s;perform essential roles in joint biomechanics and prevent osteoarthrosis;the meniscus tear is one of the most common causes in trauma services (US:700.000 meniscectomy annualy). Types of meniscal replacement: meniscal allografts (harvested from the patiens in clinically dead);synthetic based collagen meniscus ;biodegradable matrix based on polyglycol acid(our study).Objectives: Developing a polyglycol acid-based implant to serve as a matrix for autologus meniscus cell growth. This meniscal matrix that mimics the shape of individual meniscus breaks down to CO2 and water within 1 year. The integration of this matrix was analyzed during the study by MRI series. Material and method: 20 sheeps (Merinos Breed) whom meniscal injury were created and implanted a 3D matrix of polyglycoic acid. This graft represent a base for autologous meniscal cell growth. During the 6-month study, integration of the implants was evaluated by serial MRI . After 6 months the sheeps was sacrifice and histologically analized the integration of the 3D matrix. Results:MRI evaluation showed a rate of matrix integrations of approx 55% at 6 months. Histopathological evaluation is being analyzed in the laboratory of TransTissue GmbH in Berlin. Conclusions : matrix sustain growth ofmeniscal cells; is hypoallergenic and bioresorbable; shape can be performed identically with excised meniscus; Integration evaluation percentage saw on serial MRI proves its viability. Histopathology will give the necessary data for final assessment of this type of transplant.

Abstract no.: 48028

A RARE SWELLINGS OF FOREFOOT AND TOES DIAGNOSIS IS AN ENIGMA, CONFIRMATION BY INTRA-OPERATIVE ASSESSMENT AND HISTOPATHOLOGICAL EXAMINATION.

Pankaj Kumar SHARMA
Post Graduate Institute Of Medical Sciences, Rohtak, BIKANER (INDIA)

Introduction: Pigmented villo-nodular synovitis (PVNS) is a common entity particularly in the knee (80%) but incidence in the foot is quite rare. MRI is an essential tool to differentiate the lesion from mimicking pathologies like giant cell tumour of tendon sheath, haemangioma, nerve sheath tumour and neurofiroma. Material and methods: We present here a case of PVNS of the second toe who presented in the outpatient department with a painful swelling. The mass was subsequently excised and histopathology confirmed by the biopsy samples. Result and discussion: Patient's symptoms improved significantly after the operation. It signifies the importance of the histopathology in the diagnosis and thorough examination for the management of foot pathologies. PVNS was described first time in literature by Jaffe in 1941 who suggested an inflammatory pathology for the lesion in spite of neoplastic origin. This is the most accepted theory for pathogenesis till now. Most of the times blood laboratory parameters are found to be normal including complete blood counts, C- reactive protein and erythrocyte sedimentation rate. Joint fluid aspiration may be helpful for diagnosis of PVNS. Pathologically Hemosiderin deposition in stroma, macrophages and synovial lining cells reflects in the form of rusty or brown colour of the contents, the presence of which signifies repeated old micro haemorrhages. Conclusion: This rare report has brought to notice that although investigations aid in the diagnosis of the PVNS but for definitive diagnosis, intraoperative assessment of lesion and histopathology should be considered to be the gold standard and confirmation test.

Abstract no.: 48032

CLINICAL OUTCOME IN CLINICAL TRIAL WITH WALKING SUPPORT MACHINE AFTER ANTERIOR CRUCIATE LIGAMENT RECONSTRUCTION

Bura SINDHUPAKORN, Suwittaya THIENPRATHARN, Sirinajch AJCHARIYAMETHAKUL, Tiwaporn CHOTJUMLONG, Tidarat PARSERTNOO

suranaree university of technology, nakornratchasema (THAILAND)

Introduction: Rehabilitation of patients after anterior cruciate ligament (ACL) reconstruction is important for a successful surgical outcome. Fast and consistency is the most concerned factors nowaday. Several methods use to accelerate the recovery. However, the use of walking support machine (CO-WALK) after anterior cruciate ligament reconstruction is not yet report clinical outcome. Methods: A randomized control trial used in 30 patients who underwent anterior cruciate ligament reconstruction. We divided 2 groups as control and experiment (CO-WALK). Patients were 15 in each group. We collected data as general demographic, Range of Motion, Anterior Drawer, Valgus Test, Varus Test, Recovery status, Pain score, timed up-and-go test, Knee Society Score, IKDC, WOMAC score and SF-36. We recorded data in pre op, day 1st, day 2nd and 2nd week. Results: In experimental group we found that better function and ability of knee joint than control in post-op day 1st, 2nd and 2nd week. IKDC average score 77.84 (SD = 13.47) ($p < 0.01$), KOOS average score 65.30 (SD = 11.39) ($p < 0.01$), Knee score average 89.10 (SD = 12.51) ($p<0.01$) , functional score on average of 99.00 (SD= 4.62) ($p < 0.01$) and physical function was the average of 55.40 (SD = 11.95) ($p < 0.01$) and Range of Motion was increasing ($p< 0.01$) but WOMAC score 69.86 (SD = 9.90) was not difference ($p> 0.05$). Discussion: The use of CO-WALK after anterior cruciate ligament reconstruction accelerate patients status in first 2 weeks. Further investigation for long term rehabilitation status may need.

Abstract no.: 48044

RISK OF KNEE OSTEOARTHRITIS IN PEOPLE HAVING FEMORAL AND TIBIA VARA

Vijay KUMAR[1], Rajesh MALHOTRA[1], Mayur.Nayak86@Gmail.Com NAYAK[1], Gaurav KANOGIYA[1], Deep SRIVASTAVA[1], Stephen MELLON[2], David MURRAY[2], Hemant PANDIT[2]
[1]AIIMS, New Delhi (INDIA), [2]NDORMS, Oxford (UNITED KINGDOM)

Osteoarthritis (OA) is the most common joint disorder affecting the elderly. Malalignment of the lower leg, in either the valgus or varus direction, has been found to influence the distribution of load across the articular surfaces of the knee joint. The aim of this study was to analyse the risk of osteoarthritis in patients with Femoral and Tibia vara. A total of 900 knees of 450 Indian patients presenting with knee pain were prospectively evaluated. The mean age of patient was 53.84(range,30-77).There were 237 females and 213 male patients. The hip-knee-ankle angle (HKA), varus angulation at the femur and tibia were measured from the standing hip-to-ankle radiographs with the help of Matlab 2009ra software. OA of the knee was graded as per Kellegren and Lawrence (KL) grade. 86.24 % of the knees had a varus alignment. 84.07% of the femur had varus >2 degrees and 62.41% of the tibia had varus > 2 degrees. Tibia vara showed a positive association with knee OA (p=0.00) however femoral vara did not show any association with knee OA (p=0.08). 14.56 % patients had KL Grade 0, 23.39% had K L Grade 1,23.39 % K L grade 2 OA,20.76% had grade KL 3, 17.90 % had KL Grade 4 Osteoarthritis. Tibia vara is an independent risk factor for progression of knee OA. These results are consistent with biomechanical studies which show that varus alignment increases medial load. These findings suggest that tibia vara may result in greater risk of developing Knee osteoarthritis.

Abstract no.: 48046

RESTORATION OF THE COLLAPSED FEMORAL HEAD IN SUBCHONDRAL FATIGUE FRACTURE OF THE FEMORAL HEAD

Hee Joong KIM[1], Jeong Joon YOO[2]
[1]Seoul National University Hospital, SEOUL (SOUTH KOREA), [2]Seoul National University Hospital, Seoul (SOUTH KOREA)

Objectives: Subchondral fatigue fracture of the femoral head (SFFFH) is a rarely encountered condition. As in osteonecrosis, collapse of the femoral head can occur in SFFFH. If the fracture heals in the state of collapse, subsequent development of degenerative change would be inevitable. Therefore, it is recommended to reconstruct the sphericiy of the femoral head for markedly collapsed cases. In this study, the results of different surgical techniques to restore the collapsed femoral head were reviewed retrospectively to find out the most effective method. Methods: Between 2001 and 2011, four cases of collapsed SFFFH were treated surgically to restore the sphericity of the femoral head using 4 different methods (strut iliac crest autograft from the femoral neck, strut iliac crest autograft from the lateral cortex of the proximal femur, fibular allograft from the lateral cortex of the proximal femur, impacted cancellous bone graft with fibular allograft from the lateral cortex of the proximal femur). Results: The amount of collapse ranged 3.5~5.0 mm. Immediate postoperatively, the collapse was corrected almost completely in 2 cases, minimally in 1 case. In 1 case, it was overcorrected. In all cases, the fracture healed with some recollapse of 1~4.5 mm. On the last follow-up radiographs taken 4.5~8 years after surgery, some degenerative changes were observed but all patients had no remarkable limitation in daily activities. Conclusion: Strutting with allogenic fibular bone through a core tract from the lateral cortex of the proximal femur was the most simple and reliable method.

Abstract no.: 48047

RISK FACTORS ASSOCIATED WITH TRAUMATIC PELVIC FRACTURE AND ITS IMPACT ON OUTCOME: A TWO YEAR RETROSPECTIVE STUDY IN A LEVEL I TRAUMA CENTRE

Venencia ALBERT, Arulselvi SUBRAMANIAN, Vijay SHARMA
Jai Prakash Narayan Apex Trauma Center, AIIMS, New Delhi (INDIA)

Pelvic fracture accounts for approximately 3% - 8% of all skeletal fractures, and is linked with high risk of multiple associated injuries and significantly high mortality rate of 10% - 17%. We conducted a retrospective review of our demographic data of pelvic fractures, to examine the incidence, causes, mechanism, risk factors for postoperative complications and mortality in pelvic trauma patients. All cases of pelvic fractures, admitted with in the duration of two years, of age group 20-50 yrs., with complete clinical data, were extracted (n=248). Demographic and clinical variables were documented and correlated with the study outcomes i.e. comorbidities and survivor's complication and in-hospital mortality. Univariate followed by multivariate logistic regression analysis with step wise regression was applied. 12.9% developed post-operative complication of which 11 had major complications including deep venous thrombosis, cardiac arrest and septicaemia. Mortality rate was 5.2%. Risk factors for orthopaedic complications were comorbidities i.e. infection, psychiatric disorders, hypertension and renal insufficiency (OR 3.7; 95% CI1.9-11.6), and >3 units PRBC transfusion (OR 2.5; 95%CI 1.0-6.1). Risk factors for postoperative complications were coagulation derangement (OR 6.8; 95%CI 2.1-21.9) and thrombocytopenia (OR 4.9; 95%CI 1.7-14.2). Hypotension, anaemia, coagulation derangements, FAST positivity and >6 units PRBC transfusion was significantly associated with in-hospital mortality. We observed a comparatively low mortality rate (5.2%) following pelvic fracture than the previously published literature, with significant association of coagulation derangements with poor outcome. Early identification and correction of risk factors and restrictive transfusion strategies are necessitated to improve clinical outcome of pelvic fracture patients.

Abstract no.: 48055

FIXATION OF COMMINUTED PROXIMAL HUMERAL FRACTURES USING PLATE AND ENDOSTEAL STRUT ALLOGRAFT

Kyungil KIM, Jeong JINYOUNG, Jonghyeok JEON
St. Vincent's Hosiptal, the Catholic University of Korea, Suwon (SOUTH KOREA)

Introduction:Fixation of the comminuted proximal humeral fractures using plate is not easy and difficult to maintain. We hypothesized that the augumentation with endosteal strut allograft should be better to maintain the fixation. Methods: Fifty two patients were included in the study. All patients had sustained a proximal humerus comminuted fracture. Twenty patients were treated with a locking plate placed on lateral cortex augmented with a endosteal strut allograft (deep frozen fibular, radius or ulna allograft) was used for fixation and Thirty two were with locking plate fixation only. Minimum 6 months after the fixation (range 6-28 months), intraoperative fluoroscopic images and the most recent follow-up radiographs were used to measure the head-shaft angle and loss of height between the implant and the articular surface. Results: In the group treated with plate only, 22 cases (69%) and 20 cases (62.5%) showed more than 5 degrees varus angulation or 3 mm height change. In the group with plate and allograft, ninety percent of patients maintained their original reduction with an average loss of height of 1.15 mm and an average change in shaft-head angle of 2.7 degrees. There were no implant failures or screw perforations of the articular surface and no radiographic or clinical evidence of Avascular Necrosis. Discussion and Conclusion: Use of an endosteal strut allograft as a supplement to a locking plate can be effective in maintaining fracture fixation and reduction and implant failure in fractures with severe comminution or poor bone quality.

Abstract no.: 48056

COMPARISON OF HIGH- AND LOW-DOSE INTRA-ARTICULAR STEROID INJECTION FOR TREATMENT OF PRIMARY SHOULDER STIFFNESS: A PROSPECTIVE RANDOMIZED CONTROLLED TRIAL

Myungsup KO[1], Yang-Soo KIM[2], Hyo-Jin LEE[2], Gwang Young SUNG[2], Dong-Jin KIM[2], Jong-Ho KIM[2]

[1]Shoulder and Elbow Surgery, Department of Orthopedic Surgery, Seoul St. Mary's Hospital, Catholic University of Korea., Seoul (SOUTH KOREA),

[2]Shoulder and Elbow Surgery, Department of Orthopedic Surgery, Seoul St. Mary's Hospital, Catholic University of Korea., Seoul (SOUTH KOREA)

Introduction : The purpose of the study was to compare the efficacy and complications of intra-articular corticosteroid injection at two different doses in patients with shoulder stiffness. Methods : 147 patients with shoulder stiffness were assigned to receive ultrasound-guided intra-articular injection of 40mg(group I, n=76) or 20mg(group II, n=71) of triamcinolone acetonide. The outcomes including ROM, ASES score, pain VAS and simple shoulder test score were evaluated at 3, 6, and 12 weeks, 6 and 12 months, and at the last follow-up. Among the patients with diabetes, the levels of blood glucose, fructosamine, and HbA1c were measured at 6 and 12 weeks. Results : There were significant functional improvements in both groups at the last follow-up. However, there were no significant differences between two groups at each time point. None of the diabetic patients had significant increase in blood glucose, fructosamine, and HbA1c levels after injection. However, group I showed significantly higher blood glucose levels at 6 weeks after injection.(p=0.01) Conclusion : Intra-articular injection of corticosteroid is a reliable method for the treatment of shoulder stiffness with no significant differences between high and low dose. In diabetic patients, a lower dose of corticosteroid is recommended because of short-term glucose increase with a higher dose.

Abstract no.: 48058

IS IT SAFE TO INJECT THE CORTICOSTEROID INTO THE GLENOHUMERAL JOINT AFTER ARTHROSCOPIC ROTATOR CUFF REPAIR?

Yang-Soo KIM[1], Hyo-Jin LEE[1], Gwang Young SUNG[1], Dong-Jin KIM[1], Jong-Ho KIM[1], Myungsup KO[2]

[1]Shoulder and Elbow Surgery, Department of Orthopedic Surgery, Seoul St. Mary's Hospital, Catholic University of Korea., Seoul (SOUTH KOREA),

[2]Shoulder and Elbow Surgery, Department of Orthopedic Surgery, Seoul St. Mary's Hospital, Catholic University of Korea., Seoul (SOUTH KOREA)

Introduction : The purpose of this study was to evaluate the clinical outcomes and the effect on cuff integrity in patients with repaired rotator cuff after the intra-articular corticosteroids injections. Methods : In Group I, glenohumeral injection of triamcinolone (40mg) was performed 8 weeks after the rotator cuff repair (n=40). In group II, no injection was performed (n=40). The outcome measures including ROM, ASES score, Constant score, pain VAS and simple shoulder test score were evaluated at 3, 6, and 12 months after surgery and at the last follow-up. The integrity of the repaired tendon was evaluated at 8 weeks and 12 months after the surgery using MRI. Result : The average follow-up period was 25.7 months. Group I showed significantly higher range in forward flexion and Constant score than group II at 3 months. However, both groups showed no significant differences after 3 months. MRI revealed no significant differences in retear rate between two groups. Conclusion : Postoperative intra-articular injection of corticosteroid after rotator cuff repair does not increase the risk of retear. It is an effective treatment for increasing forward flexion and improving clinical score in patients who underwent rotator cuff repair during an early period after the surgery.

Abstract no.: 48060

RADIOLOGIC RESULTS OF THE 3-DIMENSIONAL TEMPLATING FOR TOTAL SHOULDER JOINT ARTHROPLASTY

Jinyoung JEONG, Kyungil KIM, Jonghyeok JEON
St. Vincent's Hosiptal, the Catholic University of Korea, Suwon (SOUTH KOREA)

Introduction: The purpose of this study was to evaluate the radiologic results after the total shoulder arthroplasty using computerized 3 Dimensional (3-D) templating on preoperative planning. Methods: Ten patients undergone total shoulder arthroplasty using 3-D templating preoperatively were enrolled in this study. A specialized computer program was applied to reconstruct the 3-dimensional images of the shoulder from the CT-images. The 3-Dimesnsional (3-D) images of various sizes of the prostheses are used as the template in the surgical planning of the shoulder arthroplasty. The size of the glenoid, humeral head and stem measured on 3-D templating were compared with those used on actual operation. Anatomical parameters, such as humeral head size, radius of curvature and greater tuberosity to humeral head distance of the replaced shoulder were measured and compared with those of the controlateral normal shoulder. Results: There were 100%, 100%, 100% and 80% match between the glenoid size, head size, head thickness and stem size determined preoperatively by 3-D templating and those used on operation. The difference in millimeters between replaced and controlateral shoulder of humeral head size, radius of curvature and greater tuberosity to humeral head distance were 1.31, 0.87 and 1.17, respectively.Discussion and Conclusion: Total shoulder arthroplasty using 3-D templating seems to enable accurate measurement of sizes of the prostheses to be inserted and replicate the normal anatomy.

Abstract no.: 48061

CERVICAL EPIDURAL INJECTIONS FOR RADICULOPATHY IN UPPER LIMB PAIN

Shashank JAIN[1], Sohael KHAN[2], Pradeep SINGH[3], Shraddha SINGHANIA[2], Shantanu GUPTA[2], Vaibhav KUMAR[2], Pooja SINGHANIA[2], Suvarn GUPTA[2], Akhita SINGHANIA[2], Saherish KHAN[2]

[1]Datta Meghe Institute of Medical Sciences, Chandrapur (INDIA), [2]Datta Meghe Institute of Medical Sciences, Wardha (INDIA), [3]Dr.H.L.Hiranandani Hospital, Mumbai (INDIA)

INTRODUCTION -Cervical radiculopathy is because of an abnormal process that involves the nerve root. The most common reason of this radiculopathy is Cervical Disc herniation or cervical Spondylosis. The aim was to give cervical epidural injection to those patients who had radicular symptoms more than 6 months and see the post injection VAS score pre and post injection. METHOD-Patients attending orthopaedics OP with pain in neck region radiating to one or both upper limb and who has undergone a trial of conservative management for minimum 6 months, these patients have been included in this study. Patients were given Cervical Epidural Steroid, pre and post VAS score was observed on consecutive intervals of 2nd Post – op day of Injection, 3 month and 6 month.RESULTS– Most of the patients complaining with radiculopathy were female. The mean duration of symptoms was 1 year.The mean age was 46.8 years and the youngest being 32 years and the eldest being 59 years. The patients who were mostly involved were labourers (60%). All the patients were followed up for a duration of 6 months starting from 2nd post injection day,3 week,3 month,6 month follow–up. There was no immediate or late complication noted.CONCLUSION-It was observed that the patient most of the patient post – cervical epidural injection had relief of symptoms.Many of the patients remain pain free for the entire duration of follow–up, hence a single shot of cervical epidural is helpful cervical disc without any severe complication to the patient before planning for any operative intervention.

Abstract no.: 48065

PREVALENCE OF ASYMPTOMATIC ROTATOR CUFF TEARS AND RELATED FACTORS IN THE KOREAN POPULATION: IS IT REALLY ASYMPTOMATIC?

Jonghyeok JEON, Jinyoung JEONG, Kyungil KIM
St. Vincent's Hosiptal, the Catholic University of Korea, Suwon (SOUTH KOREA)

Introduction: No information is available about asymptomatic rotator cuff tears (RCTs) in the Korean population. The purpose of this study was to evaluate the prevalence of rotator cuff tears without symptoms and their related risk factors. Methods: A total of 486 volunteers (age, 20â€“82 years; mean, 53.1 years; 70.4% female) without any shoulder symptom complaints were included in this study. Background data, medical history, clinical self- assessment, and physical examination were recorded. An ultrasonographic examination was conducted to identify rotator cuff pathology but only full thickness rotator cuff tears (FT-RCTs) were included for the statistical analysis. Results: FT-RCTs were found in 23 subjects (4.7%) but only those over 49 years of age. Subjects aged 50-59, 60-69, and more than 70 years of age had FC-RCT prevalence rates of 3.5%, 13.3%, and 11.1%, respectively. Subjects with diabetes and a smoking history had a higher prevalence of FT-RCTs (P = 0.042, P = 0.002) but no differences were noted for the presence of thyroid disease (P = 0.051). Almost half of the subjects who had FT-RCTs had some pain and limited daily activity which was not bothersome. After excluding these subjects from the analysis, the prevalence of asymptomatic FTRCTs decreased to 2.3%. Discussion and Conclusion: The prevalence of asymptomatic FT-RCTs was lower than expected. Half of asymptomatic FT-RCTs were not actually symptom free after the clinical and physical assessments. The risk factors for a FT-RCT were age, diabetes, and smoking.

Abstract no.: 48067

TOTAL HIP ARTHROPLASTY: A SOLUTION FOR PREVIOUSLY FUSED HIP

Afshin TAHERIAZAM[1], Farshad SAFDARI[2]

[1]Tehran Medical Sciences Branch, Islamic Azad University (IAU), Tehran (IRAN), [2]Bone, Joint and related tissues research center, Akhtar hospital, Shahid Beheshti University of medical sciences, Tehran (IRAN)

Introduction: Total hip arthroplasty in previously fused hip is a challenging procedure rarely performed. In our previous experience, the procedure was successful in limited number of patients. In current study, we investigated the outcomes of THA in more patients with a fused hip. Materials and methods: There were 33 patients with previous hip fusion. The patients aged about 28 years at the time of arthrodesis and 52.3 years at the time of THA. The chief complaint was sever LBP in 9 patients, severe ipsilateral knee pain in 14 patients and both in 10 patients. All of the surgeries were performed by the same surgeon (A.T). The patients were followed for 2 years. Results: At the final visit, 27 patients were pain free or experienced mild pain (84%). In these patients the pain intensity decreased from 7.3±2 to 1.4±1 using visual analogue scale (VAS). Harris hip score (65±14 Vs 82±6) and Oxford hip score (33±6 to 18±7) improved significantly after the operation ($p<0.001$). Four of the remaining patients had severe pain and two others needed assistive devices for ambulation. 2 patients developed heterotrophic ossification. Furthermore, common fibular nerve paresis developed in 4 patients which resolved after 3 months in all of them. Four patients ambulated with limping. Conclusion: Considerable pain relief can be achieved in patients with fused hip using THA. In addition, the functional status significantly improved. However, the procedure is technically demanding and some complications are possible. Furthermore, THA may be not helpful for some cases as expected.

Abstract no.: 48068

NATURAL HISTORY OF NONOPERATIVELY TREATED SYMPTOMATIC ROTATOR CUFF TEARS AND FACTORS AFFECTING THE PROGRESSION

Yang-Soo KIM[1], Hyo-Jin LEE[2], Gwang Young SUNG[1], Dong-Jin KIM[1], Jong-Ho KIM[1]

[1]Shoulder and Elbow Surgery, Department of Orthopedic Surgery, Seoul St. Mary's Hospital, Catholic University of Korea., Seoul (SOUTH KOREA),

[2]Shoulder and Elbow Surgery, Department of Orthopedic Surgery, Seoul St. Mary's Hospital, Catholic University of Korea., Seoul (SOUTH GEORGIA AND THE SOUTH SANDWICH ISLANDS)

Introduction : The purpose of the present study was to analyze the natural course of nonoperatively-treated symptomatic full-thickness and partial-thickness rotator cuff tears and to identify risk factors affecting tear size enlargement. Methods : One-hundred twenty-two patients who received nonsurgical treatment for a partial or full-thickness supraspinatus tear were included in this study. All rotator cuff tears were diagnosed with magnetic resonance imaging and the same modality was used for follow-up studies. Follow-up MRI was performed after at least a six-month interval. We evaluated the correlation between tear size enlargement and follow-up period. Eleven risk factors were analyzed by both univariate and multivariate analyses to identify factors that affect rotator cuff tear size enlargement. Result : Thirty-four patients (27.9%) had an initial full thickness tear and eighty-eight patients (72.1%) had a partial thickness tear. Out of the entire one hundred twenty-two patients, tear size increased in fifty-one patients (41.8%), not changed in sixty-five patients (53.3%), and decreased in six patients (4.9%). Twenty-eight patients (82.4%) of full-thickness tears increased in size; while twenty-three patients (26.1%) of partial-thickness tears increased in size. Full-thickness tears showed a higher enlargement rate than partial-thickness tears in the three groups categorized with follow-up period (6~12 months, P=0.067; 12~24 months, P=0.002; over 24 months, P<0.001). Having a full-thickness tear was the most reliable risk factor according to logistic regression analysis for progression (P < 0.001). Conclusion : Only full-thickness tear was the most reliable risk factor for tear enlargement.

Abstract no.: 48069

CONCURRENT PULMONARY, INTRACRANIAL ,INTRAMEDULLARY TUBERCULOMA - AND THEIR RESPONSE TO CONSERVATIVE MANAGEMENT

Sohael KHAN[1], Shraddha SINGHANIA[2], Pradeep SINGH[2], Saherish KHAN[2], Akhita SINGHANIA[2], Shantanu GUPTA[2], Shashank JAIN[2], Taosef SYED[3], Vaibhav KUMAR[2]

[1]Datta Meghe Institute of Medical Sciences, Chandrapur (INDIA), [2]Datta Meghe Institute of Medical Sciences, Wardha (INDIA), [3]Manglore, Manglore (INDIA)

ABSTRACT Central nervous system Tuberculomas are common, However the incidence of Intraspinal intramedullary tuberculomas is very low and a combination of intramedullary, intracranial and pulmonary tuberculomas is extremely rare. We report a case of tuberculoma involving brain, spine with pulmonary tuberculosis in a 46-year-old man initially presenting with back pain and weakness of both lower extremities. Conservative treatment with anti-tuberculous medications resulted in complete resolution of his symptoms.

Abstract no.: 48073

THE CLINICAL OUTCOME OF TRIATHLON PKR UNICOMPARTMENTAL KNEE ARTHROPLASTY

Kan TAKASE
Funabashi Medical Center, Funabashi (JAPAN)

Background:Unicompartmental knee arthroplasty (UKA) provides excellent outcomes, short hospitalization period and fast return to social life. UKA is accordant to modern medical treatment. Triathlon PKR has some unique characteristics; 1) X3 highly cross-linked polyethylene insert 2) pin less option 3) size definition carry out after bone resection. The purpose of this study was to report outocomes, complication, and short period survivorship rate of Triathlon unicompartmental knee prosthesis. Methods: A total 25 Triathlon UKAs were performed for osteoarthritis of the knee and osteonecrosis of the knee from November 2012 to April 2015. The average follow-up length is 38 months (24~53months). The average age is 73.6 (61~88 years). Patients were assessed through the Japan Orthopaedic Association (JOA) scores and pain Visual Analog Score (VAS). Femoro-tibial angle was assessed. Result: Mean preoperative JOA score improved from 58.6 to 84.6. Average pain VAS score decreased from 82.6 to 19.4. There is no change in Femoro-tibial angle (FTA) between preoperatively and postoperatively. Complication: One patient presented with medial tibia plateau fracture due to operative maneuver (4%). Aseptic loosening, osteoarthritis (OA) progression, infection bearing dislocation and re-operation did not occur. Survivorship was 100% at the latest follow-up. Conclusion: Triathlon PKR Uniconmpartmental knee arthroplasty allowed excellent clinical outcomes and short period survivorship. Based on the characteristics of the Triathlon UKA, this prosthesis has promising long period survivorship.

Abstract no.: 48075

A COMPARATIVE ANALYSIS OF THE ROLE OF TRANEXAMIC ACID AS AN INDEPENDENT VARIABLE IN REDUCING INTRAOPERATIVE BLOOD LOSS IN PATIENTS UNDERGOING CONVENTIONAL TOTAL KNEE ARTHROPLASTY VERSUS COMPUTER ASSISTED TOTAL KNEE ARTHROPLASTY

Chandra Sekhar DANNANA
Max Cure Hospitals, Hyderabad (INDIA)

The aim of our study was to determine if Tranexamic acid (TXA) can decrease blood loss as an independent variable irrespective of other blood loss preserving measures in Total Knee Arthroplasty (TKA). We did a prospective non-randomized study on 200 patients with group 1 comprising of 100 patients who underwent surgery by conventional method, medial para-patellar arthrotomy, posterior stabilized design and wound closure after deflation of tourniquet. The group 2 comprised of 100 patients who underwent surgery by computer assisted surgery (CAS), minimally invasive technique, sub-vastus approach, cruciate-retaining design and tourniquet deflation after wound closure. All patients in the study received TXA in a dose of 10mg/kg body weight prior to inflation of tourniquet. Blood loss in both the groups was calculated using Nadler's formula and Haemoglobin (Hb) level was calculated on days one and three after surgery. The mean drop of Hb in group 1 was 1.608g/dl and 1.56g/dl in group 2 which was statistically significant ($p< 0.001$). Although there was a significant drop in Hb in both groups, there was no statistically significant difference in blood loss in Hb levels between the groups ($p> 0.001$). Apart from the TXA administration, there was no other common variable in surgical technique between the groups and the differing variables like the type of approach, knee design and tourniquet deflation time were not shown to influence the blood loss from various previous studies. TXA can independently reduce blood loss in TKA irrespective of the surgical technique and other blood conserving measures

Abstract no.: 48080

A MINIMALLY INVASIVE TECHNIQUE FOR DEROTATIONAL FEMORAL OSTEOTOMY IN SYMPTOMATIC FEMORAL ANTEVERSION; EARLY TO MID TERM RESULTS

Yusuf MIRZA[1], Conal HORGAN[2], Sujit KADAMBANDE[2]
[1]Department of Trauma and Orthopaedics, Royal Gwent Hospital, London (UNITED KINGDOM), [2]Department of Trauma and Orthopaedics, Royal Gwent Hospital, Newport (UNITED KINGDOM)

Femoral derotation osteotomy is used to correct symptomatic femoral anteversion in a paediatric population. Conventional open surgery has many risks including infection, an increased risk of delayed and non-union and is cosmetically displeasing. The aim of this study was to describe a novel, minimally invasive percutaneous technique of derotational femoral osteotomy, with use of a Shannon burr. Methods 15 patients, with an average of femoral anteversion angle 30 degrees, underwent a minimally invasive subtrochanteric femoral osteotomy with antegrade femoral intramedullary nailing for symptomatic femoral anteversion Results At a minimum of 12 months postoperatively, all patients report a significant improvement in the clinical correction, an average of 8 degrees of anteversion. Furthermore all patients are satisfied with minimal scarring and cosmesis post operatively. There were no other complications besides Conclusions The early to mid term results for minimally invasive femoral osteotomy for symptomatic femoral anteversion are positive, decreasing femoral anteversion and its symptoms as well as minimising risk with few complications and excellent cosmesis.

Abstract no.: 48081

INTERMEDIATE SCREW IN THORACOLUMBAR FRACTURE FIXATION - DOES IT MAINTAIN THE CORRECTION

Abduljabbar ALHAMMOUD, Osama ALDAHAMSHEH, Mahmood ARBASH, Ashik PARAMBATHKANDI, Abdul Moen BACO
Hamad Medical Corporation, Doha (QATAR)

Introduction Thoracolumbar spine fractures are one of the most common types of traumatic injury, with approximately 90% of spinal fractures occurring at the thoracolumbar segment. Those fractures can be managed conservatively or surgically. The pedicle screw–rod construct is popular methods in posterior instrumentation and fusion. Which can be done using either open or percutaneously using the minimally invasive technique (MIS). The screw usually inserted in the above and below pedicle of fracture vertebra and sometimes in the fractured one also. We aim to figure out if the using intermediate screw will maintain the correction of fractured vertebra Methods and Materials: We retrospectively reviewed the radiographs of all adult patients who underwent surgery for TL fracture fixation between 2011 and 2015.Radilogical parameters (local kyphotic angle and vertebral body height) in pre op, post op, and final follow up. Results: 100 patient with thoracolumbar spine fractures, 84% males, average age 35.2years, involve in the study with at least follow up 6 months. There were 34 patient with IS and 66 without IS. No significant difference detected between two groups in regard of local kyphotic angle and vertebral body height p-value 0.59 and 0.69 respectively. Conclusion: Adding IS does not affect radiological parameters in thoracolumbar fracture in short term follow up

Abstract no.: 48084

TUBERCULOSIS OF PATELLA IN DEVELOPING COUNTRIES: - RARE AND NON-SPECIFIC CLINICAL PRESENTATION, TREATED CONSERVATIVELY

Pankaj Kumar SHARMA[1], Ravi MITTAL[2]
[1]Post Graduate Institute Of Medical Sciences, Rohtak, BIKANER (INDIA),
[2]A.I.I.M.S., NEW DELHI, DELHI (INDIA)

Introduction: Skeletal tuberculosis accounts for 8% of extra pulmonary tuberculosis and patella accounts for 0.1% of all skeletal tuberculosis. Patella tuberculosis in early stages is very difficult to diagnose because of no constitutional symptoms and sign. It may found in immunocompromised states, endemic areas and in chronic debilitated patients. Isolated tuberculosis of patella is very rare, so early diagnosis and management is quiet difficult without clinical and histopathological examination. Material and methods: two young non-immunocompromised patients, presented with mild pain and swelling over anterior aspect of knee for last 3 months. Patients were of average built with no fever or weight loss. X-ray lateral view showed osteolytic lesion and sequestrum while MRI revealed as focal erosion involving the inferior aspect of patella with moderate synovial effusion along with lymphadenopathy. Confirmation of patella lesion made by image guided biopsy and histopathological review. Results: We recommend eighteen months course of ATT. Mild form of disease limited to patella has a better prognosis. Patients improved symptomatically with complete course of anti-tubercular therapy (ATT) and physiotherapy. They didn't require any surgical intervention. Conclusion: In suspicious case of infectious pathology particularly tuberculosis of knee should be investigated properly with history, clinical examination, blood investigations, radiographs and MRI. Histopathology examination for confirmation of lesion if there is possibility. Complete ATT multidrug therapy course and physiotherapy should be started as early as possible for avoidance of later surgical intervention. This approach is very effective in developing country particularly India, where prevalence of tuberculosis is very high.

Abstract no.: 48085

A CLINICAL TRIAL OF RAPID COMBINATION OF MESENCHYMAL STEM CELLS AND POROUS BETA-TRICALCIUM PHOSPHATE USING A NEW REACTION BOX TO PROMOTE BONE REGENERATION

Yaokai GAN[1], Yifu ZHUANG[2], Kerong DAI[2]

[1]Shanghai Ninth People's Hospital, Shanghai Jiao Tong University School of Medicine, shanghai (CHINA), [2]Shanghai Ninth People's Hospital, Shanghai Jiao Tong University School of Medicine, Shanghai (CHINA)

Bone defects are a common challenge in the clinical setting, usually warranting bone grafts. However, current strategies to obtain effective graft materials have many drawbacks. Mesenchymal stem cell (MSC)-based therapy is a promising alternative. Based on our previous study, we designed an innovative reaction box named the stem cell Screen–Enrich–Combine(-biomaterials) Circulating System (SECCS) to produce bioactive materials for enhancing bone regeneration. In the clinical trial, 42 patients with non-union fractures, bone defects etc, which required bone grafts underwent SECCS-based treatment. Through SECCS, about 60ml bone marrow and 5g (13ml) beta-tricalcium phosphate (β-TCP) granules were processed to produce MSC/β-TCP composites within 10 minutes, which were grafted back into bone defect sites intra-operatively. By SECCS, 85.53% ± 7.95% autologous bone marrow MSCs were successfully screened, enriched, and seeded on the β-TCP scaffolds synchronously. Alkaline phosphatase staining and confocal microscopy observation illustrated that MSCs adhered onto the β-TCP granules. And the cell viability remained unchanged after SECCS processing. Clinically, all patients obtained satisfactory bone healing with more than 2 years follow-up. Thus, without in vitro culture, the SECCS can produce bioactive MSC/β-TCP composites for clinical bone graft, and represents a convenient, rapid, low-cost, and safe method for bone regeneration.

Abstract no.: 48088

INTRANEURAL OX7-SAPORIN NEUROTOXIN INHIBITS NEUROMA-IN-CONTINUITY FORMATION IN RATS.

Andreas MAVROGENIS[1], Panayiotis MEGALOIKONOMOS[2], Georgios PANAGOPOULOS[1], Vasileios IGOUMENOU[1], Evanthia MITSIOKAPA[1]
[1]First Department of Orthopaedics, National and Kapodistrian University of Athens, Athens (GREECE), [2]First Department of Orthopaedics, National and Kapodistrian University of Athens, Piraeus (GREECE)

Introduction: Management of neuromas-in-continuity is challenging. Molecular neurosurgery refers to experimental techniques employing toxins that are axonally transported through the neurons projecting axons of a treated nerve to produce anatomically highly selective neural lesions (retrograde or suicide axonal transport). Methods: To create a neuroma-in-continuity and to evaluate the effect of the immunotoxin OX7-saporin as an axonal suicide transport immunolesioning agent aimed at inhibition of neuroma-in-continuity formation we employed 54 adult male rats. The left common peroneal, tibial and sciatic nerves were crushed by one 10-second application of a straight microforceps and evaluated by gross observation and histological sections. Results: A neuroma-in-continuity formation was confirmed by gross observation and histological analysis in the control group and the experimental subgroups in which natural saline has been injected. In the experimental subgroups in which the OX7-saporin immunotoxin conjugate has been injected, histology showed alterations of the neuromas-in-continuity including distortion of the normal architecture of the nerve tissue and extreme vacuolization of the nerve fibers that were wiped out and encased by connective tissue. Conclusion: The action of OX7-saporin removes the origin of nerve regeneration of the injured neural axons in

Abstract no.: 48093

THE EFFECT OF PREOPERATIVE UNDIAGNOSED PSYCHOPATHOLOGY ON PATIENT SATISFACTION AT ONE YEAR FOLLOWING TOTAL KNEE ARTHROPLASTY IN SOUTH ASIAN POPULATION.

Vijay KUMAR, Saurabh Sharma SHARMA, Mamta SOOD, Rajesh MALHOTRA
AIIMS, New Delhi (INDIA)

The objective of this study was to analyze the effects of undiagnosed psychopathology on patient satisfaction at one year.104 consecutive patients undergoing TKA for advanced stage osteoarthritis of knee were enrolled for the study and followed at 12 months post-operatively. Patients were diagnosed for psychopathology on the basis of presence depression or/and anxiety/panic disorder. All patients were assessed for the same by Hospital Anxiety and Depression Scale (HADS) and a cut-off of >7/21 was taken for categorizing the patient in Psychopathology Group. Post-operatively, satisfaction was assessed using 5-point Likert Scale (1: Very Satisfied, 2: Moderately Satisfied, 3: Neutral, 4: Moderately dissatisfied, 5: Very Dissatisfied) for satisfaction as used in numerous previous studies and only Very Satisfied patients were categorized as Satisfied and rest as Not Satisfied in the analysis. Chi-square values were used to determine the significance in univariate analysis.9 (8.7%) patients were diagnosed with pre-operatively undiagnosed psychopathology (5 with depression, 2 with Generalized Anxiety Disorder, and 2 with both). 96 out of 104 (92.3%) patients were Satisfied at 12 months follow-up. Of the 9 patients in the Psychopathology Group, only 2 were Satisfied; whereas 94 out of 95 patients without any psychopathology were satisfied. The difference between the groups was found to be statistically significant ($p<0.001$). Undiagnosed preoperative psychopathology results in significantly lower rates of satisfaction in patients undergoing TKA at one year follow-up.

Abstract no.: 48094

THE TRANS-TRICIPITAL APPROACH FOR FRACTURES OF THE DISTAL HUMERUS: A REPORT OF 60 CASES

Nadhir MERAGHNI[1], Mohamed KIHAL[2], Riad BENKAIDALI[2], Abdelrezak CHOUITI[2], Zoubir KARA[2]

[1]Orthopedic Department, CHU Mustapha Bacha, Algiers (ALGERIA),

[2]Orthopedic Department, CHU Mustapha Bacha, algiers (ALGERIA)

Introduction:distal humeral fractures are frequently articular and difficult to treat. The authors report their experience with the trans-tricipital surgical approach for internal fixation of fractures of the distal humerus in sixty patients. Methods: between 2006 and 2015, 30 men and 30 woman with an average age of 48 were operated. The left side was involved in 44 cases. It was an articular fracture in 75% of cases. The procedure was always performed with a posterior trans-tricipital approach, raising a triceps V-flap, open reduction and internal fixation using plates, screws or K-wires. Results: patient outcome was assessed subjectively by scoring the patients residual symptom of pain and their overall satisfaction of the treatment received. Objective assessment was performed using the Mayo Performance Index (range of motion, assessment of functional status, pain and stability of the joint). 46 patients were reviewed, 12 were rated as excellent; 13 as good; 13 as fair and 8 as poor. 4 patients required revision surgery. Discussion: the use of the trans-tricipital approach to gain access to the distal humerus provided adequate exposure. In addition to allowing for distal humerus reconstruction, it avoided the reported complications of olecranon osteotomy and is easily extensile if required. Conclusion: distal humeral fractures in adults require operative treatment. The trans-tricipital approach provides a good exposure and avoids the complications of olecranon osteotomy and offer an early rehabilitation

Abstract no.: 48095

KINESIOPHOBIA AS PREDICTOR OF POOR OUTCOME FOLLOWING TOTAL KNEE OUTCOME: A NEW CUT-OFF SCORE

Vijay KUMAR, Saurabh SHARMA, Mamta SOOD, Rajesh MALHOTRA
AIIMS, New Delhi (INDIA)

Kinesiophobia is defined as pain related fear of movements. It is a modifiable factor influencing outcome following Total Knee Arthroplasty (TKA). However, no cut-off with respect to patients undergoing TKA has been defined as yet for initiating any intervention preoperatively.104 consecutive patients undergoing TKA at AIIMS, New Delhi were included in the study and followed up for one year. Preoperative kinesiophobia was assessed using Tampa's Scale for Kinesiophobia (TSK). Outcome was assessed on the basis of Knee Society Scoring (KSS). Poor outcome was defined on the basis of cut-off scores for KSS-Knee Score and KSS-Function Score defined by Giesinger et al. ROC analysis was performed using SPSS 17.0 to determine the cut-off score of TSK.8 patients were found to have poor outcome. A cut-off score of 46.5 was obtained for both KSS-Knee Scores and KSS-Function Scores respectively. The findings were statistically significant with AUC = 0.749 (p=0.02) for both KSS-Knee and KSS-Function Scores yielding a sensitivity of 100% and specificity of 58.3% for predicting poor outcome.Patients with preoperative TSK score of 46.5 and above show significantly poor outcome following TKA. Hence , these patients can be considered for preoperative intervention such as Cognitive Behaviour Therapy for improving outcome following TKA.

Abstract no.: 48096

THE EFFECT OF PREOPERATIVE KINESIOPHOBIA ON PATIENT SATISFACTION FOLLOWING TOTAL KNEE ARTHROPLASTY IN SOUTH ASIAN POPULATION

Vijay KUMAR, Saurabh SHARMA, Mamta SOOD, Rajesh MALHOTRA
AIIMS, New Delhi (INDIA)

The main objective of this study was to analyze the effect of kinesiophobia on patient satisfaction following Total Knee arthroplasty at one year.104 consecutive patients undergoing TKA for advanced stage osteoarthritis of knee were enrolled for the study and followed at 12 months post-operatively. Patients were assessed for kinesiophobia on the basis of Tampa Scale for Kinesiophobia (TSK) and a validated cut-off of ≥37 (50th centile) was taken for categorizing the patient in Kinesiophobic Group. Post-operatively, satisfaction was assessed using 5-point Likert Scale (1: Very Satisfied, 2: Moderately Satisfied, 3: Neutral, 4: Moderately dissatisfied, 5: Very Dissatisfied) for satisfaction as used in numerous previous studies and only Very Satisfied patients were categorized as Satisfied and rest as Not Satisfied in the analysis. Chi-square values were used to determine the significance in univariate analysis.87 patients were found to have TSK≥37 preoperatively, suggesting a higher incidence of kinesiophobia. 96 out of 104 (92.3%) patients were Satisfied at 12 months follow-up. Of the 87 patients in the Kinesiophobic Group, only 79 were Satisfied; whereas all the patients in Non- Kinesiophobic Group were satisfied. The difference between the groups was not found to be statistically significant (p=0.348). A higher incidence of kinesiophobia is observed in patients undergoing Total Knee Arthroplasty. However, preoperative kinesiophobia is not associated with any significant difference in satisfaction at 12 months following TKA.

Abstract no.: 48098

EFFECT OF PREOPERATIVE MODIFIABLE PSYCHOLOGICAL AND BEHAVIORAL FACTORS ON PAIN AND FUNCTIONAL OUTCOME FOLLOWING TOTAL KNEE ARTHROPLASTY IN SOUTH ASIAN POPULATION.

Rajesh MALHOTRA[1], Vijay KUMAR[2], Saurabh SHARMA[2], Mamta SOOD[2]
[1]AIIMS, NEW DELHI (INDIA), [2]AIIMS, New Delhi (INDIA)

The main objective of this study was to analyze the effects of Preoperative Modifiable Psychological and Behavioral factors on pain and functional outcome following Total Knee Arthroplasty. 104 consecutive patients undergoing TKA were enrolled and followed at 2 weeks, 6 weeks, 6 months and 12 months post-operatively. Patients were diagnosed for psychopathology on the basis of presence of depression or/and anxiety/panic disorder and assessed using Hospital Anxiety and Depression Scale (HADS),Pain Catastrophizing Score (PCS) and Tampa Scale for Kinesiophobia (TSK). The post-operative functional outcome was determined using: Knee Society Score (KSS) and Knee Injury and Osteoarthritis Outcome Score (KOOS).9 (8.7%) patients were diagnosed with psychopathology (5 with depression, 2 with Generalized Anxiety Disorder, and 2 with both). Depression and pain catastrophizing were found to be statistically significant independent predictors of worse postoperative pain and function at all visits, whereas Generalized Anxiety was found to be a significant independent predictor of worse postoperative functional outcome up to 6 weeks only without any significant influence on postoperative pain and long term functional outcome. Depression and catastrophizing result in lower post-operative outcome scores and surgeon assessed functional outcome after a total knee arthroplasty. Kinesiophobia negatively influences patient perceived pain and function outcome scores, and surgeon assessed functional score at all visits but not the surgeon assessed knee symptom scores.

Abstract no.: 48099

THE EFFECT OF PAIN CATASTROPHIZING ON PATIENT SATISFACTION AT ONE YEAR FOLLOWING TOTAL KNEE ARTHROPLASTY IN SOUTH ASIAN POPULATION

Rajesh MALHOTRA[1], Vijay KUMAR[2], Gaurav SHARMA[2], Mamta SOOD[2]
[1]AIIMS, NEW DELHI (INDIA), [2]AIIMS, New Delhi (INDIA)

The outcome of Total Knee Arthroplasty (TKA) is influenced by certain non-operative factors such as pain catastrophizing. The main objective of this study was to analyze the effect of pain catastrophizing on patient satisfaction at one year.104 consecutive patients undergoing TKA for advanced stage osteoarthritis of knee were enrolled for the study and followed at 12 months post-operatively. Patients were assessed for psychopathology on the basis of Pain Catastrophizing Scale (PCS) and a validated cut-off of >30 (66th centile, cut-off validated by Sullivan et al.) was taken for categorizing the patient in Pain Catastrophizing Group. Post-operatively, satisfaction was assessed using 5-point Likert Scale (1: Very Satisfied, 2: Moderately Satisfied, 3: Neutral, 4: Moderately dissatisfied, 5: Very Dissatisfied) for satisfaction as used in numerous previous studies and only Very Satisfied patients were categorized as Satisfied and rest as Not Satisfied in the analysis. Chi-square values were used to determine the significance in univariate analysis.47 patients were found to have PCS>30 preoperatively. 96 out of 104 (92.3%) patients were Satisfied at 12 months follow-up. Of the 47 patients in the Pain Catastrophizing Group, only 39 were Satisfied; whereas all the patients in Non-Catastrophizing Group were satisfied. The difference between the groups was found to be statistically significant ($p<0.001$). Higher preoperative pain catastrophizing results in significantly lower rates of satisfaction in patients undergoing TKA at one year follow-up.

Abstract no.: 48100

THE SCREW INTRA-MEDULLARY ELASTIC NAIL FIXATION IN MID SHAFT CLAVICLE FRACTURES IN 36 PATIENTS

Wasudeo GADEGONE[1], Lokhande VIJAYANAND[2]
[1]GMC CHANDRAPUR, Chandrapur (INDIA), [2]navale medical college, pune (INDIA)

Purpose. Surgical stabilization of displaced midshaft clavicle can be achieved by an intramedullary nail or plate. One of the dreaded complications is the migration of nail. We have used a screw intramedullary device with screw mechanism at one end which can get hold in the medial cancellous bone , thus preventing chances of nail migration. The aim of our study was to evaluate the clinical outcome following elastic stable screw intramedullary nailing for the fixation of midshaft clavicle fractures . Methods: A total of 36 patients, which met inclusion criteria, were reviewed retrospectively. There were 28 males and 8 females. The mean age was 36.6 years. 21 Patients were managed by close reduction and fixation with Screw intramedullary nail. 15 patients required mini open reduction. Follow-up examination was done at 01month, 03 months and 06 months using patient's subjective evaluation, functional outcome, radiographic assessment and other complications. Results: Union was achieved at average of 11.6 weeks in 31 cases and five patients went to delayed union. The average follow-up was 06 months. The average constant score was 90%. Three patients had medial nail protrusion which required early removal after union. CONCLUSION: Screw intramedullary nail is a safe, minimally invasive surgical technique with a lower complication rate, faster return to daily activities, excellent cosmetic and good functional results, and can be used as an equally effective alternative to plate fixation in displaced midshaft clavicle fractures. Keywords: Clavicle fracture, elastic stable intramedullary nailing, midshaft fractures.

Abstract no.: 48101

CRESCENT FRACTURE DISLOCATION OF THE SACROILIAC JOINT: USE OF ILIOSACRAL SCREWS

Ahmed ABDELAZEEM[1], Hisham NAGIB[2], Mahmoud ABDEL KARIM[3], Sherif KHALED[3]

[1]c, GIZA (EGYPT), [2]Haram Hsopital, Cairo (EGYPT), [3]Cairo University, Cairo (EGYPT)

Introduction: Crescent fracture-dislocation is a well-recognized subset of pelvic ring injuries, characterized by disruption of the sacroiliac joint with an extension proximally to the posterior iliac wing. It is classically fixed using open reduction and plating. We hypothesized that iliosacral screws can provide stable fixation in Day type II and III types. Methods: A clinical study was conducted with the aim of assessing the clinical results and functional scores of 64 patients (50 males and 14 females) (age range 16 - 60 years old) who sustained 65 Lateral compressions pelvic fractures operated between April 2000 and November 2015 (two patients sustained bilateral fractures). Cases were classified according to Day classification. Percutaneous iliosacral screws (IS) were used in 20 fractures, plates in 40 fractures and we used both plates and IIS in 4 cases. Results: Average Follow up period was 42 months (Range 6 – 126 months). 2 patients died and 1 patient lost to follow up. The clinical results were good in all cases, healing rate was 100%. The average Majeed functional score was 87 in 61 patients. Discussion & Conclusion: Percutaneous IS screw fixation is a good option for type III crescent fractures, with fewer complications than the plate option. While plating should be used for type I crescent fracture. Finally, type II fixation using by plates, IS screws or both gives comparable results.

Abstract no.: 48102

DHS OSTEOSYNTHESIS WITH INTERNAL BONE GRAFTING IN UNSTABLE DELAYED PRESENTED INTRACAPSULAR NECK FEMUR FRACTURES

Wasudeo GADEGONE
GMC CHANDRAPUR, Chandrapur (INDIA)

Objectives: Aim of our study is to assess fracture union and avascular necrosis following use of dynamic hip screw (DHS) with internal bone grafting in the treatment of unstable delayed presented intracapsular neck femur fractures in patients younger than 65 years of age . Material method: Thirty two middle aged patients younger than 65yrs (mean52.4±10.2 years) with displaced intracapsular fracture neck femur (Garden III and IV, Pauwels III, with comminution) with delayed presentation [15-60 days] were included in this study. All patients were treated with dynamic sliding hip screw with closed cancellous bone grafting through tunnel of triple reamer. The average time to union was 3.8 months [3months -5 months]. All patients had useful range of movement at hip. Satisfactory union was achieved in all patients except two. One case developed avascular necrosis of the femoral head . The other complications were coxa vara in two, shortening of less than 10mm in three cases but no case of infection or implant failure was found in our series. Functions were evaluated using Harris hip score. Excellent results were achieved in twenty seven, good/fair in four and poor in one patient. Conclusion: Osteosynthesis with DHS and primary cancellous bone grafting in indicated cases is a simple, easy to perform, biological treatment for early union and to prevent potential complications of nonunion and avascular necrosis? . Failure in a particular case can be treated with any appropriate second procedure. Keywords: Displaced Femoral neck fracture, osteosynthesis, DHS, corticocancellous

Abstract no.: 48103

"STARS THERAPY" A PRP LED COMPREHENSIVE WOUND CARE IN ORTHOPAEDIC PRACTICE.

Sandeep SHRIVASTAVA[1], Chandrashekar MAHAKALKAR[2], Vasant GAWANDE[3], Anurag GUPTA[4]

[1]J.N.Medical College , DMIMS (DU), Wardha (INDIA), [2]J.N.Medical College, DMIMS(DU), Wardha (INDIA), [3]J.N.Medical College,DMIMS (DU), Wardha (INDIA), [4]J.N.Medical College, Wardha (INDIA)

In day to day orthopaedic practice, the complex wounds (like - infected and necrotising; exposed tendons, bones, implants; chronic & non healing ulcers- pressure sore etc) present a substantial clinical challenge.They need intense management with multiple surgical intervention , antimicrobial /antibiotics, analgesics, and local care ; requiring huge resources, skilled manpower and experts. Despite best of care the results are unpredictable and associated with severe morbidity, at times. This study is undertaken to develop a comprehensive solution based on cellular simulators and regenerative medicine for such enormous health problem. A Biotechnological Intervention - “STARS therapy (Sandeep’s technique for assisted regeneration of skin)” with Autologous Platelet Rich Plasma (PRP), has been developed and tested. It is based on the local infiltration of freshly prepared PRP. It is the mainstay and mono therapy for the wound management. In this pilot study on 150 wounds, results reveal a complete healing with control of infection, filling up of defects and assisted regeneration of skin. For the first time, reversal and revival of grossly necrosed and devitalised tissues such as tendons, muscles and bones has been clinically achieved.It is a simple safe and effective solution . It is a feasible management intervention for every Orthopaedic Surgeon requiring minimal resource and training. “STARS Therapy” might be the way for future wound management and a complete Game Changer benefiting hugely scores of patients suffering from such conditions and its morbidity.

Abstract no.: 48105

MANAGING DIFFICULT PRIMARY TOTAL KNEE ARTHROPLASTY WITH STANDARD POSTERIOR STABILISED PROSTHESIS AND SPECIFIC RECONSTRUCTION TECHNIQUES

Razvan-Silviu CISMASIU[1], Rares Mircea BIRLUTIU[2], Ioan Cristian STOICA[2]
[1]Clinical Hospital of Orthopaedics Foisor, Bucuresti - Sector 2 (ROMANIA),
[2]Clinical Hospital of Orthopaedics Foisor, Bucuresti (ROMANIA)

Primary total knee arthroplasty (TKA) is a reliable procedure with reproducible long-term results. Nevertheless, sometimes the surgeon meets conditions related to the type of patient or local conditions of the knee that can make it a difficult procedure. Aim: In an individual continuous series of patients we analyzed the conditions that were behind difficult primary TKR and evaluated the results of that specific cases. Method: In a retrospective study, we analyzed all the cases of primary TKR during the past 5 years, from which we have focused on that cases proven to be difficult. We encountered to main groups, one of segmental bone defects associated with severe coronal deformities and the second, of cavitary bone defects. All the cases were managed with primary TKR posterior stabilized (PS) prosthesis combined with Ritter technique segmental bone defect augmentation, respectively, with curettage and bone cement fill (re)construction sustained by adding an extension stem. Results: Despite the short-term follow-up we analyzed the prosthetic status from both functional (evaluation scores) and mechanical points of view (prosthetic stability and radiological peri-prothetic osteolytic signs). Conclusion: Using of primary TKR PS prosthesis combined with these reconstruction techniques might conduct to good results in well-selected cases, without disregarding the necessity of a more constrained prosthesis back-up. The success of such primary TKR reconstruction techniques depends on both patient condition and surgeon experience. Well done pre-operative planning and a systematic approach is the key on the best arthroplastic attitude decision, regarding the constrain prosthesis choose and/ or associated reconstruction techniques.

Abstract no.: 48106

INTERMEDIATE VS. LONG CEPHALOMEDULLARY NAILING OF UNSTABLE INTERTROCHANTERIC FEMUR FRACTURES: COMPARISON OF 6-MONTH OUTCOMES

Sorawut THAMYONGKIT[1], Norachart SIRISREETREERUX[2], Lynne JONES[3], Babar SHAFIQ[3], Erik HASENBOEHLER[2]

[1]Department of Orthopaedic Surgery, Johns Hopkins Hospital, Johns Hopkins Bayview Hospital, Nottingham (UNITED STATES), [2]Department of Orthopaedic Surgery, Johns Hopkins Bayview Hospital, Baltimore (UNITED STATES), [3]Department of Orthopaedic Surgery, Johns Hopkins Hospital, Baltimore (UNITED STATES)

Abstract Objectives: Optimal cephalomedullary nail length in unstable intertrochanteric (IT) femur fractures remains controversial, with long cephalomedullary nails (L-CMN) currently being more common. We hypothesized that intermediate nail length (I-CMN) would offer equivalent fracture healing while reducing intraoperative morbidity. Methods: We conducted a retrospective review study of patients (18y.o and older) treated over 24months with L-CMN and I-CMN for unstable IT fractures, type AO-OTA 31-A2 and 31-A3 Primary outcomes were operative time, fluoroscopic time and intraoperative blood loss. Secondary outcomes were peri-implant fracture, time-to-union, reoperation rate, malunion rate, mortality rate and 30-day perioperative complications. Minimum follow-up was 6 months. Results: 43 of 74 patients were included (L-CMN n=25 and I-CMN n=18). Mean age was 76.5 years with a minimum follow up of 6 months. No statistical difference was found between the two groups for demographics, fracture laterality, time to operation, associated injuries, peri-implant fractures, time to union, 30 day perioperative complication, anemia and mortality ($p>0.05$). Statistical differences were found and demonstrated the I-CMN to have decreased operative time (68.2 vs 91.9 min; $p=0.048$), decreased fluoroscopic time (72.1 vs 109.6 min; $p=0.019$) and less intraoperative blood loss (80.3 vs 167.5 ml; $p<0.001$) when compared to L-CMN. Conclusions: In this case series of unstable IT fractures, I-CMN demonstrated significantly shorter operative time, fluoroscopic time and intraoperative blood loss compared to L-CMN. Further, fracture healing appears to be achieved within a comparable time frame and complication rate. Additional randomized studies are needed to validate these outcomes.

Abstract no.: 48107

IS IT NECESSARY TO AUGMENT PFN IN UNSTABLE TROCHANTERIC FRACTURES

Wasudeo GADEGONE[1], Lokhande VIJAYANAND[2]
[1]GMC CHANDRAPUR, Chandrapur (INDIA), [2]navale medical college, pune (INDIA)

Biomechanically PFN is better choice of implant still it is associated with screw breakage, cut out of screw through femoral head, Z effect, reverse Z effect and lateral migration of screws. Purpose of this study is to evaluate the results of augmented PFN in terms of prevention of postoperative complications and failure rates in unstable trochanteric fractures. Material and methods: A prospective study of 82 cases with unstable trochanteric femoral fractures from April 2010 to Dec 2015. 42 females and 40 males in the age group between 58yr-81yr were included in this study. There were 45 cases of AO 31 A2 (2.2, 2.3) and 37 cases of AO 31 A3 (3.1, 3.2, 3.3). Fractures fixed by PFN with augmentation by additional screw from trochanter to inferior quadrant offemoral head or cerclage wire to strengthen the lateral trochanteric wall. Results: The bone healing is observed in all the cases in mean period of 14.2weeks.Nine patients developed complications, including lateral migration of neck screws(n=5), Z effect (n=1), infection (n=2) and breakage of distal interlocking bolt in one case. Removal of screws was required in 5 cases. Patients were followed up for a mean of 8.4months .At the end of follow up the Salvati and Wilson hip function was 32(out of 40) in 88% of patients, Conclusion: The stabilization of lateral trochanteric wall increases the stability of construct therefore augmentation PFN is required in selected cases. Key Words:- Augmentation, Additional screw, Proximal femoral nail , lateral trochanteric wall, Unstable trochanteric fracture .

Abstract no.: 48112

NEW INSTRUMENTATION IMPROVES PATIENT SATISFACTION AND COMPONENT POSITIONING FOR MOBILE BEARING MEDIAL UNICOMPARTMENTAL KNEE REPLACEMENT

Rajesh MALHOTRA[1], Vijay KUMAR[2], Naman WAHAL[2], Arnaud CLAVE[3], David MURRAY[4], Hemant PANDIT[4]

[1]AIIMS, NEW DELHI (INDIA), [2]AIIMS, New Delhi (INDIA), [3]Ndorms, Oxford (UNITED KINGDOM), [4]NDORMS, Oxford (UNITED KINGDOM)

The Oxford unicompartmental knee replacement (OUKR) has achieved excellent functional outcomes and long-term survivorship in many single centre and single surgeon series. However, in national registries the failure rates are up to three times higher than total knee replacement. This is at least in part due to difficulty experienced by low-volume surgeons in implanting the prosthesis accurately. A new instrumentation system (microplasty) was introduced to help the surgeons achieve better component positioning. This study investigates whether the new system achieves this aim and whether it improves the clinical outcomes. 50 consecutive OUKR implanted using the conventional phase III instrumentation were compared with 100 consecutive OUKR implanted using the new Microplasty instrumentation. Component orientation was measured on post-operative radiographs and the percentage outside the recommend range were identified. Intra-operative data and retrospectively collected clinical data was also analysed. Femoral component alignment improved significantly and there were no outliers in the microplasty group. Although there were fewer tibial component alignment outliers with Microplasty the difference was not significant. The intra-operative incidence of tibial recut, patient satisfaction and patient expectations were significantly better in the microplasty group. The Oxford Knee Scores were also better with Microplasty but the difference was not significant. Microplasty instrumentation helps the surgeon achieve optimal component positioning and reduces the need for tibial recut. The clinical outcomes are also better with the microplasty instrumentation.

Abstract no.: 48118

MYOSITIS OSSIFICANS BORDERLINE PAROSTEAL OSTEOSARCOMA BEHAVIOR – CASE REPORT AND LITERATURE REVIEW

Razvan-Silviu CISMASIU[1], Rares Mircea BIRLUTIU[2], Victoria BIRLUTIU[3]
[1]Clinical Hospital of Orthopaedics Foisor, Bucuresti - Sector 2 (ROMANIA), [2]Clinical Hospital of Orthopaedics Foisor, Bucuresti (ROMANIA), [3]Lucian Blaga University of Sibiu, Faculty of Medicine, Sibiu (ROMANIA)

Myossitis ossificans (MO) is an inflammatory pseudotumor of the muscle that causes benign heterotopic ossification in soft tissue. We report a case of 22 years old white woman with MO, presenting as a large mass located at the dorsal aspect of the wrist, with no history of trauma, but with radiological and clinical features mimicking parosteal osteosarcoma. An incisional biopsy was performed in another healthcare service and the mass was partialy excised, the diagnosis of that moment being on osteochondroma. After 3 months, the mass recidivates and the patient addresses to our clinic for reevaluation. The primary histological specimen was reanalyzed and considered as MO. We performed a second excisional biopsy which confirmed the histological diagnosis of MO. Nevertheless, in half of the cases, these MO ossifications may adhere to the periosteum - parosteal MO, which may be confused with a parosteal osteosarcoma (OS). Parosteal MO seldom becomes malignant. However, at 3 months postoperative consult the patient presented again with a small mass recidive proximal and lateral to the previous one. We decided to undertake radiotherapy in single doses 10 Gy, but despite this therapeutic attitude the mass enlarged and another small mass appeared this time on the anterior (volar) aspect of the wrist. A third biopsy in another orthopedic service showed on one segmental specimen signs of parosteal osteosarcoma (OS)! We emphasize the importance of a differential diagnosis of MO, since these lesions may simulate tumours and lead to misdiagnosis.

Abstract no.: 48121

PROSPECTIVE RANDOMIZED STUDY TO COMPARE CLINICAL, RADIOLOGICAL AND KINEMATIC OUTCOMES BETWEEN MEDIAL PIVOT KNEE ARTHROPLASTY AND POSTERIOR STABILISED KNEE ARTHROPLASTY

Vijay Kumar DIGGE[1], Rajesh MALHOTRA[2], Sahil Batra BATRA[1], Vijay KUMAR[1], Deep SRIVASTAVA[1], Hemant PANDIT[3]

[1]AIIMS, New Delhi (INDIA), [2]AIIMS, NEW DELHI (INDIA), [3]NDORMS, Oxford (UNITED KINGDOM)

Total Knee Arthroplasty is successful in providing pain relief and improving function but is not able to fully restore normal knee kinematics. Our Hypothesis was that there is no difference in the clinical, radiological and Kinematic outcomes between Medial Pivot Knee Arthroplasty and Posterior Stabilized Knee Arthroplasty.Fifty-three patients with bilateral end stage arthritis were randomized to receive either prosthesis using opaque sealed envelopes. After opening the envelope, the first knee (Left Knee) received the prostheses indicated by the envelope and the contra lateral knee received the other prostheses. Clinical outcome was evaluated using Knee Society Score- Satisfaction and Expectation and Oxford Knee Score preoperatively and at each follow up. Radiological and Kinematic relationship between Patellar Tendon Angle and Knee Flexion Angle was evaluated.The mean age of the patients was 61.7±6.9 years. Preoperative parameters were similar between Medial Pivot and Posterior Stabilized. Post operatively, the Knee Society Score – Satisfaction and Expectation and Kinematic analysis were significantly better in Medial Pivot Group as compared to Posterior Stabilized group($p<0.05$). There was no difference in the radiological outcome.After minimum duration of 15 months follow up, patients with Medial Pivot Knee are better satisfied clinically; this may be related to better Kinematic behavior of Medial Pivot Knee.

Abstract no.: 48129

IS THERE ANY RELATION BETWEEN SPINAL DEGENERATIVE DISEASES AND MYOFASCIAL PAIN DYSFUNCTION SYNDROME?

Arghavan TONKABONI, Babak MIRZASHAHI, Roya DOOSTI
tehran university of medical sciences, Tehran (IRAN)

Degeneration is a part of aging, so degenerative spine disease is a major cause of chronic disability in the adult. Finding the specific cause of pain is often a confounding problem. Pain can originate from any part of paravertebral tissues like bone, disk and etc. Myofascial pain dysfunction syndrome (MPDS) is the most common, nontooth-related chronic orofacial pain condition disorder which is characterized by facial pain and limited mandibular function because of the complex nature of this disease. Muscle weakness and back and neck pain are common complication which can affect body posture. There is a controversy in body posture and MPDS relation, so our goal is to investigate the relation in patients with disc degenerative and MPDS. Method: We have 68 patients in 2 groups of case and control who needs surgery or conservative treatment respectively in each group. SNA, SNB and ANB angles were analyzed via their lateral cephalometry and all of them were questioned by their specific habits like snoring, bruxism, clenching and were examined for their DMFT index, temporomandibular joint problem, mouth breathing and malocclusion. Result: Frequency of all temporomandibular joint disorders is high in both groups. There is no specific difference in tooth related variables, temporomandibular condition and malocclusion. Both groups had similar result in their own habits. Conclusion: It was concluded that oral and maxillofacial examination should be perform precisely at too young an age. Treatment for body posture and malocclusion can promote quality of life in patients with disc degenerative diseases.

Abstract no.: 48131

FUNCTIONAL OUTCOME AFTER AMPUTATION FOR TREATING SARCOMAS OF THE LIMBS

Pedro CARDOSO[1], Moisés VENTURA[2], Oliveira VÂNIA[2]
[1]Orthopaedics Departement - Centro Hospitalar do Porto, porto (PORTUGAL), [2]Orthopaedics Departement - Centro Hospitalar do Porto, PORTO (PORTUGAL)

Introduction: At the present time, limb-salvage surgery is the most common surgical approach for treating sarcomas. However, when it isn't possible, amputation is needed. The aim of our study is to evaluate outcomes of sarcomas that underwent amputation. Methods: Retrospective and observational study, where patients with sarcomas of the extremities that underwent amputation between 2003 and 2016 were included. A total of 24 patients were identified, with a medium age of 60.3 years. Results: Tumours were mostly located on the lower limb (67.7%) and 40,9% in the hands and feet. Condrosarcomas constituted the most frequent histologic type (22.7%) and 68,4% were high grade tumours. Amputation was mainly performed with curative intent (95.0%) and transtibial amputation was the most frequent type performed (25.3%). Among the reasons for amputation, tumour extension was the most common (68.1%), followed by neurovascular invasion (19.1%) and palliation for ulcerated tumour (9.5%). Local recurrence was the motive in 38.0% of the patients. The medium survival time in this group was of 41.4 months. Only one patient had local recurrence (4.5%), but 57.1% of cases had distant metastases. Average functional outcome was 54.1%, and higher values of functionality were registered for upper limb amputees (64.1%) than lower limb amputees (48.2%). Conclusion: Factors which may indicate the need for amputation are tumour extension, neurovascular bundle invasion, ulceration to skin and local recurrence. Despite being a potentially disabling surgery, patients that cannot undergo limb-salvage surgery may benefit from amputation, controlling the disease and maintaining acceptable function.

Abstract no.: 48136

TREATMENT RESULTS OF PATHOLOGICAL FRACTURES OF THE PROXIMAL FEMUR WITH THE PROSTHETIC RECONSTRUCTION.

Masaru HIYOSHI
Miyazaki university, Miyazaki (JAPAN)

Introduction: Purpose : To analyze the results of surgical treatment for pathological fractures of the proximal femur with the prosthetic reconstruction. Materials and Methods: Twelve patients with twelve pathological fractures of the proximal femur were received the prosthetic reconstruction in 2011 ~ 2015. The patients comprised 9 males and 3 females. The mean postoperative follow-up duration was 1.5years. The mean age was 70.6years old. Primary tumors, pathological fracture sites, type of prosthesis, operative time, blood-loss, perioperative complications, local recurrence, pain relief, survival duration after surgery, ambulatory ability were considered. A Kaplan-Meier survival analysis was used to determine survival rate. Results: The primary malignancies were 3 cases of lung cancer, 2 cases of renal cell carcinoma, 2 cases of hepatocellular carcinoma, 2 case of primary bone tumor. Pathological fractures included 6 cases of pertro¬chanteric fractures and 6 cases of subtrochanteric fractures. The mean surgical time was 190 minutes. The mean blood loss was 612 ml. Perioperative complications included local recurrence in 1 case, infection in 1 case, and intraoperative fracture in 1 case, dislocation in 1case. All cases got relief from pain. Rate of regain walking was 90.9%. The mean survival rate after surgery was 39 months. Conclusion: The prosthetic reconstruction of pathological fractures at the proximal femur provided early pain relief and ambulation. It is necessary for improving the quality of life in such patients.

Abstract no.: 48140

MIDFOOT AND HINDFOOT GRADE 3B OPEN FRACTURES. EXPERIENCE FROM AN ORTHOPLASTIC UNIT.

Moez S.G. BALLAL[1], Hasan MOHAMMED[2], Adam REID[2], Jason WONG[2], Anand PILLAI[2]

[1]University Hospital of South Manchester, Liverpool (UNITED KINGDOM),
[2]University Hospital of South Manchester, Manchester (UNITED KINGDOM)

Introduction: Gustilo-Anderson 3B injuries of the foot can be challenging to treat in non-specialist units. Amputation can be the fate of these injuries. We present our experience in the management of such injuries in an tertiary referral Orthoplastic unit. Methods: A consecutive case series of 12 patients with isolated foot injuries were referred to our unit between August 2012 to January 2017. The average age at presentation was 38 years. The median time from injury to definite reconstruction was 4 days. Cases were operated on in an Orthoplastic list where fracture fixation and soft tissue reconstruction were achieved at the same session. Results: There was 3 hindfoot injuries and 9 midfoot injuries. Autologous bone graft was used in some cases while bone graft substitute (Cerement G) was used in 5 cases to manage bony defects as well as to deliver high concentration of local antibiotics. Soft tissue reconstruction was provided at the time of definitive orthopaedic fixation with vascularised flaps and skin grafts. Soft tissue healing, bony union and weightbearing was achieved in all cases. No cases of chronic osteomyelitis were reported. One patient developed midfoot post traumatic arthritis and required midfoot fusion. Metal work was removed secondarily in two patients. Conclusion: The orthoplastic approach to severe grade 3B injuries of the foot provides satisfactory outcomes. Early referral to specialised orthoplastic units is recommended to provide optimal outcomes and avoid unnecessary amputation caused by inadequate treatment.

Abstract no.: 48142

SURGICAL INTERVENTION FOR CAUDA EQUINA IN THE SECOND AND THIRD TRIMESTERS OF PREGNANCY: A CASE SERIES

Christopher KLECK, Nicole LOOK, Evalina BURGER-VAN DER WALT, Francisco RODRIGUEZ-FONTAN

Department of Orthopedics, University of Colorado, Anschutz Medical Campus, Aurora (UNITED STATES)

Low back pain (LBP) affects above 50% of pregnant females. The incidence of symptomatic lumbar disc herniation during pregnancy is rare, with only 2% progressing to cauda equina syndrome (CES). Since a delay in treatment increases the risk of irreversible neurologic damage, acute onset is regarded as a surgical emergency. Few case studies of CES from disc displacement during pregnancy have been reported. Of those, only two cases underwent surgery after the limit of fetal viability – defined at 24-weeks gestation. The present study reports three cases of CES in pregnant women at 24, 27 and 30-weeks gestation. After acute onset of autonomic dysfunction and saddle anesthesia symptoms, the patients underwent surgical decompression and lumbar microdiscectomy under general anesthesia in prone position with continuous intraoperative external fetal heart rate monitoring (EFM). Body habitus complicated placement and signal transmission of the EFM in one, and ultrasound had to be utilized in a case with twins. Two of the three cases revealed significant epidural venous plexus engorgement with compression of the thecal sac. Control of the vasculature aided in nerve decompression. No complications occurred for the patients or fetuses with post-operative resolution of neurologic symptoms. To conclude, LBP during pregnancy is common; when a patient presents with progressive neurological deficits, it is imperative to assess for CES with physical exam and imaging. Epidural venous engorgement likely impacted the patients presented. No study has correlated pregnancy with the development of CES, but increased abdominal weight in pregnancy may be a contributing factor.

Abstract no.: 48146

POSTOPERATIVE TESTING OF OBJECTIVE PARAMETERS OF THE RETURN TO PLAY AFTER ANTERIOR CRUCIATE LIGAMENT RECONSTRUCTION VERSUS A RANDOMIZED HEALTHY CONTROL GROUP

Jörn LANGE[1], Denis GÜMBEL[1], Matthias NAPP[1], Peter HINZ[1], Axel EKKERNKAMP[2]

[1]Trauma surgery university of Greifswald, Greifswald (GERMANY), [2]Tauma surgery university of Greifswald, Greifswald (GERMANY)

The goal of knee ligament reconstruction is to return the athlete to the previous level of function. In the presenting study, 52 patients were examined after anterior cruciate ligament (acl) reconstruction in group 2. In the randomized nonoperated control group 1 with intact acl, 45 subjects were included. The average age was 32.7 years (19-58 years). The mean follow-up interval was 13.6 months (6-41 months). The groups did not show any significant differences in age, gender, BMI and sports activity. Clinical follow-ups were performed with the IKDC, Lysholm and OAK scores. Knee stability was measured with a KT-1000 arthrometer (MEDmetric,San Diego,CA). In all 3 functional scores group 2 had significantly worse results than group 1 ($p < 0.001$). Furthermore 78% (45-102%) in group 2 and 97% (58-120%) in group 1 showed a significant difference ($p < 0.005$) compared to the healthy side for force parameters. In the studie significant differences were observed in the case of one legged knee bend, 6 meters of hop for distance, one legged vertical jump, and crossover for distance ($p < 0.001$). The Drop Vertical Jump Test and the Square Test did not provide significant results for the healthy volunteer group. The muscular and functional parameters of the anterior cruciate ligament showed significant deficits in the follow-up after the completed postoperative sports rehabilitation. As a test for the assessment of the return to play, the Drop Vertical Jump test and the Square Test seem less suitable.

Abstract no.: 48151

THE PROBLEM OF METALLOSIS IN PEDIATRIC SPINAL SURGERY: EXISTING EVIDENCE OF FACT VS. FICTION

Nanjundappa S. HARSHAVARDHANA[1], John P. DORMANS[2]
[1]Forth Valley Royal Hospital, Renfrew (UNITED KINGDOM), [2]Texas Childrens Hospital, Houston (UNITED STATES)

Spinal instrumentation is unavoidable for certain forms of scoliosis to prevent and/or correct curve progression. For early-onset scoliosis(EOS), optimizing SAL(space available for lungs) and preventing the manifestation of TIS(thoracic insufficiency syndrome) are also goals. Long-term effects of metal-ion release are worrisome, especially for magnetically controlled growing rods(MCGR). Our objectives were to review the existing evidence in published medical and engineering literature to summarize the key findings. All published abstracts and FTA(full-text articles) in English for keywords Spinal metallosis, Metalloma, Scolisois and Pediatric spine were retrieved and two surgeons evaluated the publications to formulate this narrative review. The incidence of Nickel and Titanium allergic contact dermatitis to jewellery and/or implants is 14.0 and 0.6 percent. Metal lymphocyte transformation testing(M-LTT) is superior to Patch testing (i.e. delayed type IV hypersensitivity reaction for evaluation of metal allergy. All metals undergo some degradation in-vivo releasing particulate and soluble debris due to wear, corrosion and fretting. HR-ICP-MS(High resolution inductively coupled plasma mass spectroscopy) is the gold standard for detection of trace metal-ion concentration in blood specimen. Low-angle laser light scattering(LALLS) is superior to Scanning electron microscopy(SEM) to evaluation of particulate size, number and volume determination. Local and systemic effects to metal-ion debris in-vivo is likely a physiological phenomenon and though carcinogenicity is a potential risk, no confirmed case has been reported to date in humans. Plasma sprayed carbon coated implants may be a solution for children with multiple metal allergy. There appears to be a direct correlation between serum metal-ion levels and duration of instrumentation.

Abstract no.: 48155

CRUCIATE RETAINING (CR) TKR FOR KNEE OSTEOARTHRITIS WITH VALGUS DEFORMITY

Rajkumar THANGARAJ[1], Videsh RAUT[2]
[1]Wrightington Hospital, Birmingham (UNITED KINGDOM), [2]Wrightington Hospital, Wigan (UNITED KINGDOM)

Clinical survival studies for CR- TKR for valgus deformity are very limited in literature. A survival study of CR- TKR in knee OA with valgus deformity with functional MCL, was performed and then analysed with revision for any cause being the end point. 65 patients with a minimum followup of 1 year, who had a CR-TKR for knee arthritis with valgus deformity between December 2001 and November 2012 were included in the study. Staged soft tissue release laterally was performed correcting valgus deformity before implantation of CR components. Mean follow up was 65.6 months (+/- 8.75 months at 95%CI, median 60 months, SD 37.9, range 12 -174 months). Mean improvement in the valgus angle was 14.28 degrees +/- 2 degress at 95% CI (Median 14, SD 9 degrees). Mean flexion was 104.7 degrees +/- 2.75 degrees at 95%CI (Median 100, SD 11.93, range 80-150). 10 patients have died due to non orthopaedic causes. One patient had non-progressive lucency around the components and has not required revision. None of the components have been revised so far. No instability was noted in any of the patients during follow up. Two patients had persistent pain but investigation has not shown any cause. Thus, a CR-TKR can be successfully implanted in a Valgus Knee, as in our series, at an average of 5.5 years, there was 100% survival of the CR-TKR. However, long term follow up is required.

Abstract no.: 48156

DORSALLY ANGULATED/DISPLACED DISTAL RADIUS FRACTURES IN CHILDREN - SINGLE OR DOUBLE K WIRE FIXATION?

Rajkumar THANGARAJ[1], Farhan ALI[2]
[1]Royal Manchester Children hospital, CMFT NHS trust, Birmingham (UNITED KINGDOM), [2]Royal Manchester Children hospital, CMFT NHS trust, Manchester (UNITED KINGDOM)

A retrospective analysis of patients was performed to assess if double crossed k-wire technique was better than single wire fixation for the management of unstable, dorsally displaced paediatric distal radial fractures. Group 1 patients were treated with single K wire fixation (n= 18) after manipulation while Group 2 were treated with double k wires (n=17). Serial postoperative radiographs were compared to the intraoperative radiographs to assess loss of position, healing time and presence of malunion at the time of final follow-up. Student-t test was used to for the analysis of parametric data. Average change in angulation at between intra- op and 6 weeks was 6.25 degrees+/-1.8 degree at 95%CI [Median value of 5.1, SD4, range 0.5 to 13.9] in the single K wire group compared to 2.99 degrees+/- 1 degree at 95%CI [Median value of 2.6, SD 2.13, range 0.5 to 7.4] with double K wire group. Statistical analysis showed the variation between the two groups was significant [$p < 0.05$]. Single K wire fixation (4 patients) had more malunion than double K wire fixation (1 patient) at 6 weeks but remodelled satisfactorily. Statistical difference in change in angulation between double and single K wire fixation was noted but eventual final outcome was similar in both groups. We feel that double K wire fixation is better when there is a higher risk of re-displacement and unstable distal radius fracture.

Abstract no.: 48157

MUSCULOSKELETAL ABSCESS OF THIGH IN YOUNG MALE PATIENT

Razvan ENE[1], Zsombor PANTI[2], Mihai NICA[2], Mihnea POPA[2], Marian PLENICEANU[2], Patricia ENE[2], Monica CIRSTOIU[2], Catalin CIRSTOIU[2]
[1]University Emergency Hospital of Bucharest, - (ROMANIA), [2]University Emergency Hospital of Bucharest, Bucharest (ROMANIA)

Infectious pathology in orthopedics may occur at all ages, it can be hardly manageable, especially in elderly population with multiple associated comorbidities. The most frequently isolated pathogen in adults is S. aureus, affecting most of the cases only one articulation. In the last few years the number of infectious arthritis rose, including the number of Methicillin-resistant Staphylococcus aureus (MRSA). We are discussing the case of a 31-year patient that came in the emergency room describing pain and total loss of function of the left knee and thigh. The osteo-articular symptomatology began 4 days prior to his presentation and was accompanied by severe headache, fever, nausea and vomiting. After the hospital admission articular fine needle aspiration was performed and microbiological and laboratory exam was performed, which results showed the presence of MRSA. CT scan showed an extensive inter-muscular liquid collection, which involved the lower part of the left thigh, with knee joint involvement. Surgical debridement was necessary to eliminate the liquid and to perform abundant lavage with antiseptic solutions. After the surgical intervention and according to the antibiogram, we established elective antibiotic therapy with Ciprofloxacin and Vancomycin intravenous for 3 weeks. Musculoskeletal infections in the orthopedic field have a low frequent rate but they represent a major surgical and medical challenge and a long hospitalization period with frequent complications. The management of this pathology requires a very good cooperation between the orthopedic surgeon and the medical infection disease doctor, early diagnosis remaining crucial for good clinical and functional outcome.

Abstract no.: 48158

VALIDATION OF PIN SITE INFECTION ASSOCIATED WITH CIRCULAR FRAME WITH RUSSIAN PROTOCOL FOR PIN SITE CARE

Rajkumar THANGARAJ[1], Hakimi MOUNIR[2], Ravi JUGDEY[2], Deepak VASUDEVANSREE[2], Ibrar MAJID[2], Farhan ALI[2]

[1]Royal Manchester Children hospital, CMFT NHS trust, Birmingham (UNITED KINGDOM), [2]Royal Manchester Children hospital, CMFT NHS trust, Manchester (UNITED KINGDOM)

Pin site infection is a common complication with circular frames but the rate described in literature varies with no clear definition of pin site infection. Prospective study by Nayagam et al (2005) defined pin site infection as an episode of pain or inflammation at a pin site, accompanied by a discharge which was either positive on bacterial culture or responded to a course of antibiotics and reported an improvement rate to 64.9% with Russian protocol for pin site care compared to conventional pin site care. Retrospective case note review was performed on the patients with circular frame done between 2014 and 2016. 40 frames had been done in 36 patients [age range 6-16 with mean age 12.6 years, M:F= 26:10, elective : trauma = 25:15]. All frames were Taylor spatial frame done for limb reconstruction and fracture.26 patients (65%) had been treated with antibiotics. 2(5%) had intravenous antibiotics and eventually had removal of metal (1 wire and 1 half pin). Positive culture was identified in 6 (15%) with Staphylococcus aureus being the common pathogen. The study shows that the pin site infection rate described with the Russian protocol in Nayagam et al (2005) is reproducible and, thus, validated. The definition of the pin site infection and the rate described in Nayagam et al is validated and can be used as the relative scale against which future studies and audits can be performed for assessing pin site infection in the limb reconstruction units.

Abstract no.: 48163

LATE RESULTS OF CALCANEUS FRACTURES SURGICAL TREATMENT

Evita RUMBA[1], Laura ANDERSONE[2]

[1]Riga Stradiņš University; Hospital of Traumatology and Orthopaedics, Brocēni (LATVIA), [2]University of Latvia, Hospital of Traumatology and Orthopaedics, Riga (LATVIA)

Introduction: the surgical treatment of calcaneal fractures is difficult and is associated with a high rate of complications and poor functional outcomes, that restrict the daily activities of the patients.Aim, materials and methods: Collect and analyze late outcomes of calcaneal fractures treated surgically during the period from 2010 to 2014 in Hospital of Traumatology and Orthopaedics (HTO), Riga, Latvia. Medical records of 129 patients (139 fractures) were retrospectively reviewed. A follow-up of 32 patients was done 4-6 years after surgical treatment, evaluating the late outcomes using the AOFAS Ankle-Hindfoot Scale. Results: Pain. None 38%, mild, occasional 34%, moderate, daily 22%, severe 6%. Activity limitations, support requirement. No limitations 63%, limited daily and recreational activities 28%, severe limitation of daily and recreational activities 9%. Walking surfaces. No difficulty 40%, some difficulty 47%, severe difficulty 13%. Sagittal motion. Normal or mild restriction (30° or more) 53%, moderate restriction (15°-29°) 31%, severe restriction (less than 150) 16%. Hindfoot motion (inversion plus eversion) normal or mild restriction 31%, moderate restriction 28%, marked restriction 41%. Conclusion. Most of the patients after surgical treatment of calcanea l fracture had no or mild everyday activity limitations and marked loss of range of motion was not common. Most of the patients however have some pain with weight bearing. More objective instrumental evaluations should be conducted to recieve credible data to associate functional outcomes with the choice of treatment of calcaneal fractures.

Abstract no.: 48164

BIOCERAMIC MATERIALS IN ONCOLOGIC RECONSTRUCTIVE HAND SURGERY

Evgenij VARGANOV
Hand Surgery Center CMS "Paracelsus", Chelyabinsk (RUSSIA)

Introduction: Bone plasty due to defects of tubular bones is one of the important sections of reconstructive surgery. The treatment of the patients with oncological pathology is considered to be difficult due to the necessity to restore not only anatomical integrity but also hand function. Osteoplasty due to defects of hand bones is one of the important components of reconstructive surgery. Application for osteoplasty bioceramic materials recently is quite often used. Materials and Methods: The material is based on an analysis of results of treatment of 172 patients treated at the Hand Surgery Center in Chelyabinsk for the period 2007-2017 using bioceramic material "CollapAn" to replace bone defects wrist, metacarpals and phalanges, occurred after removal tumors or bone resection due to neoplastic diseases. "CollapAn" in the form of granules, plates, and gels was used. In order to fix the bones - the Ilizarov, Obukhov and Kataev fixators. Results: The results were assessed according to the principles of functional and cosmetic restoration of the limbs and from the standpoint of recurrence of cancer. Relapses require repeated surgical intervention, were found in 12 patients. The form and function of the hand in all the operated was restored in full. Conclusion: Osteoplasties bioceramic material "CollapAn" in combination with transosseus osteosynthesis has great prospects in oncology hand surgery.

Abstract no.: 48165

THE EFFECT OF LEECH THERAPY IN REGENERATIVE TREATMENT OF PATIENTS WITH PATHOLOGY OF THE HAND

Evgenij VARGANOV[1], Mariam VARGANOVA[2]
[1]Hand Surgery Center CMS, Chelyabinsk (RUSSIA), [2]City clinical hospital # 6, Chelyabinsk (RUSSIA)

Introduction: Medicinal properties of the medicinal leech have been known to people for thousands of years. Description of the methods of treatment of various diseases with the help of leeches can be found in the majority of medical collections of ancient civilizations: Ancient Egypt, India, Greece. The purpose of our report is to prove the effectiveness of leech therapy in reconstructive and plastic surgery of hand. Materials and Methods: The material is based on an analysis of results of treatment of 480 patients treated at the Hand Surgery Center in Chelyabinsk for the period 1993-2017. Most patients - people with severe trauma or hand undergone reconstructive plastic volumetric intervention. Results: Clear criteria developed to demonstrate the advantages of using leech therapy in the treatment of ischemic complications in hand surgery is currently unavailable. Given the wealth of personal experience against the backdrop of a comparison group of patients treated by conventional methods and with the use of leeches, we can confidently say that the use of leech therapy gives tangible effect on the prevention of postoperative amputation and the possibility of preserving the body of human most needed organ - the hand. Leech therapy has a reflex, anticoagulant, thrombolytic, anti-ischemic-hypoxic, hypotensive, immunostimulant, anti-inflammatory, analgesic, anti-sclerotic, regenerative action, protective antithrombotic effect, the elimination of microcirculatory disorders. Conclusion: Using leech therapy in hand surgery has quite good prospects. It noted a significant reduction in necrotic post-operative complications in the application of this method.

Abstract no.: 48170

CORTICAL WINDOW FOR REMOVAL OF FEMORAL COMPONENTS IN REVISION TOTAL HIP REPLACEMENT.

Sharad SINGHAI[1], Srikant GANDAVARAM[2], Deepak HERLEKAR[2], Kuntal PATEL[2]

[1]Royal Lancaster Infirmary, LANCASTER (UNITED KINGDOM), [2]Royal Lancaster Infirmary, Lancaster (UNITED KINGDOM)

Introduction With increasing age and access to health care revision total hip replacement (RTHR) are performed increasingly commonly. Removal of femoral component, cement and cement plug remains a challenge for surgeons. Varieties of techniques are utilized to achieve this. Objectives The main goal of this study was to assess use of “Cortical Window technique” for RTHR. It was a retrospective quantitative study. Study aimed to look at preoperative patient’s factors, intraoperative factors and postoperative outcome after this technique. Methods 13 patients who underwent RTHR with cortical window were studied. Data mainly consisted of variables which were age, sex, reason for surgery, and duration from primary surgery, reason for creation of window, size of window, intraoperative fractures, healing time of window, improvement in pain and mobility of patient. Results All patients in this study had successful RTHR using this technique regardless of age and indications of surgery. All windows could be successfully fixed with metallic cerclage wire. 1 patient had a fracture propagation of cortical window which went on to heal completely. Only 1 patient had non-union of cortical window created but had a successful clinical outcome. There was improvement in mobility score of patients however due to disease of contralateral limb not all patients demonstrated this improvement. 1 patient died 12 months postoperatively related to multiple comorbidities. Conclusion The results of the study suggested favourable outcome for use of cortical window technique in RTHR. Further prospective study is recommended with a bigger sample size and a longer follow up.

Abstract no.: 48176

TOTAL HIP ARTHROPLASTY IN YOUNG ADULT -RECOVERY OF PHYSICAL FUNCTIONING

Mohammed AMJAD HOSSAIN
LABAID, Dhaka (BANGLADESH)

Background: Younger patients have high expectations regarding functional outcome after any surgery. Therefore, patients need to be well informed about recovery of physical functioning after THA. The purpose of this study was to review the recovery of physical functioning after THA and examine the degree of recovery with regard to 3 aspects of functioning. Data Sources: Data were obtained from the databases from LabaidArthroplasty Center from January 2010 to July 2016. Materials and Method: Retrospective studies with a before-after design were included. Patients included in the analysis had to have primary THA for osteoarthritis or AVN of femoral head or DDH or AS or Rh. Arthritis.We checked the inclusion criteria, conducted the risk of bias assessment, and extracted the results. Data were pooled in a meta-analysis using a random-effects model. Results: A total of 200 cases were included. For perceived physical functioning, patients recovered from less than 40% preoperatively to about 90% of that of controls (individuals who were healthy) 6 to 8 months postsurgery. On functional capacity, patients recovered from 50% preoperatively to about 90% of that of controls 6 to 8 months postsurgery. For actual daily activity, patients recovered from less than 60% preoperatively to 90% of that of controls at 6 months postsurgery. Conclusions: Compared with the preoperative situation, the 3 aspects of physical functioning showed varying degrees of recovery after surgery. At 6 to 8 months postoperatively, physical functioning had generally recovered to about 90% of that of controls.

Abstract no.: 48177

TOTAL KNEE REPLACEMENT OUTCOME AND GLYCEMIC CONTROL

Mohammed AMJAD HOSSAIN
LABAID, Dhaka (BANGLADESH)

Background: To determine the association of diabetes status and preoperative glycemic control with several surgical outcomes, including superficial infection and deep infection or removal of implant and arthrodesis or revision arthroplasty. Methods: This retrospective study done from 2010 to 2016 based on demographics, diabetes status, preoperative hemoglobin A1c level, and comorbid conditions were obtained from electronic medical records. Subjects were classified as nondiabetic, diabetic with HbA1c < 7% (controlled diabetes), or diabetic with HbA1c ≥ 7% (uncontrolled diabetes). Outcomes were superficial infection, deep infection, removal of implant and arthrodesis , and all-cause rehospitalization within one year after surgery. Patients without diabetes were the reference group in all analyses. Results: Total number of patients who underwent total knee arthroplastywere 400 who were included in the study. Among them 272 (68%) had diabetes. In the diabetic patient group 218 (80.14 %) were in good glycemic control. And 54 (19.85%) were in uncontrolled diabetic status. No patients underwent revision arthroplasty, 2 patients in uncontrolled DM group needs removal of implant and arthrodesis.and 3 developed a deep infection. no patients need removal of implant in controlled DM and Non DM patient group. There is either no deep infection in this two group. But there was superficial infection in 8 cases in DM group, among them 7 were in uncontrolled group and 1 in controlled group. Conclusions:There may be an association in increased risk of infection after Total knee arthroplasty if the patient have diabetes more specifically uncontrolled glycemic status before surgery.

Abstract no.: 48180

INS AND OUT OF PERIPROSTHETIC FRACTURE AFTER TOTAL HIP ARTHROPLASTY

Mohammed AMJAD HOSSAIN
LABAID, Dhaka (BANGLADESH)

Periprosthetic fractures following total hip arthroplasty have become more common as the indications and age distribution for these procedures have increased in the last few years. Revision surgery in these patients holds a very high complication rate and therefore measures should be taken to prevent these fractures. Osteolysis with subsequent component loosening has been shown to pose a risk for periprosthetic fractures. Regular follow-up visits could reveal early signs and symptoms of component loosening. Patients who develop loosening should be revised as soon as possible to prevent periprosthetic fractures. The Vancouver classification (intra- and post-operative) for periprosthetic fractures associated with total hip replacement has been shown to be reproducible and an excellent guideline for management. Revision surgery for periprosthetic fractures carries a significant risk for complications. This review and instructional presentation will focus mainly on periprosthetic fractures in hip arthroplasty, with some risk factors and biomechanical considerations. Greater trochanteric fractures can present intra-operatively or post-operatively. Non-unions of the greater trochanter commonly presents many years down the line in patients where the surgical approach was done through greater trochanteric osteotomy, and are generally difficult to treat. This presentation will cover some aspects on the fixation methods of these fractures. Finally the hardware and surgical adjuncts to treat periprosthetic fractures will be discussed briefly. The more common fracture patterns (type B2) and the problematic (type B3) will be discussed in more detail.
Key words: Periprosthetic fracture, Total hip Arthroplasty, Vancouver classification, revision surgery,

Abstract no.: 48181

ANEURYSMAL BONE CYST OF THE PHALANX: A CASE REPORT

Nadhir MERAGHNI[1], Riad BENKAIDALI[2], Mohamed KIHAL[2], Zoubir KARA[2]
[1]Orthopedic Department, CHU Mustapha Bacha, Algiers (ALGERIA),
[2]Orthopedic Department, CHU Mustapha Bacha, algiers (ALGERIA)

Introduction: aneurysmal bone cyst is a rare, rapidly growing, and destructive benign bone tumor that even more rarely involves the bones of the hand. Authors report a rare localization at the phalanx of the hand. Methods: we report the case of a 21-year-old female with a painful swelling of the third finger of the left hand. X-rays and CT found a diaphyseal lytic image of the first phalanx of the third finger, well limited, without rupture of the cortex, evoking a chondroma. The patient underwent surgery: the operative exploration found an aneurysmal bone cyst of the phalanx. After a curettage, the remaining cavity was filled with cancellous bone graft. Pathological examination of the tumour biopsy confirmed the diagnosis of aneurismal cyst. Results: with a follow-up of 36 months, there is no recurrence. Discussion: the aneurysmal cyst was described first by Jaffe and Lichtenstein in 1942. It is a benign bone dystrophy that may interest the entire skeleton but it's mainly located in long bones (50-60%). The hand location is rare (3 - 5%). It constitute a differential diagnosis with chondroma, as in our case where the clinical evaluation and the radiological and CT images were strongly in favor of a chondroma. Conclusion: aneurysmal bone cysts arising from tubular bones of the hand occur very rarely and require particular diagnostic and therapeutic management techniques

Abstract no.: 48182

OSSEOINTEGRATION IN UNCEMENTED TOTAL HIP ARTHROPLASTY-5 YEARS FOLLOW UP

Mohammed AMJAD HOSSAIN
LABAID, Dhaka (BANGLADESH)

Background: We evaluated the performance of and periprosthetic bone response to tapered, hydroxyapatite coated femoral hip prosthesis at a minimum of 5 years of follow-up after treatment with primary total hip arthroplasty. Methods:35 patients and 44 hips were included in the study. There were 20 men and 15 women; the mean age at the time of the operation was 38 years. We used a tapered, HA-coated femoral implant. We evaluated the patients at a minimum of 5 years of follow-up after treatment with primary total hip arthroplasty. Clinical evaluation was performed using the scoring system and the hip scores were assigned according to the level of pain, the functional status and the range of motion. The patients who refused to return, but who did forward X-rays for review after being contacted were questioned by phone about the functional status of their hip. Radiographic follow-up was performed at six weeks, at three, six and twelve months and yearly thereafter. All the available radiographs were collected and assessed for implant stability, subsidence, osseointegration, osteolysis, stress shielding and evidence of periprosthetic lucency. Results: Forty four hips (35 patients) were available for review at follow-up of greater than 5 years. The radiographs were obtained at 5-year follow-up for all hips, but all the patients would not come in for the 5-year clinical evaluation. Conclusions: The mechanical fixation of a tapered, HA-coated femoral implant was excellent in this study. This femoral design provided reliable osseointegration that was durable at a mean of 5 years follow-up.

Abstract no.: 48184

A COMPARISON OF THE IP-JOINT FUNCTION AND PLANTAR PRESSURE DISTRIBUTION AFTER MTP-I-ARTHRODESIS IN PATIENTS WITH RHEUMATOID ARTHRITIS AND OSTEOARTHRITIS OF THE FIRST METATARSOPHALANGEAL JOINT.

Martin RESCHL
Medical University of Vienna, Vienna (AUSTRIA)

Background: The specific aims of the present study are to determine altered plantar pressure distribution in patients with rheumatoid arthritis (RA) and osteoarthritis (OA) after MTP-1 arthrodesis with special focus on adjacent joint degeneration of the first IP-joint. Patients & Methods: The present study included 47 patients (59 feet), who underwent MTP-I arthrodesis. We included dynamic plantar pressure distribution analysis and clinical assessments. Additionally, first IP joint ROM measurements as well as the VAS FA were performed. Anteroposterior and lateral radiographs were assessed Results: The most obvious mean difference was assessed in the function. 50.71 ± 19.3 points in the RA group and 61.31 ± 20.08 points for patients with OA. The difference of IP valgus angle was not statistically significant between both groups. Mean IP-I angle in the RA patients was 13.6° ± 9.6° preoperatively and 21.2° ± 10.8° postoperatively. We assessed a mean IP angle in patients with OA of 13.7° ± 9.4° preoperatively and 18.9° ± 8.2° postoperatively. Significant differences were assessed between the mean pre- and postoperative hallux valgus angle. In both groups, the HVA was 33.2° ± 15.8° preoperatively and 16.9° ± 7.2 postoperatively ($p = 0.311$). Conclusion: The results of the pedobarographic assessment revealed no statistically significant differences between both groups. Numerous authors have reported adjacent joint degeneration in the forefoot, but no biomechanical significant correlation between the arthrodesis and the adjacent joint degeneration is reported. The functional significance and effect of the joint degeneration should be carefully analyzed in the future.

Abstract no.: 48186

FLAP DELAY - A VERY SIMPLE PROCEDURE TO COVER THE LARGE SOFT TISSUE DEFECT AND EXPOSED DISTAL TIBIA FIBULA & FOOT

Md Abdulgani MOLLAH
NATIONAL INSTITUTE OF TRAUMATOLOGY AND ORTHOPAEDIC REHABILITATION, DHAKA (BANGLADESH)

Introduction: Management of large soft tissue defect with exposed distal leg with fracture, exposed Heel with foot following trauma is a challenging problem. Initially management of such type of wounds was surgical debridement and application of Uni-axial Ex-Fix. Although many options like extended sural flap, muscle flap and free flaps are there. But these all are difficult to perform in all the situations. In these circumstances coverage of that part is possible by flap delay procedure. Method: Random pattern fasciocutaneous flap with sural vessels and nerve augmented Flap was done and inset done with delay for 3-7 days. After assessing the viability of the flap, marginal necrosis of the flap, reposition and coverage of the wound was done. The donor areas were covered by partial thickness skin graft. Total 240 cases were included. Among them male were 210 and female were 30. The study period was between July 2002 to Dec 2016.Age range was 10–75 yrs. But most patients were between 15 to 55 yrs. Cause of the injury was mostly MVA (90%) Nature of the injury were - Gustillo III A&B. Result: Satisfactory results were obtained in 95% cases, bone union occurred without any secondary procedure in 20% cases. Marginal necrosis was found in 19 cases. Rest of the cases were managed by application of Ilizarov external fixator with or without corticotomy. Comment: Flap delay is an easy procedure to increase the flap survival and attain reliable coverage of the wound that can be done in any situation.

Abstract no.: 48187

FOOT LOADING AND GAIT ANALYSIS EVALUATION IN 26 CONSECUTIVE YOUNG PATIENTS SUFFERING FROM ASSOCIATED ACETABULAR FRACTURES TREATED BY OPEN INTERNAL SURGERY.

Luigi MECCARIELLO[1], Giuseppe ROLLO[2], Gabriele FALZARANO[3], Michele BISACCIA[4], Paolo PICHIERRI[2], Antonio MEDICI[3], Marco FILIPPONI[2], Vitaliano Francesco MUZII[5]

[1]Department of Orthopedics and Traumatology, P.O. Vito Fazzi Hospital Lecce, Italy, Moiano (ITALY), [2]Department of Orthopedics and Traumatology, P.O. Vito Fazzi Hospital Lecce, Italy, Lecce (ITALY), [3]U.O.C. Orthopedics and Traumatology, AO Gaetano Rummo, Benevento (ITALY), [4]Division of Orthopedics and Traumatology, Universital Hospital of Perugia, Perugia (ITALY), [5] Department of Medicine, Surgery, and Neuroscience, Section of Neurosurgery, "Santa Maria alle Scotte" University Hospital, University of Siena, Siena (ITALY)

Introduction: The aim of surgical treatment of acetabular fractures is to allow rapid mobilization of patients in order to restore stance and gait stability (postural control), as this significantly correlates with a positive outcome. The regulation of postural stability is mainly controlled by transmission of proprioceptive stimuli. In addition, the pelvis serves as a connection between the legs and the spine and thus is also of great importance for mechanical stabilization. Therefore, the aim of this study was to examine the impact of surgically treated bi column acetabular fractures on postural stability by gait analysis and foot loading after 24 months. Methods: A retrospective case control study of 26 patients with surgically treated pelvic acetabular fractures divid in two groups by XR criteria: Good Reduction and Not Good Redaction(≥ 4.5 mm). The most important outcome parameter in this investigation was the overall Sagittal Balance; Harris Hip Score; the health-related quality of life (SF-12) and Oswestry Low Back Pain Score were supplementary outcome parameters. Results: It was found that surgically treated bi-column acetabular fractures influence on postural stability, when acetabular is not good reduced(≥ 4.5 mm). Surgically treated acetabular fractures do not lead to deterioration in postural control in the mid term. Conclusion: This is of high prognostic importance for rapid mobilization of the patients. Therefore no increase in the risk of falling is expected after successfully treatment of fracture.

Abstract no.: 48188

TREATMENT OF TIBIAL PLATEAU FRACTURE (SCHATZKER TYPE V-VI) WITH ILIZAROV EXTERNAL FIXATOR

Md Abdulgani MOLLAH
NATIONAL INSTITUTE OF TRAUMATOLOGY AND ORTHOPAEDIC REHABILITATION, DHAKA (BANGLADESH)

Introduction: Tibial Plateau fractures are complex intra-articular fracture. These are serious complex injury difficult to treat. These are caused by low and high energy injury. Many options like open reduction/ MIPO technique are used. But these may be associated with infection; exposed bone, stiffness and other complications even required amputation. Hence multiaxial ring fixator is the excellent option. In our study some of the cases we used one ring in the supracondylar region of femur and removed within 1-1½ months. Materials and methods: Our study was done between Jan 2010 to Dec 2016. Total 85 patients with Schatzker type V and VI tibial plateau fracture were included in the study. Male female ratio was 14:3. Age of the patients was between 16 to 70 yrs. Mean age of the patients was 43 yrs. Result: fractures were considered united when radiographic union was achieved. Mean union time 3.75 to 5.0 month. ROM of Knee almost normal. Pt is allowed to go back to their jobs within next 3-4 weeks. Partial weight bearing was started within 3 weeks and full weight bearing at 4-6 weeks. Total hospital stay was 7-10 days. Conclusion: Ilizarov is one of the best methods for treating these type of fractures as functional outcome is more predictable, union rate is high, complication rate is minimum and can be done easily.

Abstract no.: 48190

AN ARTIFICIAL-NEURAL-NETWORK-BASED PREDICTION MODEL FOR TOTAL KNEE REPLACEMENT

Stephan REUMANN[1], Reinhard WINDHAGER[2], Johannes HOLINKA[2], Gerhard HOBUSCH[2], Sebastian COTOFANA[3]

[1]Department of Traumatology, Vienna (AUSTRIA), [2]Department of Orthopedics, MUV, Vienna (AUSTRIA), [3]Department of Anatomy, Albany Medical College, Albany (UNITED STATES)

Osteoarthritis contributes strongly to one individuals global disability. As to date there is no curative option available the ultimate therapy remains the total knee replacement (TKR) surgery. However, to date there are no definitive criteria which help a surgeon to predict TKR surgery. The objectives of this study were to investigate the driving factors leading to TKR surgery and to clarify whether an artificial neural network (ANN) based on these factors can be used in daily medical practice. 165 participants were identified from the Osteoarthritis Initiative (OAI) who received TKR during a 4-year period. Annual publicly available patient data were obtained in the visit before TKR, 1-4 years before TKR. Between these timepoints we compared quality of life, WOMAC total and WOMAC pain score, pain intensity score and Kellgren-and-Lawrence Grades. A prediction model for TKR based on a 3 layer perceptron neural network was established. Median Kellgren-and-Lawrence-Grades increased each successive year prior to TKR. Quality of life, WOMAC pain and WOMAC total score changed significantly in the year prior to TKR, for pain intensity 2 years prior to TKR. An ANN was found which performed as follows: NPV 73%, PPV 84%, specificity 30%, sensitivity 41%, PU 54% and TPC 80%. Our results suggest that the driving factors for surgery are based majorly on clinical parameters. Albeit sensitivity and specificity are low this ANN could be a valuable tool for daily practice and it might be a valuable tool for socioeconomic cost predictions as well.

Abstract no.: 48191

HARVESTING SITES OF ADIPOSE TISSUE FOR STEM CELL CULTURE AND TISSUE ENGINEERING IN RATS.

Andreas MAVROGENIS[1], Panayiotis MEGALOIKONOMOS[2], Georgios PANAGOPOULOS[3], Myrto BAMI[4], Mandy MILONAKI[4], Evanthia MITSIOKAPA[3]

[1]First Department of Orthopaedics, National and Kapodistrian University of Athens,, Athens (GREECE), [2]First Department of Orthopaedics, National and Kapodistrian University of Athens, Piraeus (GREECE), [3]First Department of Orthopaedics, National and Kapodistrian University of Athens, Athens (GREECE), [4]Orthopaedic Research and Education Center “Panayotis N. Soukakos”, Athens (GREECE)

Introduction: Adipose-derived stem cells(ADSC) present extensive self-renewal and differentiation potential, representing one of the most appealing cell subsets in experimental and clinical research. Rat models are considered ideal for validation of stem cell applications prior clinical trials. In this study we present the harvesting technique and adipose tissue deposits in the context of ADSC isolation for tissue-engineering in rat models. Methods: 5 male Wistar rats were euthanized and used as donors of adipose tissue. All areas to be incised were carefully shaved to avoid hair contamination. A median skin incision down to the rectus abdominis muscle was performed. Under microscope magnification the subcutaneous fat tissue was carefully harvested. The inguinal fat pad was separately collected. Subsequently, by opening the abdominal wall, through the linea alba, a wide access to the abdominal cavity was attained. Meticulous dissection and harvest of mesenteric adipose tissue was conducted. Similarly, the perirenal fat pad was collected. Adipose harvesting was completed and ADSC isolation was initiated within 20 minutes of sacrifice. Results: The mean harvested subcutaneous tissue was 2.3gr, whereas the mean inguinal adipose tissue was 1.4gr. Mean mesenteric adipose tissue was 0.9gr, whereas perirenal 1.9gr. Mean population of ADSC collected from adipose tissue was 500.000 cells/gr. More cells were retrieved from the subcutaneous and inguinal fat pads. Conclusions: Many anatomical sites of adipose tissue can be selected for ADSC harvesting. Prompt and meticulous dissection is essential. Site selection has to be tailored to the respective scientific purpose and the quantity of cells needed.

Abstract no.: 48192

CT OF TOTAL KNEE ARTHROPLASTY – IMPACT OF PROSTHETIC MATERIAL AND CT PROTOCOLS ON IMAGE QUALITY AND ARTIFACT FREQUENCY

Maximilian KASPAREK[1], Mathias LAZAR[2], Michael TOEPKER[2], Michael WEBER[3], Michael KASPAREK[4], Bernd KUBISTA[1], Reinhard WINDHAGER[1], Helmut RINGL[2]

[1]Department of Orthopedics, Medical University of Vienna, Vienna (AUSTRIA), [2]Department of Radiology and Nuclear Medicine, Medical University of Vienna, Vienna (AUSTRIA), [3]Department of Biomedical Imaging and Image-Guided Therapy, Medical University of Vienna, Vienna (AUSTRIA), [4]II. Department of Orthopedic Surgery, Orthopedic Hospital Speising, Vienna (AUSTRIA)

Introduction: In this study we assessed the influence of different scan parameters using Single Energy CT and Dual energy CT as well as the impact of different material used in TKA prosthesis on the extent of metal artifacts. Methods: TKA prosthesis of eight pairs of different vendors were examined in a Phantom set-up. Each pair consisted of a conventional CoCr prosthesis and the corresponding anti-allergic prosthesis (full titanium, ceramic or ceramic coated) of the same vendor. Nine different (7 Dual Energy CT and 2 Single Energy CT) scan protocols with different characteristics were used to reveal out the most accurate for TKA imaging. Quantitative imagine analysis included assessment of blooming artifacts, metal streak artifacts and qualitative analysis the bone-prosthesis-interface. Results: We found that the full titanium and full ceramic prosthesis showed significant less blooming and metal streak artifacts compared to the standard CoCr prosthesis (P<.001). All Dual Energy protocols, even those with a three to four times lower radiation dose, showed less blooming artifacts, less metal streak artifacts and offered superior image quality of the bone-prosthesis-interface compared to Single Energy protocols. Conclusion: In conclusion TKA prosthesis of full ceramic and titanium provide significant less artifacts and a superior diagnostic assessment of the bone/prosthesis interface compared to standard CoCr or ceramic coated prosthesis. Dual Energy CT provides better image quality, less blooming and beam hardening artifacts by less radiation dose compared to Single Energy CT.

Abstract no.: 48195

OUTCOME OF ELDERLY PATIENTS UNDER CHRONIC ANTICOAGULATION PRESENTING WITH FEMORAL NECK FRACTURES: IS THERE A DIFFERENCE BETWEEN WARFARIN AND DIRECT ORAL ANTICOAGULANTS TREATED PATIENTS?

Tal FRENKEL RUTENBERG[1], Galia SPECTRE[2], Maria VITENBERG[2], Yael HALAVY[2], Steven VELKES[2]

[1]Rabin Medical Center, Beilinson Hospital, Tel-Aviv (ISRAEL), [2]Rabin Medical Center, Beilinson Hospital, Petah Tikva (ISRAEL)

Introduction: Early surgical treatment is recommended to reduce complications and duration of hospitalization in patients with fragility hip fractures. Yet, patients treated with anticoagulants pose a challenge when planning surgery. While the action of vitamin K antagonists (VKA) can be reversed with vitamin K or blood products, for the direct oral anticoagulants (DOACs) antidote drugs are only now becoming available and are not commonly used. We compared outcome of patients receiving VKA and DOACs, to observe whether the irreversibility of DOACs leads to different patient outcome. Methods: a retrospective study comparing consecutive femoral neck fracture patients receiving either VKA or DOACs between January 2012 and March 2016 at a single tertiary hospital. Primary outcome was one year re-hospitalizations and mortality. Secondary outcomes were time to surgery (TTS), in hospital complications and a need for blood transfusions. Results: 76 and 31 patients treated with VKA and DOAC respectively were included. Charlson co-morbidity score was worse for the DOAC group (6.9±1.8 vs. 6.1±2.3, p.=0.026). There was no significant difference in one year re-hospitalizations and mortality between groups (log-rank=0.426). TTS was similar, with a trend towards a shorter time for DOAC patients (45.5±25.2 vs. 59.0±46.0 hours, p.=0.054). Anticoagulation therapy led to the surgical delay in 46.7% and 61.5% patients from the VKA and DOAC respectively (p.=0.439). No difference was found in the average number of in-hospital complications or blood transfusions required. Conclusions: Although DOAC treated patients had higher Charlson score, there was no difference in patient outcome between DOAC and VKA treated patients.

Abstract no.: 48196

ACL REPAIR WITH A DYNAMIC INTRALIGAMENTARY STABILIZATION TECHNIQUE, OUR INITIAL EXPERIENCE

Christiaan Hendrik Willem HEUSDENS[1], Sara COENEN[2], Lieven DOSSCHE[1]
[1]University Hospital Antwerp, Antwerp (BELGIUM), [2]University Hospital Antwerp, Antwerpen (BELGIUM)

Introduction: Recently a new anterior cruciate ligament (ACL) repair technique, Dynamic Intraligamentary Stabilization (DIS), has been introduced. We present our initial experience, which could assist surgeons starting with this ACL preserving technique. Methods: 15 patients with a less than three weeks old ACL rupture were treated using a DIS repair technique. A prospective follow-up was performed with a minimum of one year. Encountered preoperative, intraoperative and postoperative problems were recorded. Tegner, International Knee Documentation Committee (IKDC) and Lysholm scores and return to work were recorded. Anterior-posterior (AP) knee laxity was measured using a Rolimeter in 30° flexion. Results: Intraoperatively 14 technical problems in 11 procedures were encountered. Four patients developed a jumpers knee within three months. Compared to preoperatively, 60% scored an equal or higher Tegner score. All patients scored a lower IKDC score after one year. The Lysholm score was excellent in 60%. The mean return to work time was 5.5 weeks (range 2−10). In five patients a secondary additional intervention was performed: arthrofibrolysis in four cases and a cyclops removal once. The mean AP translation difference compared to the healthy side was 0 millimetre (range -4−3) after 1 year. There were no ACL reruptures. Conclusion: Our results of the first 15 patients with one-year follow-up show that DIS leads to a clinical stable knee of the acute ruptured ACL. Surgeons starting with this new technique could benefit from our presented results to avoid the problems and pitfalls we encountered.

Abstract no.: 48199

SURVIVORSHIP OF THE ALLOCLASSIC UNCEMENTED HIP ARTHROPLASTY – FACTORS AFFECTING OUTCOME

Elena NEMECEK[1], Franz RATZINGER[2], Sandra STENICKA[1], Christoph STIHSEN[1], Reinhard WINDHAGER[1], Reinhard SCHUH[1], Richard LASS[1], Alexander GIUREA[1], Bernd KUBISTA[1]

[1]University Clinic for Orthopaedics, Vienna (AUSTRIA), [2]University Clinic for Medical and Chemical Laboratory Diagnostics, Vienna, Vienna (AUSTRIA)

Background In literature, there are few representative studies of the survival probability regarding patient and implant-related risk factors of the Alloclassic uncemented hip arthroplasty. Methods This retrospective study includes the results of 1,695 patients who received an Alloclassic uncemented total hip arthroplasty at our institution. Several implant- and patient-related factors were evaluated. The median follow-up after primary surgery was 34 months. Results The survival probability of the implant after 12 months was 97.6% and 87.2% after 10 years. Dislocation and infection were the most common adverse events (30.4% and 18.5% of all adverse events). 4.5% of all patients had implant revision surgery and 1.6% had not implant-related surgery, resection (20.2% of all follow-up surgeries), replacement of the bearing surface (19.2%) or the cup (16.3%) were the most common procedures performed. The analysis of patient- and implant-related factors showed that smokers had a statistically significant higher risk of suffering from an adverse event as well as a revision surgery than non-smokers. Women had higher rates of head and liner exchange and aseptic loosening of the cup due to wear, while men had higher resection rates. Conclusion Smokers should be informed about worse outcome and be advised to change their smoking habits. Other patient-related factors do not have a major impact on survival. Since women had significant higher revision rates related to wear of the bearing surface than men, bearing material with less wear like Cer/Cer might be considered.

Abstract no.: 48204

SHOULD WE USE HETEROTOPIC OSSIFICATION PROPHYLAXIS IN CONSERVATIVE HIP SURGERY?

Oliver MARIN-PENA[1], Pedro CAMPOS REIS[2], Mohamed ABD EL-RADI[3], Anuj CHAWLA[4], Fernando OÑORBE-SANFRANCISCO[1], Javier MONTOYA-ADARRAGA[1], Ricardo LARRAINZAR-GARIJO[1]

[1]University Hospital Infanta Leonor, Madrid (SPAIN), [2]Hospital Vila Franca de Xira, Lisboa (PORTUGAL), [3]Assiut University Hospital, Assiut (EGYPT), [4]Tan Tock Seng hospital, Singapore (SINGAPORE)

Introduction: Femoroacetabular impingement (FAI) is commonly treated through arthroscopic, mini anterior and safe surgical dislocation approaches. The aim of our study was to evaluate the short-term results of Hip arthroscopy and mini-anterior approach arthroscopically assisted to treat FAI Methods: We developed a prospective study of 87 patients with FAI. 44 patients were treat arthroscopically (group A) and 43 through mini-anterior approach arthroscopically assisted (Group B). There were 33 female and 54 male, the mean age was 35,62 years (range 20-49). Radiological analysis evaluates alpha angle, joint space, and HO following Brooker Classification. All patients received HO prophylaxis with Etorecoxib 60 mg once daily for two weeks postoperative. Clinical results were evaluated with iHOT 33, HOS and WOMAC scores. SPSS 13.0 software was used (SPSS INC, Chicago, Ill). Results: Mean follow up of the cohort was 4,25 years. Demographic parameters were similar in both groups. Preoperative alpha angle was higher in Group B than in group A (77º vs 55º), however, postoperative alpha angle were similar (53º vs 49º). In arthroscopic group, one 1 patient (2,3%) was revised to a THA. At mini-anterior group, five patients (11,6%) were converted into THA ($p<0,05$). We found 5 cases of HO in Group B (11,6%). None cases were found in group A ($p<0,05$) Conclusions: FAI surgery present good results in the short term but higher preoperative alpha had a tendency of higher conversion rates to THA through mini anterior approach. HO prophylaxis should be done, especially in mini-anterior approaches

Abstract no.: 48208

OUTCOME OF TOTAL HIP ARTHROPLASTY (THA) FOLLOWING FAILED OSTEOSYNTHESIS FOR NECK OF FEMUR FRACTURE

Kevin SYAM[1], Naveen LOKIKERE[2], Akash SARAOGI[2], Hajime NAGAI[2], Anil GAMBHIR[2], Tim BOARD[2], Henry WYNN JONES[2]

[1]Wrightington Hospital, WIGAN (UNITED KINGDOM), [2]Wrightington Hospital, Wigan (UNITED KINGDOM)

Introduction: Osteosynthesis has been traditionally used as treatment for neck of femur (NOF) fractures. Total Hip Arthroplasty (THA) remains an ultimate solution for failure due to non-union (10-45%) and avascular necrosis (9-18%). The alleged complexity of this conversion and fear of complications have made primary THAs popular for neck of femur fractures. Aims/Objectives: This study aims to evaluate the outcomes of THAs for failed NOF osteosynthesis.Methods: Fifty-nine consecutive patients with THA for failed NOF osteosynthesis between January 2007 and December 2014 were identified. Clinical and radiological data were retrospectively reviewed. Complication rates including revisions were noted. Results: Average age at the time of THA was 64 years (range: 25-89). Reasons for failure of osteosynthesis were secondary arthritis (29/59), non-union (19/59), avascular necrosis (11/59), screw cut out (4/59) and mal-union with shortening (1/59). Average follow-up was 34.47 months (range: 0.5-113). Only one hip was revised for deep infection. Five patients died due to unrelated reasons. One patient had symptomatic loosening on acetabular side. There was one dislocation which was successfully managed conservatively. One patient had postoperative foot drop which has functionally recovered.Conclusion: The major concerns after THA in failed osteosynthesis scenario for NOF are increased risk of infection and dislocations. Short to medium term results are encouraging, with no catastrophic failures. In the present study, the early outcomes of THA for failed osteosynthesis seem to be comparable to the results of primary THA for NOF or even THA for osteoarthritis. A long-term follow-up is recommended.

Abstract no.: 48213

FLOATING KNEE: RETROSPECTIVE STUDY OF 20 CASES

Mohamed RAFAI[1], Charaf Eddine ELKASSIMI[2], Omar QAHTANE[2], Abdessamad RAJAALAH[2], Abderrahim RAFAOUI[2], Abdeljabbar MESSOUDI[2], Abdelhak GARCH[2]

[1]Department of Orthopedic Traumatology (Pavilion 32), CHU Ibn Rochd, Casablanca, Casablanca (MOROCCO), [2]Department of Orthopedic Traumatology (Pavilion 32), CHU Ibn Rochd, Casablanca, casablanca (MOROCCO)

Introduction: The floating knee is a concept invented by Mc bryde in 1974, referring to the association of a fracture of the femur with a homolateral fracture of the tibia. Material and method: This is a retrospective study of 20 floating knees admitted and treated over a period of 08 years from January 2009 to December 2016. AVPs were the most incriminated cause (90% of cases). The Injury Severity Score (ISS) was 18 on average. According to the Fraser classification, the series included 65% floating knee Type I, IIa (20%), IIb (10%), IIc (5%). Centromedullary nailing was the most frequently used method for the osteosynthesis of both bones. Results: The mean follow-up was 20 months (6 months - 5 years). Karlström's score at the last follow-up was excellent in 25% of cases, good in 40% of cases, acceptable in 25% of cases and poor in 10% of cases. (18.9%). Discussion: Floating knees are rare and their actual incidence remains unknown. Functionally, age, vascular involvement, type of articular or non-articular floating knee, opening of femoral or tibial fractures, their complexity and seat (distal femur) appear to be preponderant, as well as the reach of the pivot central. CONCLUSION: Our study confirms the gravity of the floating knees both regionally and at the general level. Immediate local complications are frequent and cause the spectrum of amputation to wander over these limbs. The frequency of associated ligamentous lesions known for a long time has not yet changed the clinical or therapeutic attitude.

Abstract no.: 48216

THE LONG-TERM EVALUATION OF PATELLA FRACTURES (ABOUT 22 CASES)

Mohamed RAFAI[1], Omar QAHTANE[2], Abderrahim RAFAOUI[2], Charaf Eddine ELKASSIMI[2], Abdessamad RAJAALAH[2], Abdeljabbar MESSOUDI[2], Abdelhak GARCH[2]

[1]Department of Orthopedic Traumatology (Pavilion 32), CHU Ibn Rochd, Casablanca, Casablanca (MOROCCO), [2]Department of Orthopedic Traumatology (Pavilion 32), CHU Ibn Rochd, Casablanca, casablanca (MOROCCO)

INTRODUCTION: Fractures of the kneecap represent 0.5 to 1.7% of bone fracture fractures, which every surgeon is confronted with. These are articular fractures most often, they resound on the function of flexion and extension of the knee. MATERIAL AND METHOD : A retrospective study of 22 cases of patella fracture was carried out between January 2009 and December 2015 at the Department of Traumatology and Orthopedic Surgery (Pavilion32) at the Ibn Rochd Hospital of Casablanca. RESULTATS : Duparc classification of patella fractures was adopted,so our fractures have been classified to : type 1 in 36,4% of cases, and type 3 in 40,9% of cases. The most used surgical technique was tension band fixation,performed in 12 patients (55%),followed by cerclage wire fixation who had the indication in patients(18%). Analysis of functional results was based on the bosman rating scale,with excellent results in (59%),good in (23%)and bad in (18%). DISCUSSION: Our functional results were compared with several studies in the literature: Bayer hes evaluated his results according to cybex scoring, LEVACK has chosen the scoring system, whereas Mehdi chose criteria of casting and Coll. Our functional outcomes were unsatisfactory and poor in 18%. According to our work:complexity of patellar fractures,surgical techniques,and rehabilitation are the most influencing factors in the functional prognosis. Conclusion: Patella fractures are by far the most common lesions that interrupt the transmission chain of active leg extension on the thigh.

Abstract no.: 48217

USE OF THE SPIDER LIMB POSITIONER IN ELBOW SURGERY

Angelos ASSIOTIS[1], Adam RUMIAN[2], Harpal UPPAL[3]
[1]Lister Hospital, - (UNITED KINGDOM), [2]Lister Hospital, STEVENAGE (UNITED KINGDOM), [3]Lister Hospital, Stevenage (UNITED KINGDOM)

Patient positioning is an aspect of surgery that although often overlooked, plays a cardinal role in the overall outcomes and occurrence of possible complications. Elbow surgery often presents difficulties in accessing both sides of the joint and often necessitates the presence of an assistant in order to support and move the limb as required. Intra-operative fluoroscopy in elbow surgery is also often challenging in terms of positioning the C-arm and obtaining good quality images. We have been using the Spider Limb Positioner (Smith and Nephew, London, UK), which was initially developed for limb positioning in shoulder surgery, in open and arthroscopic elbow surgery. In arthroscopy, we utilise the padded arm holder to support the antecubital fossa of a patient in the lateral position, allowing unimpeded access to all possible arthroscopic portals. In open surgery in a supine patient, we utilise the Spider such that the elbow is flexed to the desired degree and at the same time set up the C-arm so that images are obtained during the procedure with minimal movement. If desired, the elbow can be easily moved during surgery, something that is not possible with traditional patient positioning for elbow surgery. To date we have had no complications in using the Spider Limb Positioner in such a way and we feel that this method could be useful to the elbow surgical community, as it utilises equipment that already exists in most upper limb units, something particularly relevant in the current climate of financial austerity in healthcare.

Abstract no.: 48219

MEDIAL PIVOT KNEE - 10-YEAR FOLLOW-UP.

Tomas PINK, Jiri STOKLAS, Radek KUNOVSKY
Traumatologic Hospital, Brno (CZECH REPUBLIC)

INTRODUCTION: The purpose of this study was to evaluate long-term clinical and radiological results of the ADVANCE® Medial-Pivot Knee System. PATIENTS AND METHODS: From September 2006 to December 2016, 874 Advance Medial-Pivot total knee arthroplasties were performed in 782 patients. The average age of the patients at the time of surgery was 62 years, 75% of the patients were female. The dominant preoperative diagnosis was osteoarthritis. . The level of aktivity anf functional outcome was evaluated using the Knee Society score. Patella resurfacing was performed in 3%., we used only cemented components. RESULTS: 30 knees had required revision surgery. 5 of the patients had revision for aseptic loosening, 3 for dislocation of polyethylen insert, 2 for periprosthetic fractures, 2 for instability, 1 for deep infection. In 17 cases the patella was resurfaced for patellofemoral problems additionally. CONCLUSION: This study demonstrated good clinical and radiographic results. According to the functional outcome results obtained in this study, we believe that this design is a valuable option for active patients undergoing total knee arthroplasty.

Abstract no.: 48220

THE FRACTURES OF TALUS (ABOUT 16 CASES)

Mohamed RAFAI[1], Omar QAHTANE[2], Charaf Eddine ELKASSIMI[2], Sidi ELHACEN[2], Abderrahim RAFAOUI[2], Mohamed RAHMI[2], Abdelhak GARCH[2]
[1]Department of Orthopedic Traumatology (Pavilion 32), CHU Ibn Rochd, Casablanca, Casablanca (MOROCCO), [2]Department of Orthopedic Traumatology (Pavilion 32), CHU Ibn Rochd, Casablanca, casablanca (MOROCCO)

INTRODUCTION: Fractures of astragalus remain rare, accounting for 3% to 5% of ankle fractures and only 0.1% to 0.85% of all fractures. PATIENTS AND METHODS: This is a retrospective study of 16 cases of surgically treated astragalus fractures during a 6-year period between January 2008 and December 2013. RESULTS: The average age of our patients was 32 years. Fracture of the slope was total in 10 cases and in 6 cases. Six patients had fractures of the astragalus dome, eight patients had transverse fractures and two fractures comminuted. Screwing was the most widely used method of osteosynthesis in our series (13 cases). The mean follow-up was 21 months The results were satisfactory in 68% of the cases and unsatisfactory in 32% of the cases according to criteria of GAY and EVRARD already used by WITVOET. DISCUSSION: The frequency of post-traumatic necrosis requires urgent reduction. The choice pathways are antero-internal, or postero-external according to TRILLAT. Currently, he is preferred to a tibio-astragalus arthrodesis from the outset or even a triple osteoarthritis of the tibio-talo-calcaneal if the fracture is communitive, four complications make the gravity of these fractures and are in ascending order: Bone necrosis, osteoarthritis , Disorders of consolidation and algodystrophy. CONCLUSION: Fractures of the slope remain rare fractures. They are severe as they occur in the young active subject, on a bearing and poorly vascularized bone and the technical difficulty, as well as the risk rate of avascular necrosis.

Abstract no.: 48228

COST DISCLOSURES OF SURGEON "SCORE CARD" EFFECTS ON OPERATING ROOM COSTS

Zachary POST[1], Alvin ONG[2], Fabio OROZCO[2], Danielle WEEKES[2], Fotios TJOURMAKIS[2]

[1]Rothman Institute of Orthopaedics, - (UNITED STATES), [2]Rothman Institute of Orthopaedics, Egg Harbor Township (UNITED STATES)

Health care costs continue to skyrocket in the United States despite government intervention. One method used to contain costs is the development of surgeon cost scorecards that track surgeon expenditures in isolation, and in relation to peers. We sought to investigate the effect surgeon scorecards had on the reduction of OR cost with regard to total knee and total hip arthroplasty (TKA, THA). Our regional health care system started distributing OR cost scorecards to each surgeon in 2012. The scorecard reported the average direct supply cost per-case of procedures and compared the surgeon's data to their peers. Additionally, surgeons were queried to evaluate if scorecard disclosures affected OR costs. Average supply cost per-case of THA and TKA were calculated quarterly and collected over a 4-year period (Jan. 2012-Dec. 2016) and compared to the data after scorecard disclosure (Jan. 2015-Dec. 2016). Before scorecard disclosure, the direct supply cost per-case ranged from $4,955–$5,271 and $5,469–$5,898 during the scorecard period for TKA and THA, respectively. After disclosure, the direct supply cost ranged from $4,266–$4,515 and $5,073-$5,727 for TKA and THA, respectively. This cost savings was significant and resulted in annual cost savings of 5% for TKA and 4% for THA. Seventy-five percent of surgeons said that cost transparency altered their practice. Once a surgeon becomes cognizant of their expenses, they were able to reduce OR costs. Transparent cost disclosure is one method of containing costs in the current healthcare environment.

Abstract no.: 48235

HIP ARTHROPLASTY: ARE WE PURSUING THE CORRECT APPROACH?

Christopher O'DOWD-BOOTH[1], Chris THORNHILL[2]
[1]University College Hospital, London (UNITED KINGDOM), [2]Brighton and Sussex Medical School, Leicester (UNITED KINGDOM)

The direct anterior approach to total hip replacement was first described by Smith-Petersen in 1917. This technique takes advantage of the natural internervous planes between sartorius and tensor fascia latae, as well as rectus femoris and gluteus medius. Therefore, minimal damage is caused when exposing the hip capsule, theoretically bringing many advantages regarding outcomes and complications. Having previously fallen out of fashion, the direct anterior approach is experiencing a resurgence of popularity. It is therefore necessary to determine whether this approach should be used in place of commonly accepted approaches to the hip for arthroplasty surgery. Through critical review and appraisal, it is demonstrated that the direct anterior approach leads to reduced post-operative analgesia requirements and hence facilitates earlier functional recovery. The evidence shows consistently low complication rates, particularly regarding dislocation, vital in successful arthroplasty. Despite this proving only a minimal advantage over the posterior approach, any potential increase in patient outcomes should be considered. There is the need for re-training, so this approach may be of potential benefit to newer surgeons still developing their practice, however should be considered by all performing hip arthroplasty surgery. The studies to date are limited, and there is a need for a high quality long-term follow-up study, to establish whether there is an effect upon patient outcomes in the long term. Overall, the direct anterior approach, although not a new approach, does provide a potential to improve future arthroplasty outcomes, but further research is required, particularly regarding long-term outcomes.

Abstract no.: 48237

TREATMENT OF PERONEAL NERVE INJURIES WITH SIMULTANEOUS TENDON TRANSFER AND NERVE REPAIR (ABOUT 05 CASES)

Kamel ACHOUR[1], Abdelhalim OULD ROUIS[2], Rachid BELLAHSSENE[2], Merouane KHOUAS[2], Sihem GARMAZ[2], Mourad HAMIDANI[2]
[1]CHU Frantz Fanon Blida, Alger (ALGERIA), [2]CHU Frantz Fanon Blida, Blida (ALGERIA)

Common peroneal nerve palsy leading to foot drop is difficult to manage and has historically been treated with extended bracing with expectant waiting for return of nerve function. Peroneal nerve repair has traditionally been avoided except in cases of known traumatic or iatrogenic injury, with tendon transfers being performed in a delayed fashion after exhausting conservative treatment. We present our strategy for management of foot drop with nerve repair and concomitant tendon transfer. This is a retrospective study of a series of 5 patients with foot drop. For all patients, the preoperative clinical examination and electromyographic evaluation were performed. Simultaneous peroneal nerve exploration and repair at the time of tendon transfer was performed in these patients in our study between 2010 and 2015. We compared our results with a group of patients who had only a tendinous transfer. Patients with both nerve repair and tendon transfer had superior functional results with active dorsiflexion in all patients, compared to dorsiflexion in 50% of patients treated with tendon transfers alone. Additionally, 65% of patients treated with nerve repair and tendon transfer were able to achieve enough function to return to practice a sport, compared to 20% in patients with tendon transfer alone. In peroneal nerve injuries, nerve repair has better prognosis if it is associated with a tendon transfer procedure to regain foot dorsiflexion. With this technique, a highly satisfactory return of function can be expected, even in very severe injuries of the peroneal nerve injuries.

Abstract no.: 48239

TARSAL CANAL SYNDROME SECONDARY TO SYNOVIAL CYST : ABOUT A CASE

Youssef BENYASS[1], Mohammed BOUSSAIDANE[2], Valdumir Ravid MENDES TEIXEIRA[2], Salim BOUABID[2], Driss BENCHEBBA[2], Bouchaib CHAFRY[2], Mostapha BOUSSOUGA[2]

[1]Orthopedic Trauma Service II, Military Hospital-Rabat, - (MOROCCO),

[2]Orthopedic Trauma Service II, Military Hospital-Rabat, Rabat (MOROCCO)

Tarsal canal syndrome is a rare entity. This is the clinical translation of a progressive suffering of the posterior tibial nerve by compression in an osteofibrous canal formed by the tarsal bones and the internal annular ligament. Compression by a synovial cyst is a rare cause, its symptomatology may be favored by some factors such as sport practice. We report the case of a former high-level 43-year-old footballer who presented plantar neuralgia of the first three toes for the past year. Clinical examination showed palpable tumefaction in the internal retromalleolar with no inflammatory signs. Ultrasound and Magnetic Resonance Imaging confirmed the diagnosis of tarsal canal syndrome to a synovial cyst. Treatment consisted of a resection of the synovial cyst by a medial retromalleolar direct approach. Tarsal canal syndrome is a rare peripheral neuropathy. Its diagnosis is difficult and its frequency is often underestimated. The intrinsic causes of tarsal canal syndrome such as lipoma, ganglion, and synovial cyst are rare. There are favorable factors, such as the extreme dorsiflexion position of the ankle, rapid weight gain and the practice of sport. Magnetic Resonance Imaging is the best way to objectify a synovial cyst. The electromyogram makes it possible to search for a conduction block, an important argument in favor of diagnosis. The treatment is initially medical. In case of therapeutic failure or the presence of a compressive lesion, surgery is necessary. Post-opératif complications or persistence of symptomatology are rare.

Abstract no.: 48240

DISLOCATIONS AND FRACTURES-DISLOCATIONS PERILUNAR OF THE CARP: ABOUT 8 CASES

Youssef BENYASS[1], Mohammed BOUSSAIDANE[2], Valdumir Ravid MENDES TEIXEIRA[2], Bouchaib CHAFRY[2], Salim BOUABID[2], Driss BENCHEBBA[2], Mostapha BOUSSOUGA[2]

[1]Orthopedic Trauma Service II, Military Hospital-Rabat, - (MOROCCO),

[2]Orthopedic Trauma Service II, Military Hospital-Rabat, Rabat (MOROCCO)

The dislocations and fractures-dislocations perilunar of the carpus constitute a rare lesional entity, that represent 5% to 10% of the traumatic lesions of the wrist. They concern the young and active man, most often following a road accident. They are often unknown and may go undetected at the acute stage despite the importance of anatomical displacement. Surgery is the only guarantee to compensate for residual carpal instability and osteoarthritis. We report a retrospective study of 08 cases of periplanar dislocation of the carp, collected in the traumatology-orthopedics department of the Mohamed V military hospital from January 2010 to December 2015. The series included six pure dislocations and two trans-scaphoperilunar dislocations. The average age of our patients was 34 years, predominantly male. All patients were treated surgically open-ended dorsally. The maximum take-up time was 6 days. The patients were reviewed with an average follow-up of one year. The results were satisfactory in all reviewed cases (no sequelae). Two cases were lost. Peripunar dislocation of the carpus is a rare condition that usually affects the young man. Road accidents are the most frequent cause of these fractures-dislocations. The diagnosis of peri-lunar dislocations is only radiological, but the pictures are often difficult to interpret. This explains the frequency of lesions that are not well known. The treatment is usually surgical and must be carried out as soon as possible to minimize complications which can be important and ensure a functional recovery, the best possible for a normal socio-professional reintegration.

Abstract no.: 48242

CHRONIC OSTEOMYELITIS MANAGEMENT STRATEGY: ABOUT 5 CASES

Youssef BENYASS[1], Valdumir Ravid MENDES TEIXEIRA[2], Mohammed BOUSSAIDANE[2], Bouchaib CHAFRY[2], Driss BENCHEBBA[2], Salim BOUABID[2], Mostapha BOUSSOUGA[2]

[1]Orthopedic Trauma Service II, Military Hospital-Rabat, - (MOROCCO),

[2]Orthopedic Trauma Service II, Military Hospital-Rabat, Rabat (MOROCCO)

Chronic osteomyelitis is a frequent affection in Morocco. It is severe because of its location within a deep tissue, of the complexity of its management and of the implementation of functional prognosis. The aim of this work is to recall therapeutic difficulties. We report a retrospective study of five cases collected between January 2010 and December 2014. It is four men and one woman the average age is 18 years. They had presented fistula with chronic pain at the affected limb. The diagnosis was made through imaging. A bacteriological sampling with antibiogram was performed on the productive fistulas and any seropurulent flow in pre and postoperative. All patients underwent surgical treatment, combining surgical curettage with adapted antibiotic therapy, which allowed a favorable evolution with clinical and biological improvement. Osteomyelitis is a bone infection of blood origin. The responsible germ is usually a staphylococcus aureus. It affects men more frequently. It is called chronic when the evolution lasts more than three months with a bone necrosis which evolves towards the detachment of the mortified zone and the constitution of sequestrations. Probabilistic antibiotic therapy is prohibited. The identification of the responsible organism as well as the study of its susceptibility to antibiotics is mandatory to guide antibiotic therapy. Chronic osteomyelitis still poses enormous therapeutic problems and a heavy burden for patients and hospitals in terms of morbidity and costs. Only the absence of recurrence after a very prolonged stoppage of antibiotics makes it possible to speak of remission.

Abstract no.: 48244

OUTCOMES OF ARTHROSCOPIC CAPSULOLABRAL RECONSTRUCTION IN ANTERIOR INSTABILITY WITH GLENOID BONE DEFECT MORE THAN 20% -IS LATARJET PROCEDURE ABSOLUTE INDICATION FOR THESE PATIENTS?

Joo Han OH[1], Sae Hoon KIM[2], Dae Ha KIM[1], Hyeon Jang JEONG[1], Sung Min RHEE[1], Kyung Pyo NAM[1], Joo Hyun PARK[1], Ji Hyun YEO[1], Kwang Jin LEE[1]
[1]Department of Orthopaedic Surgery, Seoul National University College of Medicine, Seoul National University Bundang Hospital, Korea, Seongnam-si, Gyeonggi-do (SOUTH KOREA), [2]Department of Orthopaedic Surgery, Seoul National University College of Medicine, Seoul National University Hospital, Seoul (SOUTH KOREA)

Background: Recent suggestion is that shoulder anterior instabilities with over 20% glenoid bone defect are not candidates for arthroscopic capsulolabral reconstruction. Current guideline is bony procedure, typically Latarjet procedure, in significant glenoid bone loss. This study is performed to verify the necessity of bony procedure in anterior instabilities with over 20% glenoid bone defect. Methods: Glenoid defects were measured by glenoid defects ratio method by best-fit circle and 32 cases (M:F=30:2) with more than 20% were included. Bony fragment was observed in detached labrum in 12 cases (37.5%) and the fragment was incorporated in labral repair in all cases. Remplissage procedure was done in 3 patients. Results: Mean age at the time of operation was 27.4 ± 10.3 (14-57) years. Mean follow up duration was 35.0 ± 23.5 (12-86) months. Percentage of mean defect size was 25.6% ± 4.1%. In 18 cases (56.3%), glenoid defect was more than 25%. No case developed obvious recurrence of dislocation, however, sense of subluxation was positive in 4 cases. Return to sports in preinjured level was possible in 26 cases (81.3%). Satisfaction visual analogue scale showed 9.2 ± 1.0. Postoperative imaging for evaluation of labral healing was done in 21 cases (65.6%) and showed satisfactory healing in all cases. Conclusion: The current data showed that arthroscopic soft tissue procedure in over 20% glenoid defects could lead to satisfactory outcome. Knowing that bony procedure, such as Latarjet procedure, is more invasive and has higher complication rate, current indication should be reevaluated for the threshold

Abstract no.: 48247

EXCEPTIONAL LOCATION OF THE LEIOMYOMA AT THE LEVEL OF THE FINGERS: ABOUT A CASE

Youssef BENYASS[1], Mohammed BOUSSAIDANE[2], Mohamed Jalal EL MEKKAOUI[2], Driss BENCHEBBA[2], Salim BOUABID[2], Bouchaib CHAFRY[2], Mostapha BOUSSOUGA[2]

[1]Orthopedic Trauma Service II, Military Hospital-Rabat, - (MOROCCO),

[2]Orthopedic Trauma Service II, Military Hospital-Rabat, Rabat (MOROCCO)

Leiomyoma is a benign smooth muscle tumor of extremely rare location at the level of the hand more commonly seen in women than men. We report the case of a 63 year old woman, presents with a painful mass of her right index finger. The physical examination found a single mass of 1 cm, painful to palpation with a firm consistency, associated with paresthesias on contact and percussion of the mass. The skin was normal. The radiograph of the right hand showed a mass of the soft parts without bone marks and without microcalcification. Excision of the tumor was performed. At macroscopy, it was an encapsulated tumor, of firm consistency, easily cleavable and well limited. The histological examination confirmed the diagnosis. At the last recoil, there is no sign of local or regional recurrence. Leiomyoma is a benign tumor of smooth muscle tissue. The uterus is the most frequent location. The leiomyoma is most often found in the lower limbs. The main mechanisms that can explain the pain syndrome remain hypothetical, it can be due to the presence of nerve fibers in contact with the lesion or the occurrence of local ischemia of the muscular elements of the vessels. Its diagnosis must be evoked before the clinical picture of a painful nodule, isolated, having evolved slowly. Its prognosis is benign. The treatment is essentially surgical by complete excision which rarely leads to recurrence.

Abstract no.: 48249

PATHOLOGICAL HUMERAL FRACTURES – SURGICAL TREATMENT AND EVALUATION OF A SURVIVAL SCORE

Sandra STENICKA[1], Robin RISTL[2], Elena NEMECEK[1], Robert BREUER[3], Philipp FUNOVICS[1], Reinhard WINDHAGER[1]

[1]Department for Orthopaedic Surgery of the Medical University of Vienna, Vienna (AUSTRIA), [2]Department of Medical Statistics, Medical University of Vienna, Vienna (AUSTRIA), [3]Department for Orthopaedic Surgery, Vienna (AUSTRIA)

Introduction: As the incidence for cancer diseases is increasing, the number of metastatic defects and pathological fractures is increasing as well. The optimal treatment for a patient is a multifactorial decision. Metastases in long bones are one of the main reasons for morbidity in patients with advanced-stage cancer. The hospitalization period and the number of surgical treatments influence the morbidity. In 2013, an American research team designed a survival score for oncological patients with metastatic defects, named PathFx. That online available score should support the surgeon's decision-making process in estimating the expectancy of life. Methods: For retrospective analysis of pathological humeral fractures we included 72 patients with 77 pathological fractures located on the humerus, 40 men and 32 female (2002 – 2015). The mean age was 67,5 years (SD 8,4) and the mean postoperative survival was 16,5 month (SD 25,6). The Kaplan-Meier-Survival curve was compared to the survival results of the PathFx score. Results: In 52% of the surgical procedures a compound osteosythesis was performed with two refractures and three metastatic recurrences . The results of the Kaplan-Meier-Survival curve in comparison to the PathFx results correspond to each other. In ROC Curves and AUC values the discrimination capability is higher in the 12-months results in comparison to the 1-months results in consideration to laboratory parameters and without. Conclusions: The primary tumor and the staging are essential information for a useful scoring. The ECOG Performance Status and the prediction for the survival of the surgeon are predictive parameters in that score.

Abstract no.: 48251

TROCHLEAR HEMIARTHROPLASTY- A NOVEL METHOD IN ISOLATED TROCHLEAR KNEE LESION.

Srikanth Reddy GANDAVARAM[1], Deepak HERLEKAR[2], Sharad SINGHAI[3], Kuntal PATEL[1]

[1]Royal Lancaster infirmary, Lancaster (UNITED KINGDOM), [2]Raoyal lancaster infirmary, Lancaster (UNITED KINGDOM), [3]Royal Lancaster Infirmary, Lancaster (UNITED KINGDOM)

Introduction: Patello femoral lesions in younger patients are challenging and are treated with variety of procedures. Isolated Cartilage defects in femoral trochlea are relatively rare. Bilateral trochlear hemiarthroplasty for isolated trochlear lesion has been done in a patient who had excellent outcome with four years of follow up. Methods: We present a case report of 32 year old teacher with extreme pain in both knees with significant patello femoral tenderness. He failed conservative management with analgesics and physiotherapy. He had arthroscopies done to both knees but with no benefit. He reached to a stage where he could no longer walk without using bilateral axillary crutches. Arthroscopic findings revealed bilateral large chondral lesion with normal patellar cartilage. Patient was planned for patello femoral replacement. As the patellar cartilage was completely normal only trochlear was replaced. Patient had dramatic improvement of symptoms and subsequently underwent similar procedure on the right knee. Results: Results: Patient had excellent outcome with four years follow-up with checked with preop and postop WOMAC Scores conclusion: We recommend considering Hemiarthroplasty in isolated trochlear lesions but, with careful assessment of patello femoral alignment. Our patient did very well with excellent outcome at four years on both knees. Further studies and case series would certainly be helpful to evaluate this method.

Abstract no.: 48254

TRENDS IN BLOOD METAL ION LEVELS POST REVISION SURGERY FOR METAL-ON-METAL HIP ARTHROPLASTY.

Rajesh BAWALE[1], Joshi ANAND[2], Dilip PILLAI[2], Saima SULTANA[3]
[1]MEDWAYMARITIME HOSPITAL, LONDON (UNITED KINGDOM),
[2]MEDWAYMARITIME HOSPITAL, GILLINGHAM (UNITED KINGDOM),
[3]Medway Maritime Hospital, Gillingham (UNITED KINGDOM)

Introduction: In patients with metal-on-metal hip arthroplasties, pain and joint effusions may be associated with elevated metal ion levels . Little information is available about the kinetics of metal ion clearance from the body and the rate of drop in elevated blood ion levels. We assessed 1) pattern of drop in metal ion levels noted postop 2) the differences in the decline trends of chromium and cobalt metal ion levels. Methods: We included 92 patients (37 male, 55 female) who underwent revision of a painful MoM hip arthroplasty. All patients had minimum of 2 blood metal ion measurements after revision. The samples were collected preoperatively, 6 and 12 months post operatively. Results: Average blood ion levels at the time of revision were 29.22 ppb for chromium and 39.35 ppb for cobalt. The change in ion levels after revision surgery varied significantly between patients. In many cases ion levels decreased to 50% of the values at six months. Drop in chromium levels occurred more slowly than of cobalt levels, with an 11% lag in return to lower levels. The rate of drop of both metals followed second-order (exponential) kinetics more closely than first-order (linear) kinetics. Discussion: The elimination of cobalt and chromium from the blood of patients who have undergone revision of painful MoM hip arthroplasties followed an exponential curve with a half-life of approximately 80 days. Elevated blood levels of cobalt and chromium ions can persist for at least 1 year after revision in patients with high preop levels.

Abstract no.: 48261

SEPTIC ARTHRITIS OF LUMBAR FACET JOINT PRESENTING AS SPONTANEOUS BACTERIAL PEROTINIS: A RARE CASE REQUIRING SURGICAL INTERVENTION

Bruno CORREIA[1], Luís BARROS[2], José FIGUEIREDO[2], Ricardo RODRIGUES-PINTO[2]

[1]Oporto Hospital Center, Portimão (PORTUGAL), [2]Oporto Hospital Center, Oporto (PORTUGAL)

INTRODUCTION: Septic arthritis of the lumbar facet joints is uncommon with no more than 50 cases reported in literature. Usually, this condition can be successfully managed conservatively with antibiotics. We present a case of septic arthritis of the left L4-L5 facet joint presenting as spontaneous bacterial peritonitis, which was unresponsive to antibiotic treatment, requiring surgical intervention. METHODS: A 55 year-old man, with diabetes and hepatitis C, presented with fever, abdominal and lumbar pain. Examination showed ascitis. Erythrocyte sedimentation rate and C-reactive protein were elevated. A paracentesis was performed and a diagnosis of spontaneous bacterial peritonitis was assumed, as acute on chronic liver failure. The patient was admitted for antibiotic treatment with Cefotaxime. Staphylococcus aureus was isolated in blood and urine cultures. Despite directed treatment for two weeks there was persistent fever, back pain and elevation of serum inflammatory markers. CT-scan identified a left psoas abscess and spinal MRI a septic arthritis of the left L4-L5 facet joint. RESULTS: In the absence of a response to medical treatment, surgical debridement of the facet joint was performed. Three months after surgery the patient is asymptomatic, and has had normalization of inflammatory markers. Follow-up MRI shows complete resolution of the infection. CONCLUSIONS: Early diagnosis and treatment help eradicate infection and prevent complications. MRI imaging is a sensitive modality to diagnose this condition in its initial stages. While antibiotic therapy is the first line of treatment, when it fails, surgical debridement may be necessary.

Abstract no.: 48266

DOES CORACOHUMERAL LIGAMENT (CHL) RELEASE IN CONCOMITANT WITH ARTHROSCOPIC ROTATOR CUFF REPAIR PREVENT POSTOPERATIVE STIFFNESS? - A RETROSPECTIVE CASE CONTROL STUDY -

Hyeon Jang JEONG[1], Joo Han OH[2]
[1]Seoul National University Bundang Hospital, Seongnam (SOUTH KOREA),
[2]Department of Orthopaedic Surgery, Seoul National University College of Medicine, Seoul National University Bundang Hospital, Korea, Seongnam-si, Gyeonggi-do (SOUTH KOREA)

Introduction: There has been no report regarding the effectiveness of coracohumeral ligament (CHL) release in postoperative stiffness. We examined whether CHL release in-continuity from bony coracoid base prevents the postoperative stiffness in patients with rotator cuff repair. Methods: Patients who underwent arthroscopic rotator cuff repair between Jan. 2014 and Jan. 2016 were collected retrospectively. A propensity score matching (1-to-1) was performed between group with releasing CHL in-continuity from bony coracoid base and no release group. Finally, 76 patients in each group were matched using the co-variables: age, gender, dominance, number of tendon involved, and retraction size. We assessed passive range of motion (ROM) at 3-months after surgery, and recorded functional outcome as well as ROM at postoperative 6-months in both groups. Results: There were no significant differences in demographic data and preoperative ROM between the groups. For external rotation (ER) at side at postoperative 3-month, CHL-release group had a superior range (48.3° vs. 41.6°, P = 0.005). Considering changes between the pre- and postoperative range of ER at side, there was a significant difference between groups in patients with small-to-medium sized tear (P=0.029), but no significant with large-to-massive sized tear. There were no differences of ROM, and functional score recorded at postoperative 6-months. There were no postoperative complications regarding to procedure of CHL release. Conclusion: Based on the current retrospective data, prophylactic CHL release in-continuity from bony coracoid base could be effective and safe method to prevent early postoperative stiffness, especially ER at side in patients with small-to-medium tear.

Abstract no.: 48267

MINIMUM 5 YEAR FOLLOW-UP RESULT OF SECOND REVISION HIP ARTHROPLASTY

Kee Hyung RHYU[1], Se Jung HONG[1], Hyung Kee LEE[1], Young Soo CHUN[1], Yoon Je CHO[2]

[1]Kyung Hee University Hospital at Gangdong, Seoul (SOUTH KOREA),
[2]Kyung Hee University Hospital, Seoul (SOUTH KOREA)

This study was performed to look for the result of second revision arthroplasty, and to find the cause of failure. From September 2006 to April 2012, 62 hips in 61 patients that underwent second revision hip arthroplasty were enrolled. Male were 35 (36 hips) and female were 26. Mean age was 55.3 years old. Clinical result using Harris Hip Score, WOMAC score and Short Form mental and physical scores were evaluated with a radiological result. Mean follow-up period was 86 months (60-128). The mean interval between the first and second revisions was 104 (1-302) months. The diagnoses for the second revision were loosening (23), infection (11), PE-related problems (10), dislocation (10), periprosthetic fracture (6) and ceramic head fracture (2). All clinical scores except Short-form physical score were significantly improved after surgery. Seven cases underwent the third reoperation. The diagnoses were infection (3), dislocation (2) and loosening (2). Having unexplained painful THA as a diagnosis for the first revision and longer follow-up period showed statistical significance for receiving the third revision. Regression analysis reveals that the long follow-up period significantly related to the incidence of the third revision ($p=0.009$, OR 1.23: $1.05<95\%$ CI<1.45). Although the clinical scores were significantly improved, the result of the second revision surgery was not excellent. The surgeon should pay a great attention when performing the first revision under the diagnosis of unexplained painful THA. Longer term follow-up study was mandatory because the follow-up period was revealed as a significant causative factor for the repeated revision surgery.

Abstract no.: 48270

RESULTS OF SURGICAL TREATMENT OF FIBROMATOSIS.

Philipp FUNOVICS[1], Joannis PANOTOPOULOS[2], Reinhard WINDHAGER[2]
[1]Medical University of Vienna, Wien (AUSTRIA), [2]Medical University of Vienna, Vienna (AUSTRIA)

We aimed to assess our surgical results within a historical group of patients undergoing resection of extra-abdominal fibromatosis. We have identified all patients with fibromatosis, excluding patients with palmar and plantar lesions, patients not undergoing surgery and patients with inadequate follow-up. This left 63 cases: 23 males (37%) and 40 females (63%), mean age of 34 years, ranging from 7 to 72. 20 tumors were located in the trunk (32%), 43 were in the extremities (68%). All except one patient with primary interscapulothoracic amputation (2%) underwent tumor resection. Median follow-up was 52 months. None of the patients died of disease. Overall, 23 patients developed a local recurrence (LR) after a median time of 19 months, representing a LR rate of 37%. After repeated resection eleven patients (48%) had a further recurrences. Hence, the 5- and 10-year LR-free survival was 55%. Female patients showed a significantly better LR-free survival compared to males (p=0.016). Lesions in the extremities showed a significantly worse LR-free outcome, compared to central tumors (p=0.002). Radiation had no impact on LR, while the surgical margin according to Enneking trended to have better outcomes with wider margins. Facing a high LR rate after surgical resection of fibromatosis, we conclude to advocate a conservative approach by watchful waiting. Surgery should be restricted to selected symptomatic patients. In case of surgery, a wide margin should be attempted, whenever feasible.

Abstract no.: 48275

EVALUATION OF EFFECTIVENESS AND LIMITATIONS OF A PONSETI TRAINING PROGRAMME

Gunjar JAIN[1], Sandeep LENKA[2], Rajesh P[3]
[1]ALL INDIA INSTITUTE OF MEDICAL SCIENCE, DELHI, new delhi (INDIA), [2]scb medical college, cuttack (INDIA), [3]Ganga Medical Centre & Hospitals Pvt Ltd Coimbatore, India., COIMBATORE (INDIA)

Training of Ponseti technique is crucial for proper clubfoot care. We have retrospectively evaluated the results of clubfoot treatment by Ponseti technique done by resident doctors. The purpose of this study was to evaluate the effectiveness and limitations of a Ponseti training programme. 40 patients (59 feet) with idiopathic clubfoot, treated by resident doctors who had received their first training in Ponseti technique were included. The average number of cast required to correct the deformity was 9 casts (3 to 30). The mean total duration of casting was 11 weeks (4 to 62 weeks). Percutaneous tenotomy of the Tendo Achilles was done in 43 feet (73%). 9 feet (15.3%) were resistant to treatment, among which 6 were treated with extensive soft tissue release. Out of 50 feet, which got treated, 31 feet (62%) had relapse. No significant improvement was seen after gaining experience in 5 cases by resident doctor with respect to mean final Pirani score, mean number of casts required and mean duration of casting (p value 0.10, 0.770, 0.8 respectively). This study shows that certain aspects of Ponseti technique should be given further attention in a training programme.

Abstract no.: 48284

TO DEVELOP COMPUTER ASSISTED PATIENT SPECIFIC PEDICLE SCREW GUIDES FOR SPINAL DEFORMITIES WITH THE HELP OF VOLUMETRIC CT SCAN AND 3D RECONSTRUCTION MODELS AND COMPARE WITH FREE HAND TECHNIQUE

Bhavuk GARG
AIIMS, - (INDIA)

Introduction: Spinal deformities are challenging to treat and have a great risk of neurological complications due to pedicle screw placement. This project focused on developing patient specific screw guides and comparing with free hand technique. Methods: A total of 20 patients (10 with 3D printing (group 1) and 10 free hand (group 2) considering a sample size of 120 screws. We used 3D printer from Stratasys Mojo with ABS P 430 model material cartilage. Screw placement was graded on postop CT. Primary outcome measure: Screw violation, Secondary outcome measures: Surgical time, Blood loss, Radiation exposure and complications. Results: 137 screws in 3D printing group and 126 screws in free hand group. We found a statistically significant difference between 2 groups regarding perfect screw placement in favor of 3D printing. (P value =0.03) and a statistically significant medial violation in free hand group. (P value: 0.005). Surgical time and Radiation exposure was significantly less in 3D printing group (p value: 0.02). There was no neurological deficit in any of the patient in any group. Mean blood loss was higher in free hand but was not significant. Conclusion: Developing these patient specific drill templates will enable an average spine surgeon to treat these patients with much ease and safety. This step will create a further platform to extend this technology for other orthopedic disorders, especially in management of neglected injuries and deformities of other bones.

Abstract no.: 48286

ORIF LATERAL HUMERAL CONDYLE FRACTUREIN CHILDREN STUDY OF 56 CASES

Anil SINGHAL
traumacare & Arthroscopy centre, Bulandshahr (INDIA)

children of average age gp 6.5 years 45cases of milch 2 11 of milch 1,all treated by open reduction internal fixation.average radiological union at 45 dayshyprtrophic spur on lateral side was noted in28% cases with prominance on lateral side elbow.one patient develop pseudocubitus deformity .94% patients had excellent outcome kwires were removed after radiological union. some stiffness noted in cases where fracture was old and surgery was done more than two weeks old.

Abstract no.: 48288

COMPARISON OF RADIOLOLOGICAL OUTCOME OF UNSTABLE INTERTROCHANTERIC FRACTURES IN ELDERLY PATIENTS TREATED WITH INDIAN AND FOREIGN CEPHALOMEDULLARY NAILS.

Velmurugesan P[1], Devendra AGRAHARAM[2], Dheenadhayalan JAYARAMARAJU[2], Rajasekaran SHANMUGANATHAN[2]
[1]Ganga hospital, coimbatore (INDIA), [2]Ganga hospital, Coimbatore (INDIA)

Introduction: Intertrochanteric fracture femur is one of the most common fractures in elderly.Purpose of study was to compare the radiological outcome in these patients treated by Indian and Foreign cephalomedullary nails. Methods: 417 patients aged 65 years and above with unstable intertrochanteric fractures fixed with cephalomedullary nails were analysed in two groups – Group1-Indian(PFN, Gamma nail); Group-II Imported(PFNA2 ,AOAFN).Exclusion criteria included polytrauma, pathological fractures, open fractures. Data was collected from January 2011 to June 2015.Pre-op radiographs were analysed for preoperative comminution,lateral wall breach and osteoporosis(singh's index). Post operatively radiological outcome were analysed with respect to bony union in weeks. Also complications like cut-outs, varus collapse,implant failures,nonunion with both implants were analysed in immediate postop,6weeks,12weeks,18weeks,24weeks and upto 1year.Data was analysed by statistical methods. Results: Out of 417 patients,248 were operated with Indian and 169 patients with foreign implants. Radiological union in Indian was 16.41 weeks and 15.27 weeks in Foreign (p=0.887).Varus collapse was seen in 3.6%vs2.9%(p=0.407).Cutout in 2.4% of Indian and 2.3% in Foreign (p=0.493).Implant failures seen in 2.4% vs 1.8%.Nonunion seen in 0.8% and 1.8% (p=0.372).Complication rates were 12.9% patients with Indian and 11.2% with Foreign implants(p=0.412).Conclusion: Both Indian and Foreign implants had similar bony union rates and complication rates with no statistically significant difference between both groups. This study proves that outcome depends on preoperative comminution,proper reduction and screw/blade positioning and osteoporosis rather than the type of implant. If properly performed, Indian implants are safe and viable option and inpar with Foreign implant.

Abstract no.: 48289

I M NAIL FIXATION DISTAL TIBIA DIAMETAPHYSIAL AREAUSING LOCK NAIL

Anil SINGHAL
Traumacare & Arthroscopy Centre, Bulandshahr (INDIA)

32 patients of distal end of tibia with or without fibula involvement of fibula were treated by tibia im nail within two weeks of injury close technique. Fracture within two cm of articular surface excluded.All reduced close with at least three distal locking screw. ninty two percent patients had good to excellent clinical outcome. various technique involved to reduce the fragment close like polar scews ,kwire ponted reductin clmps etc.knee pain and mild valgus deformity these two problems noted in few of my cases also mentioned in literature

Abstract no.: 48290

COMPARISON OF MID-TERM OUTCOME OF SINGLE-ROW AND DOUBLE-ROW REPAIR TECHNIQUES IN MEDIUM SIZED ROTATOR CUFF TEARS IN YOUNG PATIENT.

Inayat PANDA[1], Roshan WADE[2], Vipul GUPTA[3]
[1]Fortis Escorts Institute, New Delhi, Berhampur , Odisha (INDIA), [2]KEM and Seth GS Hospital, Mumbai (INDIA), [3]Fortis Medical and Research Institute, New Delhi (INDIA)

Double-row repair (DR) of rotator cuff tears (RCT) provides a superior biomechanical advantage over single-row (SR) repair with better reproduction of tendon footprint and higher initial strength of fixation. We retrospectively investigated and compared the mid-term clinical outcomes of both the techniques in medium sized tears (2-4cm) in younger patients. Our cohort consisted of 96 patients with unilateral shoulder involvement, 42 (43.7%) cases following history of shoulder dislocation. The mean age of 53.4 (40-55) years, average follow-up of 1.7 (1-4.3) years, and mean tear size of 2.3 (2-4) cm. 52 patients underwent a SR repair while 44 underwent a DR repair. The mean Relative Constant Score (CS) and DASH score significantly improved from pre-operative values in both the groups ($p<0.01$). At final follow-up, Relative CS in the SR group was 76.1 + 8.2 and in the DR group was 78.6 + 7.5. The average DASH scores were 26 + 4.5 and 22 + 3.7 in SR and DR group respectively. The differences in outcome scores were significantly higher in DR group at 6 months ($p = 0.062$ and 0.052 for relative CS and DASH respectively), which was not seen beyond 1 year. Complications included 2 re-tears in SR group and none in DR group. The incidence of patients with post-surgical restriction of motion was higher in SR group. The initial better outcome seen with DR repairs may be due to a better response to the aggressive post-operative physiotherapy protocol. The long-term outcomes are similar.

Abstract no.: 48294

EFFECT OF LESSER TROCHANTER FRAGMENT IN PERTROCHANTERIC FRACTURES TREATED WITH CEPHALOMEDULLARY NAIL

Venkata Raja Sekhar VADDIRAJU
icon krishi hospital, VISAKHAPATNAM (INDIA)

Background :Pertrochanteric fractures are very common in elderly osteoporotic population. The efficacy of cephalomedullary nail in these fractures is well established. Posteromedial congruity is considered as the predictor of stability and lesser trochanter fracture disrupts it. The literature on the impact of this disruption in the fracture fixation and results is scarce. So this study is to study this impact.Materials :30 patients with pertrochanteric fractures with lesser trochanteric fracture and separation during 2015 – 2016 are included. All are treated by the same surgeon with the same implant i.e proximal femoral nail without addressing lesser trochanter separately. Intra op difficulties functional and radiological recovery followed periodically at 3 wks, 6 wks, 3months, 6 months, and 1 year in these patients.Results: Intraoperatively difficulty in passing guide wire has been noted. M: F 2:3, Mean age is 69 yrs (60 yrs to 80 yrs). Functionally all patients were mobilized with partial weight bearing from 3 weeks and full weight bearing from 6 weeks All fractures united radiologically in an average of 6 months(3 months to 8 months). No incidence of screw cut out or other implant complications .Conclusion: Lesser trochanter fracture may cause intra operative difficulty in fixation but post operatively not fixing the lesser trochanter separately has no impact on radiological or functional recovery of patients .

Abstract no.: 48296

TOTAL KNEE REPLACEMENT IN EXTRA ARTICULAR DEFORMITIES

Ramneek MAHAJAN[1], Jyoti Singh KAPOOR[2], Anil VENKATASWAMY[2], Abhimanyu KAKRALIA[1]

[1]Max smart Super speciality Hospital, New delhi (INDIA), [2]Max Smart Super Speciality Hospital, Saket, New Delhi (INDIA)

Background: Restoration of mechanical axis in total knee replacement is imperative for successful long term outcome of surgery. The presence of extra articular deformities poses as a technical challenge. We present a case series of 38 cases in which patients underwent single stage total knee replacement. Objective: To evaluate the results of total knee replacement in osteoarthritic knees with extra articular deformities in terms of restoration of mechanical axis , stability , Range of motion and improvement of knee society scores. Materials and methods: 38 patients with osteoarthritis of knee with extra articular deformity underwent total knee replacement (31 navigation assisted) between Feb 2007 to June 2014. The cause of extra articular deformity was malunited fracture (26 knees), osteotomies (6 knees) , metabolic causes (4 knees) , developmental (2 knees). Preoperative and postoperative knee society scores ,range of motion were recorded. Results: 38 patients (30 females and 8 males) with mean age of 66.6 years(52-78years) were followed up for mean of 60 months. Range of motion improved from mean of 57.5 degrees to 100 degrees. Knee society scores improved from mean of 23.5 to 91.3 points. Functional scores improved from mean of 27 to 88 points. No complications such as infection, ligament instability, or component loosening were seen. Conclusion: Osteoarthritic knees with extra articular deformity can be managed by a single stage procedure of total knee replacement with planned intra articular cuts and soft tissue release. Navigation assistance may be used in case multiplanar or severe deformities.

Abstract no.: 48298

PLATELET RICH PLASMA FOR OSTEOARTHRITIS OF KNEE

Satish Chandra GOEL
HIMS, Varanasi (INDIA)

The burden of OA is exacerbated by the inadequacy of current pharmacological therapies. Platelet rich plasma has been shown to have clinical improvement. Method: A study was conducted in 100 patients with osteoarthritis, grouped randomly in to 2 groups. PRP injection was given to group A patients while other patients acted as control. They were evaluated for pain, stiffness and functional difficulties. Results: In group A pre injection pain score was 11.87±2.031. During follow up, mean score showed gradual reduction and final score was 7.93±1.580. The reduction in score was statistically significant ($p<0.001$). Mean pre injection stiffness score in group A was 5.73±0.594.Final score was 3.73±0.594.The reduction in score was statistically significant ($p<0.001$). Mean difficulty pre injection score in Group A was 41.47±4.224. Final score was 21.53±3.543. The reduction in score was statistically significant ($p<0.001$). In group A reduction in scores in each follow up was also found to be statistically significant. Moreover, a cost-benefit analysis showed that one-stage application of platelet rich plasma injection shortened the hospital stay and reduces additional costs needed for replacement surgery. Major limitation of our study is the low number of patients and limited patient awareness about platelet rich plasma. The results of our study support the effectiveness of PRP injection for relieving pain and stiffness and improving knee functions in early knee OA. There are more benefits in early OA, especially in Kellgren Lawrence grade 1 or 2.

Abstract no.: 48299

ROLE OF L-ARGININE IN TREATMENT OF OSTEOPOROSIS

Satish Chandra GOEL
HIMS, Varanasi (INDIA)

Introduction: Nitric oxide (NO) is a short-lived free radical involved in several biological processes as a bioregulator and as a second messenger. It inhibits osteoclastic bone resorption in vitro and regulates bone remodeling. Zolendronic acid has been established as a treatment for post menopausal osteoporosis. Method: One hundred patients of osteoporosis having T score of -2.5 or more, were randomized to receive L-arginine) or Zolendronic acid. All patients received 1.0 g of calcium and 400 IU of vitamin D supplementation per day. In addition Group I patients received Larginine (2 gm.) per day while Group II patients received zoledronic acid 5 mg i.v. over 15 min. Patient were followed at regular intervals clinically, by biochemical investigations and at one year for DEXA scan. Results: Patients in both groups improved clinically and bio-chemically over one year period. T score on DEXA scan at one year showed improvement in bone density. Average pretreatment T score was -3.65 in group I and -3.52 in group II. At one year followup average T score was -2.9 in group I and -2.6 in group II. Difference was not statistically significant. Discussion: Oral administration of L-arginine in pharmacological doses induces growth hormone and insulin like growth factor-1 responses and stimulates nitric oxide synthesis. Growth hormone and insulin like growth factor-1 are important mediator of bone turnover and osteoblastic bone formation. While nitric oxide is potent inhibitor of osteoclastic bone resorption because of this dual effect on physiological regulator of bone remodeling

Abstract no.: 48301

REPLACEMENT OF POST INFECTIVE STIFF KNEE : OUR EXPERIENCE

Abhimanyu KAKRALIA[1], Jyoti Singh KAPOOR[2], Ramneek MAHAJAN[2], Anil VENKATASWAMY[3]

[1]Max smart Super speciality Hospital, New Delhi (INDIA), [2]Max Smart Super Speciality Hospital, Saket, New Delhi (INDIA), [3]Max smart super speciality hospital, New delhi (INDIA)

Background: Infection of the knee joint leads to destruction of the joint, decreased range of motion, stiffness and compromised function of the limb. Conservative treatment like manipulation under anaesthesia regains minimal range of motion. Once the infection is treated, total knee replacement is a treatment option which helps to regain range of motion and functionality.. We present a case series of TKR in post infective stiff knee. Objective: To evaluate the results of total knee replacement in post infective stiff knees in terms of Improvement of range of motion, knee society score, Pain relief, Intra operative difficulty, Post op complications. Material and methods: 8 patients with post infective knee stiffness underwent total knee arthroplasty between June 2015 and Feb 2016. 4 cases of each of tubercular and septic arthritis with no evidence of residual infection. Intraoperatively difficulty in closure encountered in one patient and post operative partial marginal wound necrosis seen. Results: Good pain relief, Improved range of motion and function and patient satisfaction achieved after total knee replacement of post infective stiff knee. Mean age was 43.6 years (30 to 68 years), mean follow up 8 months (6 to 10 months).Mean improvement of post operative range of motion was 98 degrees (75 to 112 degrees). Mean improvement of knee society score was from 49.3 to 83.8.Conclusion: Total knee replacement in a stiff knee restores good range of motion and improves function of limb and should be considered even in a younger patient.

Abstract no.: 48304

RECONSTRUCTION OF ANTERIOR CRUCIATE LIGAMENT BY AUTOLOGOUS HAMSTRING VS BONE PATELLA TENDON BONE AUTOGRAFT

Tarun KUKREJA
Dr DY Patil Medical College, Pune (INDIA)

Purpose: ACL deficient knees present with instability of the knee, in our study we have compared the results of ACL reconstruction using quadrupled autologous ipsilateral hamstring tendon and Bone-Patellar-Bone graft in terms of post-operative knee stability, graft site morbidity, duration of return to sports activity, patient satisfaction and recurrence of instability. Methods: Thirty patients in the age group of 18-40 years, presenting with chief complaints of pain, instability of more than 4 weeks, were diagnosed clinically by Lachman test, anterior drawer test, pivot-shift test and confirmed by diagnostic arthroscopy or MRI to have ACL tear. Group A comprised of 15 patients, who underwent hamstring reconstruction. Group B with 15 patients were operated with Bone-Patella-Tendon-Bone Graft. All patients were reviewed and analyzed at the end of one year. Results: Out of 30 patients included 25 were males and 5 were females. Right side injury was seen in 60% of patients. Pre-operative International knee documentation committee score range was 13.8-65.5, mean value was 47.98. Post-operative score for hamstring graft was 66.7 (31-87). Post-operative score for BTB graft was 67.7 (51-81.6). Pre-operative Tegners Range of scores was 2-9, mean of 4.33, suggestive of average activity levels of moderately heavy labor. Mean post-operative score for BTB graft was 5.66 and Hamstring graft was 6.06. Conclusion: There is no statistically significant difference between scores of the two groups. Hamstring grafts lead to better preservation of extension, higher patient-reported outcome scores. BTB graft patients complained of anterior knee pain and numbness lateral to patella.

Abstract no.: 48305

MANAGEMENT OF AVASCULAR NECROSIS OF HIP WITH CORE DECOMPRESSION WITH AUTOLOGOUS CANCELLOUS BONE GRAFTING AND PLATELET RICH PLASMA

Tarun KUKREJA
Dr DY Patil Medical College, Pune (INDIA)

Purpose: To study the results of idiopathic Avascular Necrosis of Hip (AVN) by core decompression with autologous cancellous bone grafting and Platelet Rich Plasma (PRP) and evaluate the radiological and functional outcome for the management of AVN Hip. To study the effect of PRP in preventing the disease process and it's healing. Methods: Thirty patients with stage I and II A/B were treated and followed up for 1-year. The results were evaluated on the basis of progression or remission of the disease by radiographic studies, pre-operative and post-operative Harris hip score (HHS), age and sex distribution. Results: Males were more affected than females and average age group of presentation in stage I and II was 29 years (22-55). The most common cause was idiopathic followed by steroid use. There were 5 (16.67%) patients in stage I, 16 (53.33%) in Stage IIA and 9 (30%) in Stage IIB. Thus, most common stage of AVN hip at presentation was stage IIB. Average pre-operative HHS was 56.80 and post-operative HHS was 79.73. 60% (18) of cases showed remission of the disease (radiographically) compared to preoperative stage at 1-year follow-up, in 30% (9) disease did not progress further and 10% (3) showed progression and required arthroplasty. Maximum patients who were operated were in Stage IIA of the disease. Conclusion: Management of stage I and II A/B AVN of femur showed good satisfactory results in terms of disease remission and prevention of the further progress of the disease by the above method at 1-year follow-up.

Abstract no.: 48308

PROPRIOCEPTION IN PATIENTS WITH POSTERIOR CRUCIATE LIGAMENT TEARS: A META-ANALYSIS COMPARISON OF RECONSTRUCTED AND CONTRALATERAL NORMAL KNEES

Young-Soo SHIN, Jung-Ro YOON, Woo-Seung LEE
Veterans Health Service Medical Center, Seoul (SOUTH KOREA)

It is unclear whether reconstructed PCL or contralateral normal knees have better proprioceptive function outcomes. This meta-analysis was designed to compare the proprioceptive function of reconstructed PCL or contralateral normal knees in patients with PCL insufficiency. All studies that compared proprioceptive function, as assessed with threshold to detect passive movement (TTDPM) or joint position sense (JPS) in PCL reconstructed or contralateral normal knees were included. JPS was calculated by reproducing passive positioning (RPP). Five studies met the inclusion/exclusion criteria for the meta-analysis. The proprioceptive function, defined as TTDPM (95% CI: 0.25 to 0.51˚; P<0.00001) and RPP (95% CI: 0.19 to 0.45˚; P<0.00001), was significantly different between the reconstructed PCL and contralateral normal knees. The mean difference in angle of error between the reconstructed PCL and contralateral normal knees was 0.06˚ greater in TTDPM than by RPP. In addition, results from subgroup analyses, based on the starting angles and the moving directions of the knee, that evaluated TTDPM at 15˚ flexion to 45˚ extension, TTDPM at 45˚ flexion to 110˚ flexion, RPP in flexion, and RPP in extension demonstrated that mean angles of error were significantly greater, by 0.38˚ (P=0.0001), 0.36˚ (P=0.02), 0.36˚ (P<0.00001), and 0.23˚ (P=0.04), respectively, in reconstructed PCL than in contralateral normal knees. The proprioceptive function of PCL reconstructed knees was decreased, compared with contralateral normal knees, as determined by both TTDPM and RPP. In addition, the amount of loss of proprioception was greater in TTDPM than in RPP, even with minute differences.

Abstract no.: 48310

COMPARISON OF KINEMATIC AND MECHANICAL ALIGNMENT TECHNIQUES IN PRIMARY TOTAL KNEE ARTHROPLASTY: A META-ANALYSIS

Young-Soo SHIN, Jung-Ro YOON, Young-Bae KIM
Veterans Health Service Medical Center, Seoul (SOUTH KOREA)

This meta-analysis compared clinical and radiographic outcomes and complications of kinematic alignment (KA) and mechanical alignment (MA) techniques in primary TKA. Studies comparing complications, and clinical and radiographic outcomes in patients who underwent primary TKA through the KA or MA technique were included. Six studies were included in the meta-analysis. The proportion of patients who developed postoperative complications (OR 1.10, 95% CI: 0.49 to 2.46; P=0.69) did not differ significantly between the two groups. The two groups were also similar in terms of change in hemoglobin (95% CI: -0.38 to 0.34; P=0.91), length of hospital stay (95% CI: -0.04 to 0.55; P=0.10), hip-knee-ankle angle (95% CI: -1.76 to 0.75; P=0.43), joint line orientation angle (95% CI: -4.27 to 4.23; P=0.99), tibial component slope (95% CI: -0.53 to 3.56; P=0.15), and femoral component flexion (95% CI: -2.61 to 7.57; P=0.34). In contrast, operation time (95% CI: -27.16 to -3.71; P=0.01), overall functional outcome (95% CI: 6.59 to 11.51; P<0.0001), knee anatomical axis (95% CI: -1.38 to -0.01; P=0.05), femoral component relative to the mechanical axis (95% CI: -2.47 to -1.40; P<0.0001), and tibial component relative to the mechanical axis (95% CI: 1.56 to 2.95; P<0.0001) were significantly different between the two groups. KA technique resulted in a significantly shorter operation time and better overall functional outcome than the MA technique, even though the femoral component was placed slightly more valgus and the tibial component slightly more varus relative to the mechanical axis with the KA technique.

Abstract no.: 48311

ISOLATED BRACHIALIS MUSCLE RUPTURE, A RARE ENTITY.

Pankaj Kumar SHARMA[1], Amit NARAYAN[2]
[1]Post Graduate Institute Of Medical Sciences, Rohtak, BIKANER (INDIA),
[2]PSRI, NEW DELHI (INDIA)

Introduction: Excessive sudden physical stress or repetitive overuse and activity may sometimes result in a sprain or tear of a particular muscle or muscle group, depending on its severity. These injuries are not infrequent in heavy weight lifters, sports persons, body builders and labourers. In the upper limb, it affects the biceps brachii muscle or tendon frequently. However, isolated brachialis muscle rupture is a relatively rare entity with very few cases reported in literature so far. The rarity may promote misdiagnosis or mistreatment of this injury. Material and methods: We report an isolated brachialis muscle rupture in a young female, possibly caused by strenuous exercise in the gymnasium. The diagnosis was made clinically and confirmed by magnetic resonance imaging. Results: Patient had a good outcome with conservative management along with supervised physiotherapy and was able to return to professional work after 3 months as all the cases reported in literature so far. Conclusion: - Tear or rupture of the brachialis muscle should be kept as a rare differential diagnosis in a patient presenting with pain and/or swelling about the elbow. Careful clinical examination of the limb may suggest injury of brachialis muscle, which should be confirmed with the help of other investigations (ultrasonography and MRI). These investigations may also prove to be helpful in evaluation of the course of injury during follow-up. Over time healing of the muscle rupture or tear should occur and no functional impairment of upper limb is expected to remain.

Abstract no.: 48313

COAGULOFIBRINOLYTIC AND INFLAMMATORY CHANGES IN RESPONSE TO INTRAMEDULLARY NAILING AND ITS IMPACT ON OUTCOME

Arulselvi SUBRAMANIAN[1], Venencia ALBERT[2], Vivek TRIKHA[3], Senthil KUMAR[3], Samarth MITTAL[4]

[1]All India Instittue of medical sciences, new delhi (INDIA), [2]All India Instittue of medical sciences, Delhi (INDIA), [3]All India Institute of medical sciences, Delhi (INDIA), [4]All India Institute of medcial sciences, Delhi (INDIA)

Intramedullary nailing (IMN), represent a second insult via increased inflammation, hemodynamic instability. We conducted a prospective observational cross sectional study, over a period of two years. (1) To examine the association between coagulo-inflammatory derangements and intramedullary nailing in fracture shaft of femur by evaluating the levels of coagulofibrinolytic marker Thrombin/Antithrombin Complex (TAT) and proinflammatory marker Interleukin-6 (IL-6) (2) to compare post-op marker levels between (I) isolated fracture femur undergoing IMN (n=30) (II) polytrauma with fracture femur undergoing IMN (n=30) (III) and distal fracture femur undergoing plating (n=15). ELISA analysis of TAT & IL-6 was done, pre-op, and 24h, 3rd & 5th day post-op. Elevations in TAT and IL-6 levels irrespective of type of injury and surgery observed. TAT significantly declined (p 0.009) whereas IL-6 levels rose within 24h post IMN (Group I). Similar changes were seen in group II. High IL-6 levels were observed in group III, both at pre-op (181.6(2.4-356.3) and day 3 (143.7(31.5-344.1) pg/ml) compared to IMN groups I & II (p 0.06 & 0.005); inverse changes seen in TAT levels (P <0.0001& 0.06). Correspondingly, higher incidence of sepsis in group III (14.2%) vs. groups I & II (6.7%& 13.4%). Coagulopathy was higher in group I (16.7% vs. 13.4%), vs. group III. Delayed union (n=3), ARDS (n=1) and FE (n=1) was only seen in polytrauma. We conclude that that inflammation, hemodynamic instability following IMN is directly associated with severity of injury, and however routine assays are in adequate in assessing hemodynamic instability following surgical intervention in orthopaedic trauma.

Abstract no.: 48314

LONG TERM RESULTS OF SURGICAL TREATMENT FOR PERIPROSTHETIC INFECTION OF HIP JOINT

Victor VOLOSHIN[1], Anatoliy EREMIN[2], Sergey OSHKUKOV[2], Saravanan SANAKARANARAYANAN ARUMUGAM[2]
[1]Moscow regional research and clinical institute, MOSCOW (RUSSIA),
[2]Moscow regional research and clinical institute, Moscow (RUSSIA)

Aim: To improve the results of surgical treatment for periprosthetic infection of hip joint. Materials and methods: Data of 165 patients from 1995-2017 with periprosthetic infection of hip joints are analyzed. The age of the patients varied from 28 to 89 years (81 men and 84 women). Selection of surgical method is based on the following criteria: Condition of endoprosthetic components, Time left after total hip replacement and Longevity of infection. The following surgeries are performed: Group1: Surgical curettage without removal of endoprosthesis (23 patients), Group 2: One setting revisional endoprosthetic replacement (54 patients), Group 3: Two stage endoprosthetic replacement using spacers impregnated with antibiotics (41 patients) and Group 4: Removal of implant and the formation of ilio-femoral neoarthrosis after resection arthroplasty (47 patients). Results: In terms of residual infection, no substantial difference is observed between the groups 2 and 3 (8.3%, 8.6%). Large percentage of residual infection (19%) is noted in group 1, if surgical curettage had done 3 weeks after the onset of periprosthetic infection. A differentiated approach to the surgical treatment of deep periprosthetic infection allows us to obtain excellent results and persistent relief from the inflammatory process with partial or complete restoration of the limb function in 90.6% cases.

Abstract no.: 48323

CLINICAL OUTCOMES AND PROGNOSTIC FACTORS OF HIGH-GRADE NON-METASTATIC SOFT TISSUE SARCOMAS

Yang-Guk CHUNG[1], Seung Han SHIN[2], Yong-Koo KANG[3], Min Wook JOO[4], Won Jong BAHK[2]

[1]Seoul St. Mary's Hospital, The Catholic University of Korea, Seoul (SOUTH KOREA), [2]Seoul St. Mary's Hospital, Seoul (SOUTH KOREA), [3]St.Vincent Hospital, Suwon (SOUTH KOREA), [4]St. Vincent Hospital, Suwon (SOUTH KOREA)

Purpose: The objective of this study was to evaluate clinical outcomes of high grade localized soft tissue sarcomas and prognostic factors on local recurrence, distant metastasis and overall survival of them. Method: 86 patients treated for soft tissue sarcomas between 1999 and 2015 were reviewed retrospectively. We analyzed prognostic influences of patient age, tumor size, location, specific subtype, histologic grade, resection type, surgical margin, chemotherapy and radiation therapy on local recurrence, distant metastasis and overall survival. Univariate and multivariate analysis (cox model) were performed for statistical analysis. Results: After a mean follow up of 53.6 months, 27 local recurrences and 30 distant metastases occurred. Overall survival after 5 years was 76.3% (95% confidence interval 64.3-88.3%). Positive surgical margins (hazard ratio 4.06), tumor size more than 10 cm (hazard ratio 2.33), and patient age above 48 years (hazard ratio 2.48) were identified as independent risk factors for failed local control. In terms of distant metastasis, positive surgical margin (hazard ratio 4.48) and tumor size more than 5 cm (hazard ratio 2.66) were independent risk factors. Positive surgical margin remains as an independent risk factor for overall survival (hazard ratio 6.23). Tumor size more than 5 cm may also influence survival (adjusted p 0.053). Conclusion: Positive surgical margin correlated with a higher local recurrence, distant metastasis and mortality. Tumor size was a risk factor for not only local recurrence but also distant metastasis, and may related to overall survival.

Abstract no.: 48327

SOFT TISSUE SARCOMA ARISEN FROM NEEDLE BIOPSY TRACT

Yang-Guk CHUNG[1], Seung Han SHIN[1], Min Wook JOO[2], Yong-Koo KANG[2]
[1]Seoul St. Mary's Hospital, Seoul (SOUTH KOREA), [2]St. Vincent Hospital, Suwon (SOUTH KOREA)

The biopsy tract can be contaminated with tumor cells and sarcomas may arise from the biopsy tract if not resected thoroughly. Here we report two cases of soft tissue sarcomas arisen from the needle biopsy tract. Two soft tissue sarcomas arose from the needle biopsy tract after needle biopsy. The first case was a 29 year-old female patient who had a myxoid liposarcoma at right proximal thigh. She underwent wide resection. Nineteen month later, a liver metastasis was confirmed by needle biopsy through anterior chest wall. Radiofrequency ablation and chemotherapy were performed. Thirty-nine months after needle biopsy, there was a 1.8cm sized soft mass in the subcutaneous layer of right anterior chest wall. The lesion was excised with normal tissue cuff. At 54 months follow-up, the patient's oncological outcome was NED. The second case was a 43 year-old male patient who had grade III rhabdomyosarcoma on right posterior thigh. The patient had a needle biopsy at other institution and was referred to our institution. Thirteen months after the initial biopsy, a 1.7cm sized superficial soft mass was detected in right distal thigh, apart from incision line of the resection. At 13 month follow-up, the patient's oncological status was AWD. A close communication between biopsy practitioners and surgeons for the selection of biopsy site and biopsy tract resection is essential.

Abstract no.: 48343

CLINICAL EVALUATION AFTER MATRIX-ASSOCIATED AUTOLOGOUS CHONDROCYTE TRANSPLANTATION OF THE TIBIOFEMORAL JOINT: A COMPARISON OF 4 DIFFERENT GRAFT TYPES

Silke ALDRIAN
Department of Trauma Surgery, Medical University of Vienna, Vienna (AUSTRIA)

Purpose: The aim of this study was to compare four of the most commonly used transplant types for matrix-associated chondrocyte transplantation (MACT) regarding their clinical outcomes. Methods: Patients with chondral lesions of the tibiofemoral joint, who underwent MACT, were included in this study. Clinical examination was performed preoperatively, as well as 3, 6, 12 and 24 months after transplantation. Clinical outcomes were evaluated using the IKDC, Brittberg and VAS score. Results: A total of 87 patients (mean age: 45a, mean BMI: 25) with an average defect size of 4.20cm2 were included. 11 patients (12.6%) underwent transplantation with a collagen type I/III membrane (MACI®), 40 patients (46.0%) with a hyaluronan web (Hyalograft®C), 21 patients (24.1%) with a collagen type I gel (CaRes®) and 15 patients (17.2%) with a bilayered collagen type I/chondroitin-sulphate sponge (Novocart®3D). Patients improved from a mean IKDC score (±SD) of 31.22 (±11.01) preoperative to 64.67 (±20.68) after 24 months in the MACI® group, 34.14 (±9.79) to 66.55 (±20.85) in the Hyalograft®C group, 39.66 (±10.61) to 74.63 (±16.36) in the CaRes® group and 40.51 (±24.3) to 68.97 (±11.53) in the Novocart®3D group. There was also a significant improvement regarding VAS and Brittberg scores. No significant differences in clinical outcomes were found between the four graft types two years after transplantation. Conclusion: Our data demonstrated that MACT resulted in good clinical improvement for tibiofemoral defects two years after transplantation, regardless of the used graft type. Different transplant composition and architecture did not significantly influence clinical outcomes in our study population.

Abstract no.: 48346

ASSESSMENT OF COMPLICATIONS OF FRACTURE ACETABULUM IN INDIAN POPULATION

Sameer AGGARWAL
PGIMER, Chandigarh (INDIA)

Purpose To evaluate the complications of acetabulum fractures and the effect of various factors on the outcomes at a tertiary institute with a high fraction of complex injuries. Material 120 patients with acetabular fractures were enrolled. 81% of these were males, with average age of 39.95± 15.87 with road traffic accidents being the predominant mode of injury. Posterior wall fractures were the most common followed by transverse fractures. Associated limb (n=52) and pelvic injuries (n=21) were common. 70 of these were operated on basis of hip instability or hip incongruence. Average time duration from injury to surgery was 8.32 days. Results The complications were assessed in the immediate and short term period. Mortality was reported in 5 patients, 4 patients had DVT/PE and sciatic nerve injuries were seen in 12 patients of which 4 were iatrogenic. 8 patients had infection of which 4 required multiple debridements. 4 cases developed heterotopic ossification while 2 cases had a loss of reduction. Quality of reduction was assessed as per Mata's criteria as anatomical (n=29), congruent (n=31) and incongruent (n=10). We observed that timing of surgery and associated fractures had an effect on the quality of reduction ($p<0.05$) while age, gender, mode of injury or individual fracture pattern had no such effect. Conclusion Proper radiological assessment and evaluation of fracture configuration is important for acetabulum fractures. This should be followed by early open reduction and internal fixation when indicated along with management of associated injuries for better outcomes.

Abstract no.: 48350

ROLE OF DIFFUSION WEIGHTED MRI IN CHARACTERISATION OF MUSCULOSKELETAL LESIONS

Purnima AGGARWAL, Vivek JIRANKALI, Dharmendra Kumar SINGH, Sudhir Kumar GARG

Government Medical College & Hospital, Chandigarh (INDIA)

Introduction: On routine MRI sequences it is not always possible to accurately characterise osseous lesions. We present our experience of diffusion weighted (DW) imaging in characterisation of musculoskeletal lesions. Material & methods: 35 patients were evaluated using T1, T2 and STIR Images. To this routine protocol, diffusion weighted imaging was added. Clinical diagnosis was osteosarcoma in 16, Ewing's sarcoma in 6, Ewing's sarcoma/osteomyelitis in 3, osteomyelitis in 4, SBC in 1, fibrous dysplasia in 4 and malignant transformation in an exostosis in 1 patient. 34 patients underwent biopsy at a later date. Results: it was found that malignant osseous lesions have lower apparent diffusion coefficient (ADC) value ranging from 0.7 to 0.95 x 10-3 mm2/sec compared to benign osseous lesions which have higher ADC values from 1.3 to 2.5 x 10-3 mm2/sec. Biopsy done in 34 patient confirmed that DW imaging was able to accurately characterize the lesion as benign or malignant in 32 patients. With DW imaging it was possible to accurately differentiate between Ewing's sarcoma and osteomyelitis as confirmed on biopsy. In one patient, 8 years old child, where a diagnosis of malignant lesion was made on diffusion weighted MRI, on imaging with CT scan; diagnosis of fracture was made and treated as such with complete resolution of symptoms at a follow-up of 3 months. Conclusions: Diffusion weighted MRI is an important tool in differentiating malignant from benign osseous lesions especially when there is clinical overlap. It is cost effective with little addition of extra time.

Abstract no.: 48351

EPIDEMIOLOGY OF DVT IN ISOLATED PROXIMAL FEMUR FRACTURES ; RESULT OF PROSPECTIVE STUDY FROM AN INDIAN TERTIARY CARE CENTRE.

Sameer AGGARWAL
PGIMER, Chandigarh (INDIA)

Introduction: VTE is a major cause of morbidity and mortality in trauma patients Incidence of DVT in proximal femur fractures varies 1% to 50%. In the western world they have an established management protocol. But there are very few studies on Indian patients, regarding their incidence, routine diagnostic modality and role of prophylaxis. So there is no established management protocol in vogue. Materials and methods: It was a prospective study in patients with isolated proximal femur fractures, at a tertiary referral centre. After admission and regular work-up, these patients were daily assessed clinically and radiologically (compression ultrasound and color Doppler) on days 1, 7 and 2,4,8 weeks post-op. CT venography was done on those patients who had doubtful lesion on U/S or Doppler study, or those who were radiologically negative for DVT, but had clinical signs suggestive of DVT. Result: 9 out of 66 patients were diagnosed as DVT positive. We found no statistical significance between incidence of DVT and age (p=0.55) or between incidence and sex (p=0.19). Maximum incidence of DVT occurred within 2-4 weeks of injury. We had one case of DVT detected after 4 weeks of injury. Conclusion: though routine pharmacoprophylaxis is not required in this age group(18-60) as incidence rate was not very high and associated side effects. In patients above 50 years of age, monitoring should be done at more frequent interval as these patients had higher incidence of DVT, and many patients have age related co-morbidity, thus increasing their morbidity.

Abstract no.: 48353

COMPLEX PROXIMAL HUMERUS FRACTURE-DOES SURGICAL APPROACH AFFECT THE OUTCOME?

Sameer AGGARWAL, Devendra CHOUHAN
PGIMER, Chandigarh (INDIA)

Introduction: Since the emergence of proximal humerus locking plate osteosynthesis is preferred approach for complex proximal humerus fracture. But still achieving satisfactory reconstruction of complex anatomy and functions has been a challenge. Reconstruction of neck shaft angle, reduction of tuberosity plays important role, additionally positioning of implant and surgical exposure are also plays important. Aims and Objective: So we have conducted a study to find out impact of surgical approach on functional outcome after complex proximal humerus fracture. Materials and methods: We did an open label randomized trial in our institute to study the effect of surgical approach on functional outcome after proximal humerus fracture reconstruction with proximal humerus locking plate osteosynthesis. Results: 7 out of 10 patients in patients operated with deltoid splitting approach achieved excellent outcome. We found high complication rate in deltopectoral approach 2 infections, 2 case screw penetration and one case had healing complication because of implant malpositioning. Conclusion: Deltoid splitting approach gives more reproducible results in case with complex proximal humerus fracture. Delto-pectoral approach associated with high complication rate and resultant poor function outcome.

Abstract no.: 48359

THE ECONOMIC BURDEN OF BACK PAIN

Deeraj LOGANATHAN[1], Mohammed SHAATH[2], David SOCHART[3]
[1]Pennine Acute Hospital NHS Trust, manchester (UNITED KINGDOM),
[2]Pennie Acute Hospitals NHS Trust, Holmfirth (UNITED KINGDOM),
[3]Pennine Acute Hospital NHS Trust, Manchester (UNITED KINGDOM)

Background:Back pain has a significant financial impact on the Orthopaedic department; interrupting the flow of elective and trauma services. We observed no follow up and non urgent intervention in a significant proportion of inpatient hospital admissions which led our team to question their necessity. We aimed to quantify the economic burden, aiming towards an admission criteria in order to help eliminate this growing problem.Objectives:To Calculate the total length of stay and cost of these admissions back pain and suspected Cauda Equina Syndrome (CES). Methods: Retrospective audit of back pain admissions between August 2015 to August 2016. Data including Length of admissions, labratory and radiological investigations, time to scans, scan results, medication and final outcome were collated and analysed. Total Cost of the above was calculated. Results:180 patients (Mean age of 47: 36% Male, 64% Female) were admitted with back pain. 98.8% of all patients had no CES. 10% of patients required acute intervention at a spinal unit; 60% discharged with no follow up. Average length of admission was 4.4 days with 1.5 days after scan until discharge. Total bed days of 880 with a total cost of £598,8000 (mean £2994 per admission). Conclusions: A significant proportion of patients required no acute orthopaedic input. It is essential to investigate those presenting with red flag symptoms of CES, however there is no clear guidance regarding inpatient admission criteria. Such criteria is essential, in order to guide health care professionals into developing a safe, efficient and economic healthcare service.

Abstract no.: 48365

SICKLE CELL DISEASE- PATHOPHYSIOLOGY, SYMPTOMATOLOGY AND MANAGEMENT OF OSTEONECROSIS FEMORAL HEAD

Subir MUKHERJEE
Independent Practice, RAIPUR (INDIA)

Haemoglobinopathies are the most commonly encountered monogenic disorders of blood posing a major genetic and public health problem.In a state of hypoxia with decreased O2 concentration in the blood cells, there is increased adhesiveness of Hb molecule leading to formation of rigid structure in RBC which further leads to deformed cells occludind minor and terminal vessels thus impairing vascularity of particular region finally leading to necrosis. Bony changes occur mainly because of erythroid hyperplasia of the marrow and vascular insufficiency with infarction resulting from thrombosis. Osteonecrosis of femoral head is the commonest and most disabling osteoarticular menifestation of sickle cell disease which is mainly because of occlusion of posterolateral retinacular vessels.Various symptomatology at different stages of AVN and treatment modalities are discussed.However, prevention of the disease probably is the best answer of its cure as being autosomal recessive disorder, the incidences can be significantly reduced if consanguineous marriages in the succeptible families are avoided

Abstract no.: 48374

COMPARISON BETWEEN MOSS-MIAMI PEDICLE SCREW VS HARTSHILL RECTANGLE INSTRUMENTATION FOR THE TREATMENT OF LUMBAR SPONDYLOLISTHESIS - A PROSPECTIVE STUDY OF 40 CASES

Tarun KUKREJA
Dr DY Patil Medical College, Pune (INDIA)

Purpose: To compare patients with lumbar spondylolisthesis submitted to two different surgical approaches, and evaluate the results and outcome in both the groups in terms of functional recovery to the patients and radiological fusion and stability achieved. Method: Forty patients (20-70 years) with lumbar spondylolisthesis, both isthmic and degenerative, were enrolled for surgery. Group A comprised of 20 patients, who underwent posterior lumbar spinal fusion with Moss-Miami Pedicle Screw fixation. Group B comprised of 20 patients, underwent posterior lumbar fusion with Hartshill Rectangle Fixation. Result: Clinical and functional outcome in both the groups were similar, no significant statistical differences were found. Both surgical procedures were effective, clinical outcomes were equally the same with improvement in the Owestry Disability Score (ODS) in both the groups. Solid fusion was seen on follow up x-ray and stability was checked on flexion and extension views. There were no specific complication related with the facet fusion and lumbar bio-mechanics. Conclusion: Based on the present series we conclude that, if there is spondylolisthesis, with or without instability and nerve root compression symptoms, then decompression with facet joint fusion with instrumentation by Pedicle screws and Hartshill rectangle provide a solid mechanical construct and fusion. Both surgical procedures are effective for functional recovery. Technically, Hartshill fixation procedure is easy to carry out than Pedicle screw fixation, which requires a good image control, because of this duration of surgery is slightly less in Hartshill group.

Abstract no.: 48375

DOES COGNITIVE IMPAIRMENT AFFECT LENGTH OF STAY AND FUNCTIONAL OUTCOME IN HIP FRACTURES? AN OBSERVATIONAL STUDY

Gemma GREEN, Mahesh AKULA, Paul HAMILTON
St Helier Hospital, London (UNITED KINGDOM)

Introduction: Affecting >90, 000 patients per year in the UK, hip fractures are associated with high morbidity and mortality, long hospital stays and prolonged rehabilitation. Cognitive impairment affects 19 - 42% of hip fracture patients and influences discharge planning. Aim: To determine relationships between cognitive impairment, length of hospital stay and mobility. Methods: National Hip fracture database (NHFD) data collected for patients at St Helier Hospital 01.04.2014 – 31.12.2014. Abbreviated Mental Test Scores (AMTS) divided into 3 groups: 0-3 (dementia), 4-6 (cognitive impairment) and 7-10 (capacity). Premorbid mobility and 120 days post-admission coded using NHFD- 4: Independent, 3: Outdoors- 1 aid, 2: Outdoors - 2 aids/frame, 1: Indoors only, 0: None. Univariate ANOVA with post hoc tests performed for length of stay for three groups. Paired t-tests performed for mobility using Excel. Results: 301 patients; mean age 83, ASA 3. Length of stay significantly increased in AMT 0-3 (28 days) and 4-6 (22 days) groups compared with AMTS 7-10 (17 days; $p<0.05$ and $p<0.05$). Significant reduction in mobility noticed in all groups post-operatively ($p<0.0001$) more pronounced in AMTS >6 group. Discussion: Reduced AMTS gives reduced capacity to co-operate with rehabilitation, affects mobility and prolongs hospital stay. AMTS has limitations; it requires a cooperative patient and reflects outdated cultural/historical references. AMTS>6 associated with increased functional decline, reflecting higher premorbid function and inhibitions not perceived if AMTS<6. Conclusion: Cognitive impairment significantly prolongs hospital stay. Patients with AMTS>6 have more pronounced decline in post-operative mobility.

Abstract no.: 48378

THE APPLICATION OF FRAX TO ASSESSMENT THE RISK OF OSTEOPOROTIC FRACTURES IN UKRAINIAN POPULATION

Vladyslav POVOROZNYUK[1], Nataliia GRYGORIEVA[1], John KANIS[2], Helena JOHANSSON[2], Eugene MC CLOSKEY[2]

[1]D.F. Chebotarev Institute of gerontology NAMS Ukraine, Kyiv (UKRAINE),
[2]WHO Collaborating Centre for Metabolic Bone Diseases, University of Sheffield Medical School, Sheffield (UNITED KINGDOM)

The aim of the present study was to develop the Ukrainian FRAX model according the age- and sex-specific hip fracture rates in Ukraine. Materials and methods. The development of Ukrainian model of FRAX was performed according to epidemiological studies in Ukraine, STOP-Study, calculated the incidence of hip fractures in men and women, aged 40 years and above. Results. 10-year probability of hip or major osteoporotic fracture (MOF) was increased in patients with a clinical risk factor (CRF), lower BMI, female gender, higher age, and decreased BMD T-score. A parental history of MOF was associated with the highest risk in men and women (8.1 and 14.0% accordingly at 90 years). The great increase of fracture probabilities in men and women was associated with a history of prior fracture fractures (4.8 and 11.0% respectively at 80 years). Intermediate increments in probability were associated with rheumatoid arthritis and long-term use of glucocorticoids (4.5 and 4.2 in men, 10.0 and 10.0% in women, accordingly) at the age of 80 years. Alcohol use was concerning weak risk factor as it increased the probability for a MOF from 2.6 to only 3.9% in men and from 3.7 to 8.9% in women at the age of 80 years respectively. Smoking has been weak risk factor for fractures. Probability of MOF slightly increased but probability of hip fractures didn't change in men aged 50-70 years. Both indices weakly increased in the age of 80 years and older. Conclusions. The Ukrainian FRAX-tool is the first country-specific fracture prediction model.

Abstract no.: 48380

CO-RELATION BETWEEN CLINICAL, MRI AND ARTHROSCOPIC FINDINGS IN MENISCAL TEAR - A PROSPECTIVE STUDY OF 30 CASES

Tarun KUKREJA
Dr DY Patil Medical College, Pune (INDIA)

Purpose: The determine the diagnostic accuracy of clinical examination, magnetic resonance imaging (MRI), and arthroscopic findings in cases of meniscal tear. Method: Thirty cases of traumatic meniscal injuries were identified and reviewed clinically, with MRI scan and followed by arthroscopic surgery. Of these 25 were males and 5 were females. Younger patients have post-traumatic meniscal injury whereas older patients are more likely to have degenerative meniscal tears, if the meniscus have weakened with age. More than 50% of study enrollment was in the age group of 21-30 years and 33% were 31-50 years. The ratio of right with left knee is 3:2 showing that meniscal tear was present in dominant knee of the patients. Results: Out of all, 24 cases of Medial and 18 of lateral meniscal tear were clinically positive and of these 23 for medial and 15 of lateral were arthroscopically positive. Out of thirty cases, 23 cases of medial meniscus and 18 cases of lateral were positive on MRI and of these 23 of medial and 15 of lateral were arthroscopically positive. Clinical methods for the diagnosis of medial meniscal tear were highly accurate in co-relation with arthroscopy and showed only marginal difference in lateral meniscal tears. Conclusion: The study finding reflect that carefully performed clinical examination has an equal diagnostic accuracy of meniscal injuries in comparison to MRI scan. Thus clinical tests can be used for screening for detection of meniscal tears. MRI may be used to rule out such injuries rather than to diagnose them.

Abstract no.: 48384

YERSINIA SEPTIC ARTHRITIS OF THE KNEE RELATED TO PATIENT SELF-ASPIRATION: SHOULD MEDICAL EQUIPMENT BE FREELY AVAILABLE ON-LINE?

Gemma GREEN, Hiba KHAN, Nashat SIDDIQUI
Kingston Hospital, London (UNITED KINGDOM)

Background: Septic arthritis is a common and potentially devastating orthopaedic condition which can result in multi-organ failure and death. It is usually associated with skin commensal organisms, e.g staphylococcus or streptococcus. Yersinia pseudotuberculosis, a Gram-negative bacterium, is typically associated with enteric infections and is rarely seen in isolated joint infections. Aspiration of native joints has an infection rate of around 0.01% under aseptic conditions. Increasing online availability of medical products such as needles raises the possibility that infection rate will increase if used by untrained individuals in an uncontrolled environment, causing increasing number of infections from atypical microorganisms. Methods: Literature search based on an interesting case of a gentleman with a background of ankylosing spondylitis and recurrent reactive arthritis of the knees. He was managed with repeated joint aspiration and steroid injections in clinic. He was also self-aspirating his knees on a regular basis at home with medical equipment purchased online. An internet search revealed average cost for purchasing one needle is 7p. He presented with septic arthritis of the knee, with culture positive Yersinia pseudotuberculosis. Management was arthroscopic washout and intravenous antibiotics. Results: Given atypical bacterial growth and patient self-management, we highlight the potential risks associated with freely and cheaply available medical equipment without prescription online and raise ethical questions associated with invasive patient self-treatment. Conclusion: Freely available medical equipment (i.e. needles) used without supervision may increase the risk of potentially life threatening infections. Implications: Restrictions should be placed on medical equipment available online as with medication prescriptions.

Abstract no.: 48387

SIGNIFICANCE OF S-CRITERION IN EVALUATION OF THE FUNCTIONAL ABILITY OF HAND IN DIGITAL JOINTS CONTRACTURES

Victor VOLOSHIN[1], Valeriy TSARYOV[2], Vladimir LITVINOV[2], Dmitriy MARTYNENKO[2], Igor DOROZHKO[2], Saravanan SANKARANARAYANAN ARUMUGAM[2]

[1]Moscow regional research and clinical institute, MOSCOW (RUSSIA),
[2]Moscow regional research and clinical institute, Moscow (RUSSIA)

Recovery of the function loss in digital joints returns to the hand it's grasping ability. In assessing functional ability of the most important in grasping inter- and metacarpophalangeal joints diagnostic algorithm considering functional zero-position and criterion S has been proposed. Functional zero-position is the average of the amplitudes of joint mobility used in casual activity, while criterion S allows to estimate the distance of the sector of residual range of motion from the functional-zero position. According to the diagnostic algorithm, the absence of movement of the position of maximum extension or flexion in the joint reflexes the limitation of the amplitude. The lack of ability of the phalanx to reach functional zero position indicates the functional inability of joint. The statistical data of 114 patients with digital joints contractures evidence of inverse relation between S-criterion and residual range of motion for criterion S≥0 (for metacarpophalangeal joints: r=-0.37 p<0.00 и r=-0.36 p<0.00; for proximal interphalangeal : r=-0.48 p<0.00 и r=-0.39 p<0.02; for distal interphalangeal joints r=-0.39 p<0.00 и r=-0.47 p<0.00), and positive association for criterion S<0 (metacarpophalangeal joints r=0.34 p<0.00, proximal interphalangeal r=0.44 p<0.00 и r=0.56 p<0.00 for distal interphalangeal). Statistical analysis exposed strong association of criterion S to the number of tissue involved in injury (F=2.90, p<0.023, CI 95%). The research data evidence of primary significance S-criterion in functional ability of residual range of motion and in diagnostics patients with hand joints contractures.

Abstract no.: 48391

PEDICLE SCREW INSTRUMENTATION IN UNSTABLE THORACOLUMBAR SPINAL INJURIES - A PROSPECTIVE STUDY OF 30 CASES

Tarun KUKREJA
Dr DY Patil Medical College, Pune (INDIA)

Purpose: To study the efficacy and compare clinical and radiological outcomes in terms of stability and fusion achieved using Moss-Miami Pedicle screw system with facet joint fusion in unstable spinal trauma. To analyze the recovery of postoperative patients. Method: Thirty patients (27 males & 3 females with mean age of 28 to 70 years) having traumatic insult to the thoracolumbar spine of less than 2 weeks duration resulting in unstable fracture/subluxation or dislocation with complete or incomplete neurological deficit were included in the study. Criteria for instability of the thoracolumbar injuries was loss of vertebral height by more than 50%, kyphotic deformity of more than 20%, progressive neurologic deficit and involvement of two of the Denis' three columns. After the neurological and radiological examination, surgery was performed as early as possible. Result: All patients underwent nerve root decompression and pedicle screw fixation in a single institution and the results were analyzed prospectively. All the post-operative patients had undergone X-rays thoracolumbar spine at 3rd, 6th and 9th month. Clinical and functional outcome was measured using the Oswestry Disability scoring system and applied on each patient by SLRT. All patients included showed satisfactory bony fusion, radiological fusion was seen earliest on 3rd month. None of them showed movement on flexion and extension views. Conclusion: If there is spondylolisthesis with or without instability and nerve root compression symptoms, nerve decompression and the facet joint fusion with instrumentation by Moss-Miami pedicle screws provide a good bio-mechanical construct and solid fusion.

Abstract no.: 48394

EFFICACY OF THROMBOPROPHYLAXIS IN SURGERY OF LOWER LIMBS ESPECIALLY HIP AND KNEE - A PROSPECTIVE STUDY OF 100 CASES

Tarun KUKREJA, Anteshwar BIRAJDAR
Dr DY Patil Medical College, Pune (INDIA)

Purpose: To evaluate and compare the efficacy of drugs for thromboprophylaxis in lower limb surgeries in suspected vascular disorder cases with control group. To study the role of therapeutic exercise for the rehabilitation of patients. To prevent post-thrombotic syndrome. To study the magnitude of the problem with morbidity and mortality and effective preventive measures. Methods: Our study group is a prospective type with systematic random sampling of 100 cases. Out of these 50 cases were given thromboprophylaxis with low molecular weight heparin (LMWH) and 50 cases were treated by toe movements, leg elevation, compression stocking and early mobilization and physiotherapy. Results: Out of 50 cases who were given thromboprophylaxis, 4 patients were showing DVT as long saphenous 2, short saphenous 1 and perforators 1, i.e. 8% and in conventional treatment group 5 patients were showing DVT as long and short saphenous 1 each, perforators 3, i.e. 10%. So p=1.000 which was not significant statistically. Conclusion: Though our study group was small, our results suggest that incidence of DVT in Indian population is very low. In view of this, it is not cost effective to advice prophylaxis in patients undergoing hip and knee surgeries. However in patients with too many risk factors of developing DVT and pulmonary embolism one has to give prophylactic injection of LMW Heparin.

Abstract no.: 48397

DOES FULL-THICKNESS CHONDRAL FRAGMENT FIXED TO THE BONE IN THE KNEE HEAL ? - CLINICAL & RADIOGRAPHIC RESULTS

Kyoung Dae MIN[1], Wook Joong KIM[2]
[1]Soonchunhyang University Bucheon Hospital, BUCHEON (SOUTH KOREA), [2]Soonchunhyang University Bucheon Hospital, Bucheon (SOUTH KOREA)

Introduction: Articular cartilage is regarded as having poor healing potential due to lacks of a blood supply. Generally, osteochondral fragment can be easily fixed to the bone but pure chondral fragment is not easy to attach. Moreover it is unclear whether it will heal well. Purpose: We evaluate the functional and radiographic outcomes of chondral lesions involving adolescent knee joint that were repaired using various fixation devices. Material and Method: Eleven patients (M:F = 8:3) enrolled with average age 15.9 years, having full-thickness chondral fragment without osseus component in the knee. Fixation devices are absorbable pins in 5, screws in 5 and Kirschner wires in 1 case. Results: All chondral fragments united radiologically over one year follow-up. Complication of transient arthrofibrosis in one case. Final mean Lysholm score was 92.45. Conclusion: We believe that fixation of a full-thickness chondral fragment is clinically effective in terms of preservation of native hyaline cartilage.

Abstract no.: 48402

HOW MUCH DO WE NEED TO CUT THE SUBACROMIAL SPUR IN IMPINGEMENT SYNDROME? NEW RADIOLOGIC VIEW TO EVALUATE THE SPUR SIZE.

Chanont KANOKVALEEWONG[1], Krit BOONTANAPIBUL[2], Bancha CHERNCHUJIT[2]

[1]Thammasat University, Bangkok (THAILAND), [2]Thammasat University, PathumThani (THAILAND)

Introduction: The impingement syndrome is the most common cause of pain at the shoulder. Nowadays, there is no radiographic view that can be used to evaluate the size of an subacromial spur. Hence, this study has developed the newer radiographic view (Cassette tilt view) to perform the task. Objective: This study aims to examine if Cassette tilt view can be used to evaluate the size of a subacromial spur. Method: Forty-three patients assigned to receive arthroscopic subacromial decompression participated in this study. All of them were given both Rockwood view and Cassette tilt view (caudal tilt 30 degrees with beam and cassette).The measurement of the spur size from both views were compared to the spur size from intraoperative measurement. Result: The size of the spur from the intraoperative measurement is not significantly different from the spur size from Cassette tilt view measurement (mean diff=0.54, P-value=0.08), but it is significantly different from that from Rockwood view measurement (mean diff=3.16, P-value=0.00). Average proportions of the size of the spur from Cassette tilt and Rockwood view compared to that from intraoperative measurement are 1.09 and 1.55 respectively.Conclusion: Cassette tilt view can be used to evaluate the quantitative data of a subacromial spur. For clinical relevance, surgeons can determine how much a spur should be cut by using this newer radiologic view. Keywords: Subacromial spur, Impingement syndrome, SAD, Rockwood view

Abstract no.: 48409

BIOMECHANICAL STUDY OF TRAPEZIUM RESECTION ARTHROPLASTY OF THE TRAPEZIOMETACARPAL JOINT

Junya HOJO[1], Naoki HAYAMI[2], Tsutomu KIRA[2], Shohei OMOKAWA[3], Kraisarin JIRACHART[4], Yasuhito TANAKA[5]

[1]Heisei Memorial Hospital, NARA (JAPAN), [2]Nara Medical University, Nara (JAPAN), [3]Nara Medical University, NARA (JAPAN), [4]Chiang Mai University, Chiang Mai (THAILAND), [5]NARA Medical University, Nara (JAPAN)

Introduction: Trapezium resection arthroplasty are described for the treatment of osteoarthritis of the carpometacarpal joint of the thumb. But it is not clear whether ligament reconstruction is necessary. Here we report three types of surgical procedures using fresh frozen limbs and compared the instability of metacarpal basal bone. Methods: Six upper extremities were used for experiment. We removed the skin and unnecessary tissue and fixed the hand bone to the custom made jig. We set the thumb in the plane of the palm with the web opened and approximately 20° of extension in reference to the second metacarpal shaft and 20° abducted. A constant load of 50g was applied to each of the four instrinsic and two extrinsic tendons to provide a static load across the trapeziometacarpal joint. By use of a magnetic tracking system, a 3-D motion of the first metacarpal was analyzed according to Imaeda's methods. The reference points on the base of the first metacarpal were monitored at each stage indicated below. Stage0 was normal. StageR1 was trapezium resection. StageR2 was trapezium resection and ligament suspension arthroplasty. StageR3 was trapezium resection and 1-2 intermetacarpal ligaments resection. Results: Compared to stage0, the base of the first metacarpal moved 5.8±2.5mm to the proximal at the stageR1、-0.6±1.8mm at the stageR2、7.7±3.4mm at the stageR3. Conclusions: At the stage R1 and R2 the base of the first metacarpal moved significantly to the proximal. The current study shows ligament reconstruction prevent the proximal movement and instability at the base of the metacarpal.

Abstract no.: 48417

BIOMECHANICAL EVALUATION OF CERVICAL DISC REPLACEMENT WITH A NOVEL PROSTHESIS

Jigang LOU
West China Hospital, Sichuan University, Chengdu (CHINA)

Background: Most of the current available disc prostheses used in cervical disc replacement present a flat surface. Thus, a novel well-designed prosthesis based on the physiological curvature of the cervical endplate would be required to perform further biomechanical analysis. Methods: Three motion segments of eighteen cadaveric cervical specimens (C2-C7) were evaluated with a follower cervical load of 75 N. Overall, the biomechanics of three models: intact, arthroplasty with the novel prosthesis, and arthroplasty with the Prestige LP prosthesis, were studied to gain insight into the effective function of the novel prosthesis. The range of motion of all three segments and disc pressures on adjacent levels were measured and analysed. Results: Compared to the intact condition, the motion of all three segments showed no significant difference in the replacement group. Moreover, there was also no significant difference in the motion between the two prostheses. Besides, the disc pressure on the cranial adjacent level showed no obvious difference between the two prostheses; nevertheless, the disc pressure on the caudal adjacent level of the novel prosthesis was significantly less than the Prestige LP prosthesis. Conclusion: Based on our biomechanical analysis, the motion in the three groups showed no significant difference. The disc pressure on the caudal adjacent level after arthroplasty with the novel prosthesis was significantly less than the Prestige LP prosthesis. Therefore, the novel disc prosthesis was feasible and effective, and could reduce the disc pressure on the caudal adjacent level to a certain extent, compared with the Prestige LP prosthesis.

Abstract no.: 48421

FASCIA LATA AUTOGRAFT HARVESTING TECHNIQUE

Anil SINGHAL
traumacare & arthroscopy centre, Bulandshahr (INDIA)

Iliotibial Band (I T B) OR FASCIA LATA GRAFT when used provide both intra and extra articular effect of ACL Reconsruction(effect of extraarticular tenodesis)Effective control of pivot shift provided by additional; reinforcement along with intraarticular reconstruction of acl graft.i describe here miniopen technique ,two incision technique//operative chalenges/complications.

Abstract no.: 48427

COMPARATIVE OUTCOME OF PATELLAR RESURFACING VERSUS NON RESURFACING IN PRIMARY TOTAL KNEE ARTHROPLASTY IN ELDERLY

Lokesh CHAWLA[1], Shivanand BANDEKAR[2]
[1]All India Institute of Medical Sciences(AIIMS), new delhi (INDIA), [2]goa medical college and hospital, bambolim, goa (INDIA)

Introduction:The need to resurface the patella as a part of primary total knee arthroplasty remains controversial.We undertook a randomized controlled clinical trial of patellar resurfacing versus non resurfacing in 100 patients.All patients were evaluated under different headings of knee scoring system.Different categories were analysed statistically and p value calculated. Methods:All patients who were scheduled to undergo primary total knee arthroplasty for osteoarthritis of knee at Goa Medical College and Hospital from 1/06/2008 to 31/05/2013 were included in our study after ethical clearance.A total of 100 patients were evaluated,50 each in resurfacing and non resurfacing groups.Randomization was done 1 day prior to surgery by using computer generated random number. Results:Pre and Post operative evaluation at 6 weeks,1 year and 2 years was performed by a single independent observer using knee society score(KSS) and anterior knee pain assessment was done using visual analogue scale(VAS).The mean KSS,on a scale of 0-200 points,improved from 67.76 to 174.24 in resurfaced group and from 69.72 to 178.6 in non resurfaced group at 5 years followup.The difference in KSS amongst the two groups was not significant at 5 year followup.Considering the incidence of anterior knee pain,similar number of patients moved into no pain category at 5 year followup. Conclulsion:Based on this study,we propose that functional outcome remains similar irrespective of whether patella was resurfaced or not.However there can be no definite conclusion because of confounding factors like component designs,surgeon experience and surgical techniques.A continued study of this topic with longer follow up is required.

Abstract no.: 48428

DOUBLE OBLIQUE SLIDING OSTEOTOMY (DOSO) OF THE PROXIMAL FEMUR WITH A SHORT NECK AND AN ELEVATED GREATER TROCHANTER

Won Seok PARK[1], Hui Taek KIM[2], Tae Young AHN[2], In Hee KIM[2]
[1]Pusan national University, Busan (SOUTH KOREA), [2]Pusan National University, Busan (SOUTH KOREA)

We evaluated surgical outcomes of Double Oblique Sliding Osteotomy (DOSO) of the proximal femur for a short femoral neck and a high riding greater trochanter. Twelve hips (11 patients) treated by DOSO and followed up for at least 2 years were included. The deformity was caused by 6 Perthes disease, 3 septic arthritis and 3 avascular necrosis. Leg length discrepancy was compensated for by adjusting the angle of the osteotomy at the upper and lower borders of the femoral neck and lateral displacement of the osteotomized distal femur. Any abnormal lever arm ratio of the hip was corrected by repositioning the greater trochanter. We analyzed several radiologic parameters preoperatively and at the last follow-up, and also clinical outcomes (Harris Hip Score), especially for limping. All radiologic parameters showed significant improvement by the latest follow-up. Mean Harris Hip score at the last follow up was 89.3, with 9 excellent results, 2 good, and 1 fair. Trendelenberg's sign was persistent in 25%. All patients showed an improved gait with decrease of limping. DOSO provides satisfactory results both radiologically and clinically. In DOSO, preoperative planning is important for accurate correction of deformities. We used graphic softwares to make a detailed preoperative plan and the expected final condition. Changes after the osteotomy could also be simulated with this method. Another procedure possible during DOSO was osteochondroplasty of the femoral head and neck with extension of the skin incision proximally after trochanteric osteotomy to check the movement of the deformed femoral head.

Abstract no.: 48431

INFECTIOUS ENDOCARDITIS AND PERI-PROSTHETIC INFECTION

Razvan ENE[1], Zsombor PANTI[2], Mihnea POPA[2], Mihai NICA[2], Marian PLENICEANU[2], Patricia ENE[2], Monica CIRSTOIU[2], Catalin CIRSTOIU[2]
[1]University Emergency Hospital of Bucharest, - (ROMANIA), [2]University Emergency Hospital of Bucharest, Bucharest (ROMANIA)

The increasing elderly population and secondary post-traumatic osteoarthritis of knee and hip joint explains the high number of joint replacements in orthopedics. Peri-prosthetic infections represent a major surgical and medical challenge with long hospitalization. Implant removal and high antibiotic therapy is necessary for proper healing. We present a 58 years old patient that underwent resurfacing hip joint replacement (BHR) with a metal on metal type prosthesis 11 years ago. The patient is also known with infectious endocarditis. CT scan of the hip showed a peri-implant liquid collection. Microbiological examination revealed a Methicilin resistant Staphylococcus aureus (MRSA). Implant removal and debridement was necessary with antibiotic impregnated spacer implantation. Valve replacement was also necessary for sever aortic valve dysfunction and heart failure. Due to the high anticoagulant therapy, bleeding at the level of the hip joint was hardly controllable, requiring multiple transfusions. Peri-prosthetic infection is a common complication of infectious endocarditis. The aortic valve damage led to left ventricular failure requiring replacement of it, which was elective to avoid further cardiac complications and dysrhythmia. The removal of the BHR prosthesis was also necessary to avoid systemic septic evolution. The postoperative management of this two elective surgical intervention required intensive unit care, in which daily monitoring of kidney and cardiac function was necessary. Despite of the specific antibiotic therapy and transfusions the immunological status has progressively deteriorated and the evolution was unfavourable leading to severe cardiac arrhythmia and death.

Abstract no.: 48433

MANAGEMENT OF DISPLACED MIDSHAFT CLAVICLE FRACTURES IN ADOLESCENT PATIENTS USING INTRAMEDULLLARY FLEXIBLE NAILS. A CASE SERIES.

Amr ABDELGAWAD[1], Ahmed AZIZ[2]
[1]Texas tech university, Texas (UNITED STATES), [2]Ain Shams University, Cairo (EGYPT)

Introduction: Clavicle fractures are common injuries in adolescent patients. In this study we present our technique and results for treating non-comminuted displaced midshaft clavicle fractures using flexible intra medullary nails. Patient and Methods: A retrospective review of prospectively collected data. Seven adolescent patients with acute displaced non comminuted clavicular shaft fractures who were treated with intra medullary flexible nails were included in this study. Results: Seven adolescent patients with non-comminuted displaced mid shaft clavicle fractures were treated with flexible nails over a period of five and half years with an average follow up time of 10 months. The average age was 14.6 years (range 14-16), and a 2mm nail was used in all cases. Closed reduction was obtained in five cases with only two cases needing open reduction to pass the nail. One patient had skin breakdown over the nail entry and had the nail removed in clinic two months after surgery, all other patients healed with no complication. Sports and full shoulder activity were allowed when radiographic healing was seen at an average 8 weeks. Conclusion: Flexible intramedullary nailing is an effective minimally invasive method for the treatment of displaced midshaft clavicle fractures in the adolescent population. The surgeon should be aware that a 2mm nail is likely the optimal diameter, and the nail is difficult to pass beyond the lateral 2-3cm of the distal segment due to canal narrowing.

Abstract no.: 48437

MID TERM FOLLOW UP ANALYSIS OF THE FUNCTIONAL AND RADIOLOGICAL OUTCOME OF UN-CEMENTED HYDROXYAPATITE COATED STEM IN TOTAL HIP ARTHROPLASTY

Pravin Kumar VANCHI[1], Mohan Kumar MURUGESAN[2], Mohan Choudhary BAKTHAVATCHALAM[2], Dhinesh JAYAPAL[2]
[1]SRI RAMACHANDRA MEDICAL COLLEGE, CHENNAI (INDIA), [2]SRI RAMACHANDRA MEDICAL COLLEGE, chennai (INDIA)

Our study is a retrospective one analyzing the functional and radiological outcome of un-cemented Hydroxyapatite coated stem in Total Hip Arthroplasty. The total number of hips in our study was 40 all of them done by a single surgeon. With a mean follow up of 8.075 years. The average age of all the patients was 56.35 years. The prosthesis used was a standard collarless corail stem (Depuy) with Duraloc shell. The clinical evaluation was done using Harris hip score. Standard x- rays were taken to analyze the radiological outcome. 85% of our patients had an excellent result on the Harris hip score and 12.5% of our patients had a good result. The mean modified Harris hip score was 96.2% during the midterm follow up. 5% of our patients had limb lengthening between 1-1.5cm with good modified Harris hip score. Radiological evaluation was done 5% of our patients had a Varus stem position, 85% of them had a central stem position. None of the patients had any femoral loosening. Vertical subsidence of negligible 3-5mm was seen in 7.5% of our patients with no change in clinical outcome. None of our patients had heterotrophic ossification. 5% of our patients had periosteal bone remodeling reactions. Our study concludes that Un-cemented primary Hydroxyapatite coated Total Hip Arthroplasty is a reliable procedure with excellent implant fixation and a predictable clinical outcome. Modified Harris hip score is a useful scoring system in assessing Total Hip Arthroplasty.

Abstract no.: 48443

WHICH IS THE OPTIMAL METHOD OF PLATELET-RICH PLASMA (PRP) APPLICATION DURING ARTHROSCOPIC ROTATOR CUFF REPAIR: A RANDOMIZED CONTROLLED COMPARATIVE TRIAL

Joo Han OH[1], Jeong HYEON JANG[2], Rhee SUNG MIN[2], Nam KYUNG PYO[2], Yeo JI HYUN[2]

[1]Seoul National University Bundang Hospital, Seongnam-si, Gyeonggi-do (SOUTH KOREA), [2]Seoul National University Bundang Hospital, Seongnam-si (SOUTH KOREA)

Introduction: Platelet–rich plasma (PRP) is thought to enhance tendon-bone healing after rotator cuff repair. However, the optimal method of PRP application is still uncertain. Methods: Total 58 patients underwent arthroscopic rotator cuff repair with PRP augmentation intraoperatively. PRP was prepared by double spin centrifugation during the surgery and activated by adding calcium gluconate. After randomization, half of patients (Boost injection group) received single ultrasound-guided injection of PRP around the repaired tendon at postoperative 2 weeks. At 1 year postoperatively, tendon healing was assessed using MRI, and the clinical outcomes was evaluated. Finally, propensity score matching was performed retrospectively among patients of database who had undergone arthroscopic rotator cuff repair without PRP augmentation (conventional repair group). Comparison with anatomical and clinical outcomes was performed. Results: Finally, 47 patients (24 in PRP augmentation only group (Group A) and 23 in boost injection group (Group B)) were eligible at postoperative 1 year and each group was matched for comparison. The retear rate in overall PRP group was significantly lower than conventional repair group (12.8% vs. 29.7%, p=0.04). There were no statistical differences between Group A and B in terms of the retear rates (8.3% vs. 17.4%, p=0.416), and clinical outcomes (p>0.05). Conclusions: PRP augmentation demonstrated superior results with regard to the anatomical healing after rotator cuff repair, however, postoperative boost injection of PRP did not improve anatomical healing. At postoperative 1 year, clinical results showed no statistical difference regardless of the PRP augmentation or the presence of retear

Abstract no.: 48444

CLOSED MEDIAL TOTAL SUBTALAR JOINT DISLOCATION WITHOUT ANKLE FRACTURE: A CASE REPORT

Raghav RAVI
Sri Ramachandra Medical College Hospital and Research Institute, Chennai (INDIA)

INTRODUCTION: TOTAL SUBTALAR DISLOCATION WITHOUT FRACTURE OF THE ANKLE IS A RARE CLINICAL ENTITY; IT IS USUALLY DUE TO A HIGH-ENERGY MECHANISM. STANDARD TREATMENT IS SUCCESSFUL CLOSED REDUCTION UNDER GENERAL ANESTHESIA FOLLOWED BY NON-WEIGHT BEARING AND ANKLE IMMOBILIZATION WITH A BELOW-KNEE CAST FOR 6 WEEKS. CASE PRESENTATION: WE PRESENT THE CASE OF A 28-YEAR-OLD MALE WHO WAS INVOLVED IN A ROAD TRAFFIC ACCIDENT. HE SUBSEQUENTLY RECEIVED A RADIOLOGICAL ASSESSMENT THAT OBJECTIFIED A TOTAL SUBTALAR DISLOCATION WITHOUT FRACTURE OF HIS ANKLE. HE WAS IMMEDIATELY ADMITTED TO THE OPERATING THEATRE WHERE AN IMMEDIATE REDUCTION WAS PERFORMED UNDER GA, AND IMMOBILISED WITH A BELOW KNEE PLASTER OF PARIS FOR 8 WEEKS. CONCLUSIONS: MEDIAL SUBTALAR DISLOCATION IS A RARE DISLOCATION AND IS COMMONLY SEEN AS A SPORTS INJURY IN A BASKETBALL PLAYER. THE WEAKER TALOCALCANEAL AND TALONAVICULAR LIGAMENTS OFTEN BEAR THE BRUNT OF THE ENERGY AND ARE MORE COMMONLY DISRUPTED, COMPARED TO THE RELATIVELY STRONGER CALCANEONAVICULAR LIGAMENT. URGENT REDUCTION IS IMPORTANT, AND CLOSED REDUCTION UNDER GENERAL ANESTHESIA IS USUALLY SUCCESSFUL, OFTEN FACILITATED BY KEEPING THE KNEE IN FLEXION TO RELAX THE GASTRONEMIUS MUSCLE. CONTACT DETAILS: DR R.V.RAGHAV M.S.ORTHOPAEDICS (SRI RAMACHANDRA UNIVERSITY) MOB NO. 9840628888 EMAIL ID: RAGHAVRAVI2193@GMAIL.COM

Abstract no.: 48446

POSTERIOR HEMIVERTEBRA RESECTION IN CONGENITAL SCOLIOSIS A CASE REPORT IN A 4 YEARS-OLD CHILD

Bruno CORREIA[1], António LOPES[2], João CARVALHO[3], Armando CAMPOS[4], António OLIVEIRA[4]

[1]Oporto Hospital Center, Portimão (PORTUGAL), [2]Oporto Hospital Center, Vila Real (PORTUGAL), [3]Oporto Hospital Center, Penafiel (PORTUGAL), [4]Oporto Hospital Center, Oporto (PORTUGAL)

INTRODUCTION: Hemivertebra is a type of vertebral anomaly and results from a lack of formation of one half of a vertebral body. It is a common cause of congenital scoliosis. The estimated incidence is 0.3 per 1000 live births. In 61% of the cases, this condition occurs in association with other pathologies. A hemivertebra acts as a wedge within the vertebral column, resulting in a curvature away from side on which it is present. So a dorsal hemivertebra classically results in kyphosis, a lateral hemivertebra results in scoliosis and a ventral hemivertebra, which is extremely rare, results in lordosis. The strongest negative impact is when a hemivertebra occurs at the lumbar-sacral level. METHODS: We present a case of a 4-years-old girl with a lumbar congenital scoliosis, due to right hemivertebra of L3, with an important scoliosis. The Cobb angle was 31º. A hemivertebra resection by a posterior approach was performed with a short instrumentation from L3 to L4 using segmental pedicle screws. Motor- evoked potentials and somatosensory-evoked potentials neuro-monotoring were used during the surgery. Remaining bone defect was filled by antologous bone graft to avoid pseudarthrosis. RESULTS: A 12 months follow-up shows no complications. The patient has a normal function, without any symptom or deformity. The fusion was achieved. CONCLUSIONS: An early treatment is important to avoid deformity. Posterior hemivertebra resection is an option in the treatment of a congenital scoliosis in children. Compared to double approach, this technique allows a complete correction and solid fixation with less morbidity.

Abstract no.: 48450

FAILURES OF REVISION HIP ARTHROPLASTY. CAUSES AND TREATMENT.

Taras NIZALOV, Oleksii SULYMA, Vitalii PIDGAIETSKYI, Taras OSADCHUK
Institute of traumatology and orthopedics, Kyiv (UKRAINE)

Introduction. As known the results of revision hip are much worse than the primary results. Methods. The basis of the research results amounted to 188 patients with aseptic implant instability, which carried by revision. Results. Aseptic instability was observed in 22 cases (12%) in the first 10 years after the revision. During the audit did not achieve the recommended position of the component in 15 (68%) cases, overlapping the bone did not reach 40% in 16 cases (73%). When using plastic material defects average volume surpassed 150 cm3, the contact with maternal bone transplant bed did not reach 50% in 100% of cases. There is cause complications implantation component in unauthorized positions and small, to 40%, overlapping the bone. When using bone graft 150 cm3 contact with the parent bone transplant bed did not reach 50%, which led to the transplant of bone lysis and secondary displacement component. Septic complications were observed in 12 (6%) cases. Dislocations head prosthesis revision in the postoperative period were observed in 8 (4%) cases, mainly in the early postoperative period, up to 3 months. Determined that the presence of chronic dislocation of the implant head correlates significantly from the deprecated bone position and overlap 40% acetabular component $r = 1,0$, $p < 0,05$.

Abstract no.: 48452

MAGNETIC RESONANCE IMAGING (MRI) ANALYSIS OF NORMAL FEMORAL ROTATION IN OSTEOARTHRITIC PATIENTS.

Fiona BINTCLIFFE[1], Thomas MURPHY[2], Cameron PAUL[3], Goddard RICHARD[2]

[1]The Conquest Hosptial, RYE (UNITED KINGDOM), [2]The Conquest Hosptial, Hastings (UNITED KINGDOM), [3]The Conquest, Hastings (UNITED KINGDOM)

Introduction: It is university acknowledged that three to five degrees is the normal femoral rotation of the knee. Consequently, many knee replacements have the intraoperative posterior referencing jig fixed at three degrees of femoral rotation. Although data exists for post-operative femoral rotation, very little data exists in the literature as to what is normal femoral rotation pre-and intra-operatively and the surgeon is faced to a challenge to restore a stable symmetrical flexion gap and subsequently normal knee biomechanics. Aim: To access whether patients undergoing total knee arthroplasty do have three degrees of femoral rotation on their pre-operative planning imaging. Method: The pre-operative MRI scans for patients undergoing patient specific total knee replacements were reviewed with measurements made of both femoral rotation and rotational axis. Results: In total 119 patient scans were reviewed. Of the available images the average femoral rotation was 5.07 with (4-6.5) rotational axis of 2.50 (-0.2-6.5). Conclusions: The results show that our patients have a greater femoral rotation that previously documented. Is a femoral rotation simply higher than previous thought or are patients with more femoral rotation more prone to osteoarthritis?? We believe there is a role for further biomechanical studies to further access femoral rotation.

Abstract no.: 48455

EXPERIENCE WITH CONVERSION OF FUSED HIPS TO TOTAL HIP ARTHROPLASTY.

Josephat J.A.O. MULIMBA
University of Nairobi, NAIROBI (KENYA)

Introduction: Fusion of a hip occurs spontaneously as a result of disease process or is deliberately carried out to manage a painful and sometimes an unstable hip. This was prevalent in Africa but now is hardly acceptable especially among the young. Improved technology and change in life styles have made it possible for this final form of treatment to be not easily acceptable. Methodology: Six consecutive patients seen in the clinic with fused hips requiring conversion are reported. After examination and radiological examination; discussions as to reason for wanting conversion, expectations and fears were done. Possible complications and outcomes were explained as well as involved costs. Results: With the limited follow ups, the outcomes were satisfactory. Problems encountered are reported. Discussions: Recovery was slower than other primary arthroplasties but in the end all the patients were satisfied. By: Prof. Josephat A. O. Mulimba, Professor of Orthopaedics, University of Nairobi – Kenya. Tel: +254 722 711 217.

Abstract no.: 48457

TREATMENT OF HALLUX VALGUS USING THE ISHAM REVERDIN PERCUTANEOUS TECHNIC: ABOUT THE 262 MOROCCAN CASES» BY DR. ALI EL KOHEN, ORTHOPAEDIC TRAUMA OFFICE , CASABLANCA, MOROCCO

Ali EL KOHEN
Clinique Jerrada Oasis, - (MOROCCO)

Introduction : the aim of this study is to report the results of percutaneous osteotomy of M1 for the treatment of mild and moderate hallux valgus using the Isham Reverdin technique and Akin osteotomy of P1. Objectives: objectives are the same as those of open surgery: reorientation of distal articular surface of M1, reducing volume of the exostosis, lateral arthrolysis of metatarsophalangeal joint, reduction of the HVA of P1. Methods: this a prospective monocenter study. The same orthopedic surgeon. The technic was indicated for treatment of hallux valgus in 262 feet and 213 patients between June 2009 and March 2017 with an average of follow up of 50 months (8-93 months). Hallux valgus was included with an IMA between 15° and 20°. Exostosectomy was performed in all cases and also percutaneous adductor tenotomy. Akin osteotomy was associated in all cases. Results were evaluated clinically and radiographic controls used AOFAS score. Results: very good 55,4%, good 37,2%, medium 5,8% and bad 1,6%, 92,6% were satisfied, AOFAS: 52 to 92. Conclusion: ISHAM-REVERDIN osteotomy doesn’t need internal fixation and immediate weight bearing is allowed. There is no instability if the lateral cortical of M1 is preserved. Post-op bandaging is very important and made by the surgeon himself (50% of success of operation). Self rehabilitation decreases the loss of mobility of MP joint. MIS surgery is less aggressive, practicable in ambulatory. Perfect codifications of the indications. Very long learning curve. Courses on cadaver lab is very important. Mentoring is desirable.

Abstract no.: 48468

SENSITIVITY OF MRI IN EARLY DIAGNOSIS OF AVASCULAR NECROSIS

Akhita SINGHANIA[1], Suvarn GUPTA[2], Shraddha SINGHANIA[2], Shashank JAIN[2], Shantanu GUPTA[2], Saherish KHAN[2], Vaibhav KUMAR[2], Sohael KHAN[2], Pradeep SINGH[3], Pooja SINGHANIA[2]

[1]Datta Meghe Institute of Medical Sciences, wardha (INDIA), [2]Datta Meghe Institute of Medical Sciences, Wardha (INDIA), [3]Dr.H.L.Hiranandani Hospital, Mumbai (INDIA)

ABSTRACT: OBJECTIVE: To assess the role of MRI in cases of AVN of femoral head and evaluate its sensitivity for the same. MATERIAL AND METHODS: 50 patients with clinical suspicion, were examined by 1.5 tesla MRI, using T1WI, T2WI and STIR sequences in axial, coronal and sagittal planes. RESULTS: study comprised of 48 patients suffering from avascular necrosis (71 hip joints). Maximum patients belonged to age group 31-40 (28.5%). 32 (76.19%) patients were males and 10 (23.8%) were females. Bilateral AVN was detected in 29 (69.04%) and unilateral in 13 patients (30.9%). Pre collapsed stage (Stages I and II) was detected in 22 hips (30.9%), collapsed stage (Stages III and IV) was detected in 49 hips (69.01%). Double line sign on T2weighted image was seen in 40/71 (56.3%)CONCLUSION: MRI is a sensitive for diagnosis and determination of extent of disease process. Early detection leads to early treatment and hence avoids unnecessary surgical interventions.

Abstract no.: 48477

QUALITY OF LIFE ASSESSMENT AFTER SURGICAL MANAGEMENT OF PERIPROSTHETIC FEMUR FRACTURES AFTER HIP ARTHROPLASTY

Sahil SANGHAVI
Sancheti Institute for Orthopaedics and Rehabilitation, Pune (INDIA)

Introduction: Outcomes of periprosthetic fractures of the femur after hip arthroplasty are debatable with differences in operative outcomes, complications, functional outcome and quality of life after surgical management. Materials & Methods: We evaluated 35 periprosthetic femur fractures after hip arthroplasty in 18 women and 17 men who underwent surgical treatment between January 2009 and December 2015. The cause of injury was trivial slip and fall in 91.42% patients. 51.42% (n-18) were operated with open reduction internal fixation while 48.58% (n=17) were operated with revision arthroplasty. The functional assessment was done using the Harris hip score and the quality of life was assessed using the SF-36 questionnaire. Results: The mean follow-up was 51.38 ± 25.77 months (range, 13-97 months). Most of the fractures united by 6-8 months. The mortality was 5.71% (n=2). The mean harris hip score on follow-up was 76.16±17.41 (range, 27-99). The mean SF-36 physical health summary score was 77.92±10.21 (range, 39.38-94.062), the mean SF-36 mental health summary score was 84.81±10.47 (range, 62-100). No significant difference was found on comparing the revision arthroplasty and open reduction internal fixation in terms of hospital stay, operative time, time to union, harris hip score, range of flexion, and SF-36 scores. Complications: There was infection in 1 patient, implant failure in 1, re-fracture in 1 and DVT in another. Conclusions: The treatment of periprosthetic fractures continues to be challenging with high rates of complications and morbidity and mortality.

Abstract no.: 48478

WHAT IS THE OPTIMAL FEMORAL HEAD SIZE IN TOTAL HIP ARTHROPLASTY WITH HIGHLY CROSS LINKED POLYETHYLENE BEARING? - A SYSTEMATIC REVIEW

Grace YIP[1], Krishna BODDU[2], Sandesh LAKKOL[1]
[1]Lewisham and Greenwich NHS Trust, London (UNITED KINGDOM),
[2]Lewisham and Greenwich NHS Trust, ipswich (UNITED KINGDOM)

Background: Larger heads in total hip arthroplasty improve stability but risks liner fracture and increased volumetric wear. Highly cross linked polyethylene (XLPE) has improved wear properties compared to traditional polyethylene (UHMWPE) and allowed for larger heads. The optimal head size for balance of stability and function with the least risk of aseptic loosening remains a dilemma. We undertook a systematic review to determine the optimal head size to use with XLPE. Method: A systematic review of the literature and data from the public domain of national joint registries was undertaken. We reviewed the studies and data involving total hip arthroplasty using XLPE and comparing femoral head sizes with following outcomes: revision rate due to aseptic loosening or dislocation, radiographic osteolysis, wear and PROMS. Result: Studies with minimum 10 year follow up show linear wear rates of XLPE are not significantly different regardless of head size, but there is increased volumetric wear with larger head sizes (32-40mm). Osteolysis has not been associated with femoral head size. Conclusion: Larger femoral heads (32-40mm) with XLPE can give the benefits of better stability and ROM without significantly increasing risk to revision due to aseptic loosening as wear rates are low. Studies with longer term follow up are necessary see the effects of the higher volumetric wear on risk of aseptic loosening. Implication: The use of larger femoral heads with XLPE may be optimal in older population, but needs further consideration in younger patients as longer term risk of aseptic loosening is still unknown.

Abstract no.: 48479

CONICAL STEM WITH MODULAR NECK IN DDH: IS IT ABLE TO RESTORE THE ANATOMY?

Luca BIANCHI[1], Luigi ZAGRA[2], Martina ROCCHI[1], Antonino Giulio BATTAGLIA[2], Gianluca GRANDI[1], Fabio CATANI[1]

[1]Azienda Ospedaliero-Universitaria Policlinico di Modena, Modena (ITALY),
[2]IRCCS Istituto Ortopedico Galeazzi, Milano (ITALY)

Introduction: The aim of this study was to evaluated clinical outcome of a conical stem with modular neck in a consecutive series of dysplastic hip and the ability of modularity to adequately restore functional anatomy of the hip. Methods: We performed a retrospective study of 74 conical stem with modular neck implanted between 2005-2015. The preoperative diagnosis was developmental dysplasia of the hip (DDH) in all cases. The femoral offset, abductor lever arms, height and medialization of the hip center of rotation and leg length discrepancy were recorded. Results: Average Harris Hip Score increased from 42 preoperatively to 92 at the last follow-up. Stem revision was required in two cases: one prosthesis failed for metallosis and one modular neck was revised after sciatic nerve palsy due to overstreching. The radiographic study showed that leg length discrepancy was avoided in the majority of cases; femoral offset, the height and medialization of the hip centre were restored in 90% of cases. Using Kaplan–Meier analysis the survivorship was 97.6% (95% CI: 94.8–100.0%) at a mean follow-up of 5 years. Conclusion: Restoration of the hip center of rotation in an anatomical position is considered to be crucial for implant survival in severe DDH. In our series stem modularity showed a good versatility allows the correction of anteversion, offset and leg length according to the reposition of the hip center of rotation. At a mid-term follow-up clinical results and survival of the implant was comparable to those described in the literature.

Abstract no.: 48482

MRI AS A ONE-STOP IMAGING TECHNIQUE FOR RECURRENT ANTERIOR INSTABILITY OF SHOULDER - CORRELATION WITH CT SCAN.

Prakash AYYADURAI[1], Sadem AMER[2], Suresh PERUMAL[2], Prabhu RADHAN[2], Arumugam SIVARAMAN[2], Prakash AYYADURAI[2]
[1]Sri Ramachandra Medical College & Research Institute, -chennai (INDIA),
[2]Sri Ramachandra Medical College & Research Institute, Chennai (INDIA)

Aim:The purpose of this study was to correlate CT and MRI imaging in determining bipolar bone loss in anterior shoulder instability by using on-track off-track method.Materials and methods: The imaging studies CT & MRI, done at our institution of 29 consecutive patients with history of recurrent anterior shoulder instability were examined by a two senior musculoskeletal radiologists independently. A total of 31 scans were included. The images were reviewed blindly and independently by both these radiologists using the on-track off-track method to predict engagement. The correlation of CT and MR images were tabulated and compared in a fixed pro forma. Statistical analysis was done and the results were formulated. Results & Conclusion: The evaluation of bipolar bone loss using CT and MRI had excellent correlation.MRI can be used to accurately assess the bipolar bone loss in patients with recurrent anterior shoulder instability. The results of prediction of engagement using the on-rack off-track method in MRI is comparable to that of CT scan. The technique of estimation of bipolar bone loss in our study is easily reproducible and has been proved to have very less intra-observer variations.

Abstract no.: 48483

THE COMPARISON OF TRICEPS-SPARING AND TRICEPS SPLITTING APPROACH IN THE TREATMENT OF EXTRA-ARTICULAR DISTAL HUMERAL FRACTURES

Srecko SABALIC[1], Fabijan CUKELJ[2], Tomislav CENGIC[3], Petra JURINA[3], Stjepan CURIC[3], Stipe CORLUKA[4]

[1]Clinical hospital for traumatology Zagreb, Clinical hospital Centre, - (CROATIA), [2]Clinical Hospital Centre Split, Split (CROATIA), [3]Clinical hospital for traumatology Zagreb, Clinical hospital Centre "Sestre Milosrdnice", Zagreb (CROATIA), [4]Clilical Hospital For Traumatololgy, Zagreb (CROATIA)

This study aims to evaluate the functional outcomes of patients with extra-articular distal humeral fractures treated with triceps-sparing - the bilaterotricipital approach described by Alonso-Llames and triceps splitting (Campbell) approach. METHODS: Thirty patients with extra-articular distal humeral fractures were retrospectively analyzed. Triceps-sparing approach was used in 14 patients (8 male, 6 female; mean age 39.1 years, range 21-67), and triceps splitting approach in 16 patients (11 male, 5 female; mean age 37.6 years, range 24-61). Fractures were classified using the AO/ASIF classification. Functional results were evaluated with the Mayo elbow performance score (MEPS) and the Disabilities of Arm, Shoulder and Hand (DASH) with a questionnaire score. RESULTS: The overall mean arc of elbow motion was 140° ± 10 in the sparing group, whereas that of the triceps splitting approach group was 128°± 15 . A significant difference was observed between the two groups in terms of overall mean arc of elbow motion (p=0.042). There were no significant differences noted between the two groups in terms of mean MEPS and DASH scores (p=0.72, p=0.95, respectively). The overall complication rate was 9.2% in the triceps sparing group and 17% in the triceps splitting approach group. CONCLUSION: Triceps-sparing is a successful approach in the treatment of extra-articular distal humeral fractures which provides better arc of elbow motion, reduces complications and re-operation rates.

Abstract no.: 48489

EARLY FUNCTIONAL AND RADIOLOGICAL OUTCOME OF TOTAL HIP ARTHROPLASTY

Suvarn GUPTA[1], Shraddha SINGHANIA[2], Pradeep SINGH[3], Sohael KHAN[2], Akhita SINGHANIA[2], Shantanu GUPTA[2], Shashank JAIN[2], Shantanu GUPTA[2]

[1]Datta Meghe Institute of Medical Sciences, wardha (INDIA), [2]Datta Meghe Institute of Medical Sciences, Wardha (INDIA), [3]Dr.H.L.Hiranandani Hospital, Wardha (INDIA)

Introduction: Total hip Arthroplasty is a surgical procedure, which relieves pain related to hip joint. The success of Total Hip Arthroplasty is its ability to relieve the pain associated with hip joint pathology, while maintaining the mobility and stability of the hip joint. Material and Methods : Prospective study of 50 patients. After routine clinical assessment and Xray, Modified Harris hip scoring was done preoperatively and postoperatively with follow up at 4 weeks, 6 months, 1 year and at yearly intervals. Results : This study was conducted on patients with age ranging from 20 to 75 years with a mean age of 40.50 ±12.15 years at the time of surgery.The main indication for surgery was AVN in 36 patients (72%). 5 (10%) patients were of primary osteoarthritis and 5 (10%) patient had sickle cell disease. Ankylosing spondylitis and Rheumatoid Arthritis group had 2 patients (4%) each. The mean total pre-operative harris hip score score was 49.74 .The maximum score being, 73 and the minimum, being 37. Post operatively the total mean score was 85.12, with the 65 being the minimum and 96 being the maximum. The most common complication was stress shielding (24%) followed by Acetabular component loosening, femoral stem loosening and Calcar resorption Conclusion: We conclude that the success of total hip Arthroplasty depends on Careful selection of the patient, Careful pre op planning, Good surgical technique, Good post-op physiotherapy. When adequate precautions are taken during the pre-operative, perioperative and post-operative period the complications can be minimized.

Abstract no.: 48493

HALLUX VALGUS CORRECTION: AN OUTCOME STUDY COMPARING A SENIOR AND RESIDENT SURGEON

Matthias WOLF[1], Gerwin BERNHARDT[1], Kelenc ULRICH[1], Heimo CLAR[2], Martin ORNIG[2], Andreas LEITHNER[1], Gerald GRUBER[1]
[1]Department of Orthopaedic Surgery, Medical University of Graz, Graz (AUSTRIA), [2]Independent orthopedic specialist, Graz (AUSTRIA)

Background: Surgical education is a fundamental precondition for continous good patients' care. Young doctors have to acquire a theoretical foundation as well as surgical skills. Objectives: The purpose of this study was to determine possible differences in patients' satifaction and clinical outcomes after chevron osteotomy for hallux valgus correction between a resident and senior surgeon. Design and methodes: We included all patients undergoing chevron osteotomy between 2010 and 2015 operated on by the same two surgeons. We investigated 51 patients (46 female) in the senior surgeon group and 42 patients (36 female) in the resident surgeon´s group. Outcome data were operation time, hallux valgus- and intermetatarsal angles measured pre- and postoperatively. At follow-up visits we compared the AOFAS- Score, SF-36 questionnaire and satisfaction score. Results: SF- 36 questionnaire outcomes, patients´satisfaction and the AOFAS- score results were similar in both groups, without significant differences. However, there was a difference concerning operation time showing a significantly shorter duration for the senior surgeon (including side procedures) compared to the resident surgeon (41 min ± 10 min vs. 46 min ± 10 min; $p < 0,05$). Conclusion: There were no differences in subjective and objective patients' outcome parameters between the resident and senior surgeon. Thus chevron osteotomy for hallux valgus correction is a safe teaching procedure for residents when supervised by a senior surgeon. A longer operation time should be taken into account when planning surgical procedures for educational purposes.

Abstract no.: 48495

THE MAJOR TRAUMA EFFECT ON ELECTIVE SPINAL SERVICES ACROSS ENGLAND

Robin JONES[1], Nimesh PATEL[2], Tim BRIGGS[3], Michael HUTTON[2]
[1]Royal Devon and Exeter Hospital, LEATHERHEAD (UNITED KINGDOM), [2]Royal Devon and Exeter Hospital, Exeter (UNITED KINGDOM), [3]Royal National Orthopaedic Hospital, Stanmore, London (UNITED KINGDOM)

Introduction: The NHS major trauma centre (MTC) framework, incorporating neurosurgical centres (NSC) was introduced in 2011/12 to provide specialist care to major trauma patients. However most NSCs currently operate at near maximum bed capacity, meaning surges in emergency admissions can impact elective cases. Back/radicular leg pain is often difficult and time-consuming to manage. Delays in investigation and symptom control prolong unplanned admissions for these conditions. Aim: To investigate whether admissions for back/radicular leg pain resulting in no intervention affects number of same-day elective spinal cancellations. Methods: Hospital episode statistics (HES) data analysed for spinal services 2013-2015. Number of admissions of four days or more for back/radicular leg pain with no intervention (EBPA) was obtained for each NSC and nearby hospitals. This was correlated with number of on-the-day cancellations (OTDC) of elective operations for each NSC and surrounding hospitals. Results: There was a trend to larger volumes of EBPA to NSCs. This correlated with a higher rate of OTDC at MTCs compared with referring units (7.8% vs. 4.5%.) Discussion: Correlation may be related to limited availability of out-of-hours MRI radiographer support in referring units versus NSCs. Patients with back/radicular leg pain are transferred for investigation at NSC where MRI is available and are not repatriated, leading to increased NSC bed pressures and cancellations. We propose that financial incentives to provide 24 hour MRI facilities would reduce bed pressures at MTCs and reduce discrepancies between NSCs and referring units in elective cancellation rates.

Abstract no.: 48499

MODIFIED GIBSON APPROACH AND HIP SURGICAL DISLOCATION FOLLOWING GANZ ET AL. TECHNIQUE IN THE TREATMENT OF A PATIENT WITH TRANSVERSE ACETABULAR FRACTURE

Hélder FONTE, Marta Santos SILVA, Arnaldo SOUSA, Daniel SOARES, Joaquim RAMOS
Centro Hospitalar do Porto, Porto (PORTUGAL)

Introduction: The majority of displaced acetabular fractures are treated operatively with internal fixation. They can be addressed through a single approach. For complex fractures, extensile modifications or combined approaches are used to make reduction easier but they are associated with high rate of complications. Using a single modified Gibson surgical exposure gives some advantages. The hip surgical dislocation has been rarely described in trauma context and it allows a better transverse fracture reduction. The goal of this report is to describe an uncommon surgical procedure used for the treatment of a patient presenting with a transverse acetabular fracture, using the modified Gibson exposure for the performance of hip surgical dislocation. Methods and Results: 29 years-old military man who was a polytrauma victim in an armoured vehicle crash accident. Imaging presented a transverse acetabular fracture with a roof osteochondral impacted fragment. Full visualization of articular surface was possible, fragment fixation and fracture reduction achieved successfully. It was followed by seven weeks protected weight bearing and physiotherapy treatment. Six months after the surgery the patient had no significant daily-life limitations and the follow-up imaging displayed maintenance of joint congruity, without signs of osteoarthritis or avascular necrosis. Discussion: Good planning is of paramount importance as anatomical reduction and congruity were found to be key factors for a good outcome. We believe that this surgical approach allowed for a better reduction and fixation of this particular fracture pattern, limiting possible complications and without the need for a second complementary approach.

Abstract no.: 48500

PRIMARY ANEURYSMAL BONE CYST OF PATELLA - RARE OCCURANCE

Suvarn GUPTA[1], Shraddha SINGHANIA[2], Sohael KHAN[2], Vaibhav KUMAR[2], Shashank JAIN[2], Akhita SINGHANIA[2], Saherish KHAN[2], Pradeep SINGH[3]
[1]Datta Meghe Institute of Medical Sciences, wardha (INDIA), [2]Datta Meghe Institute of Medical Sciences, Wardha (INDIA), [3]Dr.H.L.Hiranandani Hospital, Mumbai (INDIA)

Aneurysmal bone cysts account for less than 1% of primary bone tumours and have a predilection for the metaphysis of the long bones of the leg. Very rarely these cysts occur in the patella. We report on a 30-year-old man with a primary aneurysmal bone cyst in the right patella treated with curettage. The defect was filled with demineralised bone matrix and allogeneic cancellous bone graft. At the 1.5-year follow-up, the bone graft was well incorporated, the patient experienced no pain or tenderness and had a full range of knee movement.

Abstract no.: 48502

BIOMECHANICAL ANALYSIS AFTER FIXED- AND MOBILE-CORE ARTIFICIAL CERVICAL DISC REPLACEMENT

Jigang LOU
West China Hospital, Sichuan University, Chengdu (CHINA)

Objective: An in vitro biomechanical comparison among intact specimen, arthrodesis and cervical disc replacement (CDR) with two different types (fixed and mobile core) of artificial disc prostheses was conducted to analyze the biomechanical changes after CDR and the differences between fixed- and mobile-core prostheses. Methods: Six human cadaveric C2-C7 specimens were tested intact, arthrodesis, after CDR with a fixed-core prosthesis (Discover, Depuy) and after CDR with a novel mobile-core prosthesis (Pretic-I, Trauson) in clinical trials. Four models were all subjected to a follower load of 75 N and a maximum moment of 2 Nm in flexion-extension, lateral bending, and axial rotation. The range of overall and segmental motion (ROM) and intervertebral disc pressure (IDP) on adjacent segments were analyzed. Results: Compared to the intact condition, the ROM of cervical spine showed no significant difference after CDR. Moreover, the difference in ROM between the two prostheses was also without statistical significance. Besides, when comparing the IDP of adjacent segments between the two prostheses directly, we found that the difference in IDP on segment C4/5 were without statistical significance in all three directions of motion; however, the IDP on segment C6/7 after CDR with the novel prosthesis was significant lower than CDR with a fixed-core Prosthesis in flexion, extension, and lateral bending but not under axial rotation. Conclusion: The ROM of cervical spine was well maintained after CDR with the novel prosthesis. Moreover, CDR with the novel prosthesis presented a lower IDP on segment C6/7 than CDR with a fixed-core prosthesis.

Abstract no.: 48508

PERCUTANEOUS NEGATIVE SUCTION DRAINAGE OF LARGE TUBERCULAR PSOAS ABSCESS

Bhupendra K S SANJAY, Gaurav SANJAY, Surbhi KAPARWAN
Sanjay Orthopaedic Spine & Maternity Centre, Dehradun (INDIA)

Introduction: One third of World population is thought to be infected with TB and one fourth of them live in India. Most of the spinal infection presents with para vertebral abscess and some of them become too large due to prevailing poor socio-economic and health conditions in India. Materials: This is a study of 19 cases of percutaneous negative suction drainage of large psoas abscesses. There were 7 males and 12 females with age ranging from 28 years to 70 years. The study was performed from July 2005 to June 2015. Method: 16 gauge negative close wound suction drain is introduced in the abscess as an OPD procedure under sedation and aseptic conditions. Drain is kept until the whole abscess is drained out. The amount of aspirate varies from 800 ml to 1400 ml. Aspirate was investigated for TB PCR and TB culture and sensitivity. None of the patient required surgical drainage. One patient developed sinus at drain site which healed in due course of time. All patients were given anti-tubercular treatment. Discussion: This procedure does not have inherent risks of CT radiation, anesthesia and surgery. The anti-tubercular treatment becomes more effective after drainage of abscess. This procedure ultimately reduces the morbidity and mortality of the patients. Conclusion: Percutaneous negative suction drainage is an efficient, easy, safe, effective and cheap procedure for drainage of large psoas abscess and can be done as a day care procedure under sedation and local anesthesia.

Abstract no.: 48510

ARTHROSCOPY ASSISTED FIXATION FOR INTRAARTICULAR FRACTURE OF THE TRAPEZIUM

Soya NAGAO[1], Yoshiaki TOMIZUKA[2], Koji TANIMOTO[1], Yasuhiro TOYOIZUMI[2], Masahiro NAGAOKA[2], Yasuaki TOKUHASHI[2]
[1]Department of Orthopaedic Surgery, Itabashi Medical Association Hospital, Tokyo (JAPAN), [2]Department of Orthopaedic Surgery, Nihon University School of Medicine, Tokyo (JAPAN)

Introduction: Displaced intraarticular fracture of the trapezium is not common condition, and extremely difficult to obtain complete reduction by fluoroscopy. Meanwhile, Arthroscopy of the trapeziometacarpal joint is useful to verify not only intraarticular findings but also reduction of the intraarticular fracture. We report two cases of displaced intraarticular fracture of the trapezium treated arthroscopically with postoperative outcome. Case 1: forty-five years male came to our hospital because of motor vehicle accident. Plain radiographs and computed tomography of his left wrist showed hook fracture of the hamate and intraarticular fracture of the capitate, trapezoid and trapezium. Fracture of hamate hook and capitate were fixated with headless compression screw dorsally under fluoroscopy. Trapezium fracture was also treated with two wires under fluoroscopy and arthroscopy because of its comminution. Temporary arthrodesis of the trapeziometacarpal joint with two wires was added for 6 weeks, and thumb spica plaster splint was also applied for 4 weeks postoperatively. One year after operation, range of motion was not restricted, and satisfactory result was obtained. Case 2: twenty-eight years male professional boxer injured his right basal thumb by boxing. X-ray and CT revealed isolated intraarticular fracture of the trapezium. Arthroscopy assisted reduction and fixation was performed with headless compression screw. Temporary arthrodesis and plaster splint were applied as same manner of case 1. One year later, he could return to fight without any complaint. Conclusion: Arthroscopy assisted fixation for displaced intraarticular fracture of the trapezium is less invasive and helpful to achieve the complete reduction.

Abstract no.: 48514

A TECHNIQUE TO TREAT IMPENDING COMPARTMENT SYNDROME

Bhupendra K S SANJAY, Gaurav SANJAY
Sanjay Orthopaedic Spine & Maternity Centre, Dehradun (INDIA)

Fractures around knee are caused by high energy mechanism and they may be associated with many complications. Review of literature revealed the incidence of compartment syndrome from one-fourth to one-third of complex intra-articular fractures around knee. Compartment syndrome could be caused by pressure from within like bleeding and edema, from without, or from both. Acute compartment syndrome develops rapidly over hours or days. Authors are presenting a study of 12 cases of intra-articular fractures around knee with impending compartment syndrome. The study was performed from April 2011 to June 2015. Percutaneous negative suction drain was put in knee joint under sedation and local anesthesia in emergency room under all aseptic condition. It could be disastrous, if impending compartment syndrome could not be treated properly in time. Negative suction, not only sucks the blood from joint but also from the compartment and from the joint where blood is going to be collected. Ultimately it will reduce compartment pressure and will prevent damage to the surrounding muscles and nerves, which is the usual complication of compartment syndrome. Percutaneous negative suction drainage technique is a safe, simple and effective to prevent disastrous complication of compartment syndrome.

Abstract no.: 48518

RESULTS OF CORRECTION OF NEGLECTED COMPLEX FOOT DEFORMITIES

Gaurav SANJAY, Bhupendra K S SANJAY, Sujata SANJAY
Sanjay Orthopaedic Spine & Maternity Centre, Dehradun (INDIA)

Introduction: CTEV, CP and Polio in childhood and bad results of fractures after road traffic accidents are the main causes of foot deformities in India. These deformities are neglected due to poor socio economic status of country. These foot deformities are rarely isolated rather multi-planer affecting all joints. Materials : This is a study of 26 patients of neglected foot deformities treated by us from January 2004 to December 2015. There were 11 male and 15 female. Their age ranged from 4 to 49 years. There were 6 CTEV, 14 CP and 7 polio patients. Both feet were operated in 10 patients. Methods : Surgical procedure protocol included multiple percutaneous micro tenotomy of achilles tendon, plantar aponeurosis release, and adductor hallucis tenotomy followed by Ilizarov external Fixator. In addition to above procedure, all 7 polio patients, 2 CTEV patients and 5 CP patients had tendon transfer. All patients improved significantly. Discussion:These neglected foot deformities are quite common in developing countries like India due to poor socio-economic conditions. Surgical treatment is sought only when deformities and/or contracture interfere with activities of daily living. Conclusion : In early stages most of the deformities and contracture can be corrected with soft tissue release to tendon transfer, but at later stage when deformities are rigid, they can only be corrected easily and safely by Ilizarov external fixator. Sooner the surgery, better the result.

Abstract no.: 48519

SURVIVORS AFTER ALCOHOL RELATED TRAUMA AND THE IMPACT OF ALCOHOL SILENCE

May LABIDI
Regional hospital "dr.Tomislav Bardek", - (CROATIA)

introduction: alcohol related trauma is an issue worldwide, the aim is to note the impact of alcohol in deteriorating life quality due to directly related bone trauma, determining the future of traumatized patients and intervening in health economy. materials and methods: a two year overview revealed that survived trauma related to alcohol patients made about 41% of all hospitalized acute trauma patients in a regional hospital, about 16% with a neurotrauma that needed arrangements with other specialized clinics for treatment and an average of 2,5 days in intensive care unit. results: follow up of one year minimum showed that most patients needed further long-term rehabilitation, some needed additional surgery, all needed psychological consultation that mostly was not achieved because of the lack of recommendation at the time of discharge and lack of follow up of alcoholism during rehabilitation. a major problem from a personal point of view is public health care insurance system that covers expenses with a social system background. conclusion: the question of where is the border in alcohol consumption control should be carefully analyzed, sociocultural normative unfortunately plays a role in camouflaging the problem. more self awareness programs are recommended to chronic consumers, a recommendation for alcoholism treatment should be noted in letter of discharge, children and elders could be collateral victims as passengers or otherwise as found in many cases. finally the finance effect should be unmuted.

Abstract no.: 48521

TRAILING K-WIRES ARE BETTER THAN BONE ABUTTING WIRES FOR PEDIATRIC LATERAL HUMERAL CONDYLE FRACTURES- A RANDOMIZED CONTROLLED TRIAL.

Harsh SINGH
TATA CENTRAL HOSPITAL, Dhanbad (INDIA)

Introduction: Fractures of the paediatric lateral humeral condyle are transphyseal, intra-articular injuries. As such, they frequently require open reduction and fixation. Material and method: Between 1st January 2012 to 1st April 2013, 153 patients had isolated fractures of pediatric lateral humeral condyle.70 patients were selected by consecutive sampling method and randomized in two groups of 35 patients each of trailing k-wires and buried k-wires and included in the study. Out of a total of 70 patients 2 patients were lost in follow up. Type of study: Prospective randomized control trial. Random allocation of patients was done on the basis of computer generated random numbers. Proportion, measure of central tendency and dispersion of variable like age, sex, mode of injury, interval between injury and surgery were tested by appropriate parametric and non parametric statistical technique (t-test-test, chi square test etc.) Depending upon the nature of variables in both groups tabular and graphical presentation was done.Observation and Results: Multivariate analysis (regression analysis)was applied to find out confounding effect of independent variable (i.e. outcome variables).Outcome at various follow up intervals was compared between the two groups and both magnitude and significance of difference was measured using appropriate tests at 95% C.I where p=0.05.The result were compared with other relevant studies in the literature and consensus view was presented comparing cost and complication rate between the two groups. Conclusion: Paediatric lateral humeral condyle fractures can effectively be fixed with K-wires trailing outside the skin against traditional bone abutting k-wires.

Abstract no.: 48524

RISK FACTORS FOR PERI-IMPLANT INFECTION IN CLEAN ORTHOPEDIC PROCEDURES

Carlo Emmanuel SUMPAICO[1], Ilian EUSEBIO[2]

[1]Department of Orthopedics, University of the Philippines - Manila, Philippine General Hospital, Quezon City (PHILIPPINES), [2]Department of Orthopedics, University of the Philippines - Manila, Philippine General Hospital, Manila (PHILIPPINES)

We identified potential risk factors for infection of clean orthopedic procedures. Information regarding patients who underwent orthopedic procedures requiring implants from 2012 to 2013 in 8 major training hospitals in the Philippines was collected. Identified potential risk factors used for analysis were presence of co-morbid conditions, duration of antibiotic use, and classification of surgery done. A total of 2741 patients were included. The average age at the time of surgery was 41 years (SD 22.21), and 64.4% of patients were male. Primary trauma was the leading indication for surgery (69.64%), while Degenerative diseases/Arthritides followed (10.22%). The infection rate for clean orthopedic cases was 0.88%, compared to an overall infection rate of 1.43%. For clean cases, hypertension was the most common co-morbidity, accounting for 13.28% of cases, while diabetes was present in about 9% of cases. The mean duration of antibiotic coverage was 6.46 ± 5.29 days, where majority (58.14%) received antibiotics from 2 to 7 days. Only 3.5% of patients were given antibiotics for 1 day. Dirty orthopedic cases were found to be significantly associated with development of acute surgical infection, with a risk ratio of 5.79 (CI 3.04 – 11.03) and p value of > 0.001. Presence of co-morbidities and antibiotic duration >24 hours was not significantly associated with development of infection. Severity of injury and initial contamination is a consistent risk factor for development of post-operative infection. Hypertension and diabetes remain controversial risk factors. For clean orthopedic cases, antibiotic treatment for 24 hours is sufficient prophylaxis.

Abstract no.: 48526

TREATMENT OF PEDIATRIC DIAPHYSEAL FOREARM BONE FRACTURE: A RURAL HOSPITAL BASED EXPERIENCE.

Poojan ROKAYA
Karnali Academy of Health Sciences, Jumla (NEPAL)

Introduction: Pediatric forearm bone fracture present significant challenges where most of them are managed with closed reduction and casting. Irreducible, unstable and open fracture usually require operative stabilization. Intramedullary nailing is considered minimal invasive however it is not free of complication. We aimed to analyze the outcome and complication of intramedullary stainless steel rush pin for pediatric diaphyseal forearm bone fracture. Methods: A descriptive observational study was carried in diaphyseal pediatric forearm fracture stabilized with intramedullary rush pin. Final range of motion, complications and outcome were assessed using Clavien-Dindo classification. Results: We report the outcome of 36 patients. Closed reduction and nailing was successful in 25 patients (69.4%) whereas eleven patients (30.6%) required open reduction (both radius and ulna in 6 patients16.7%, ulna in 3 patients 8.3% and radius in 2 patients 5.6%). Radiological union was achieved at an average of 7.75±1.5 weeks. Forearm rotation was limited in 7 patients with average loss of 16° pronation and 18° supination. The overall rate of complication was 22.2 %. According to Clavien-Dindo classification excellent results were noted in 29 patients (80.6%), good in 3 patient (8.3%) and fair in 4 patient (11.1%). Conclusion: Intramedullary Rush pin is a simple, safe and minimal invasive method for the treatment of pediatric diaphyseal forearm bone fracture. They are easily available and affordable to most of the patients in developing countries with good to excellent functional and radiological outcome. It has low rate of complications most of which resolve with implant removal.

Abstract no.: 48534

STUDY OF 100 CASES OF PARAPLEGIA DUE TO METASTASIS DUE TO UNKNOWN PRIMARIES

Vijay Kumar KHARIWAL[1], Sadhna GARG[2]

[1]senior consultant and chief institute if orthopedics and traumatology,jaipur glden hospitalsector 3 rohini, NEW DELHI (INDIA), [2]health and family welfare department punjab, sangrur (INDIA)

after the 60 pt. Presenting with weakness of limbs due to spinal metastasis is not uncommon with increase in life expectancy.analysis of 100 cases of such presentation done. The most common malignancy presenting as paraplegia or quadreplegia or presis is prostate followed by multiple myeloma, nhl,hepatobilliary ,lungs,intestine & ewing sarcoma. Prostate,NHL, secondaries present as painless paraplegia compared to other which present with pain. Diagnosis can be made by clinical examination &investigations in most cases specially prostate,m.m,nhl.in intestine specially stomach it is very difficult even pet ct may not help.with mri, bone scan, pet ct &i.h.c markers along with history ,examination&routine investigations diagnosis can be reached in 95 % of cases rest 5% treated as metastasis of unknown origin.in breast cancer presenting as paraplegia is not seen except in one case as leptomeningeal involvement thoughbony metastasis are commonly seen in spine in breast cancer.best prognosisis also in prostatic carcinoma.estimated average survival in prostate , m.m &to some extent in lungs is in years &in rest it is usually in months only.surgical intervention is needed in 90% of cases along with cct &r/t & other supportive measures. Surgery is needed both as diagnostic & therapeutic measure.males are involved more than females.nhl is seen comparatively in younger people.it is worth trying to locate primary because it may be possible to conrol tumour if not cure as it may be hormone, cct or radio therapy sensitive & patient may be symptom free & papaplegia recover & patient have a useful independent life.

Abstract no.: 48537

IDENTIFICATION OF THE MEDIAL FEMORAL SAFE ZONE FOR DRILLING DURING LATERAL FEMORAL PLATING AND DYNAMIC HIP SCREW (DHS) FIXATION: A CT ANGIOGRAM TRACING OF THE PROFUNDA FEMORIS ARTERY

Samer Ss MAHMOUD[1], Khalid HAMID[2], Bessam AHMED[3], Paul BAKER[2], Simon MILBURN[2]

[1]Health Education England-North East, Stockton-on-Tees (UNITED KINGDOM), [2]James Cook University Hospital, Middlesbrough (UNITED KINGDOM), [3]Health Education England-North East, Middlesbrough (UNITED KINGDOM)

Introduction: 85 % of the extracapsular proximal femoral fractures in the UK are treated by internal fixation using a sliding hip screw and side plate construct. Vascular injury to the Profunda Femoris Artery (PFA) associated with drilling at time of fixation is increasingly reported. The aim of our study is to map the safe zones for drilling to avoid this serious complication. Methods: Normal lower limb Computerized Tomography Angiogram (CTA) studies were identified using the local radiology archiving software and the whole length of the PFA was traced from a reference point (mid-point of the base of the lesser trochanter). The position of the PFA in relation to the medial femoral cortex was identified at 1 cm intervals starting at the reference point. Using axial sections, location of the artery (in degrees) was recorded in relation to the central femoral axis. Results: In 48 patients with mean age of 65.3 years (28 males and 20 females), the part of the PFA between 8–11 cm distal to the reference point was close to the medial femoral cortex (3.1–11.3 mm) and lying near the coronal axis of the body (Arc of -8.4 to +15.8 degrees). This zone of the artery has corresponded with third to fourth screw of the DHS side plate. Conclusion: The danger zone of the PFA is located between 8–11 cm distal to the reference point. Excessive attention should be paid on application of screws in this region.

Abstract no.: 48538

SHORT TERM IV ANTIBIOTIC THERAPY FOR THE POST OPERATIVE TREATMENT OF CHILDREN WITH CHRONIC OSTEOMYELITIS

Carlo Emmanuel SUMPAICO[1], Jerome SISON[2]
[1]Department of Orthopedics, University of the Philippines - Manila, Philippine General Hospital, Quezon City (PHILIPPINES), [2]Department of Orthopedics, University of the Philippines - Manila, Philippine General Hospital, Manila (PHILIPPINES)

Objectives: There is no consensus on the length of IV antibiotic therapy after surgery in the treatment of children with chronic osteomyelitis. This study shows the outcome of children treated with less than 6 weeks of IV antibiotics followed by oral antibiotics to complete 6 weeks. Methods: A chart review of children with chronic osteomyelitis treated with less than 6 weeks of IV antibiotics followed by oral antibiotics to complete 6 weeks was done in the Philippine General Hospital. Demographic, clinical and laboratory data were gathered and analyzed. Results: 36 patients were identified. Average age was 8 years old. Most common bone affected was the femur. S. aureus was the most common isolate seen. Average time of follow up was 31 weeks (31-192). Average time of IV antibiotics prior to shifting to oral antibiotics was 3 weeks. Most common presentation was pain followed by fever and a draining sinus. Laboratory parameters (Hgb, WBC, ESR and CRP) were mostly elevated prior to surgery and antibiotic therapy decreased or returned to normal values post operatively and post antibiotic therapy. Recurrence rate was 13% or 5 out of 36. Conclusion: Favourable outcomes are possible in the treatment of children with chronic osteomyelitis with less than 6 weeks of IV antibiotics as long as it is followed by oral antibiotics to complete 6 weeks.

Abstract no.: 48544

INNOVATION IN ORTHOPAEDICS: VIRTUAL SURGICAL PLANNING AND 3D PRINTING

Tarun VERMA
Maulana Azad Medical College and Lok Nayak Hospital, New Delhi (INDIA)

Modern orthopedic surgery demands for tools and techniques which render the procedures safer, faster and more accurate. Tools like rapid prototyping (3D printing) and various software for virtual surgical planning and simulation have led to a new era of innovations in orthopedics. 3D printing is a technique that uses additive manufacturing technology to accurately reconstruct physical objects which indicates fabrication of a three-dimensional (3D) model from a computer-aided design (CAD). The use of rapid prototyping (RP) technique and medical modelling in orthopaedics is still in its early days. Virtual Surgical Planning is about utilizing medical image data to accurately plan surgery in a computer environment with software like MIMICS and then transferring that virtual plan to the patient using information from the plan and customized instruments. Customized prosthesis: Virtual surgical approach can be used to make customized prosthesis exploiting the presence of a normal counterpart on opposite side. We have designed and implanted customized scapular prosthesis and customized proximal humeral prosthesis for replacement in Ewing's sarcoma of scapula and humerous respectively. Valgus Osteotomy: We also made a virtual 3D model of proximal femur using CT scan and 3D printed it. In vitro osteotomy was performed on the model to determine the angle of wedge and to contour the plate for fixation after osteotomy. The application of virtual and 3D printing tool aided in surgeries and proved to be superior to the conventional methods.

Abstract no.: 48545

PRELIMINARY RESULTS OD PRIMARY ACL SUTURE WITH INTERNAL BRACE LIGAMENT AUGMENTATION

Robert FREI
CPM Prague, Prague (CZECH REPUBLIC)

The idea of the ACL suture is not very new but new repair techniques using Internal Brace Ligament Augmentation (IBLA) give a new possibilities of the treatment. ACL repair using IBLA is topic of this study. During one year were repair 62 ACL ruptures with IBLA. Using KOOS and WOMAC index we scored the patients. Improvement was seen over the study period in all KOOS and WOMAC. We have three rearthroscopy due to rerupture ACL and Internal Brace after a new injury, due to meniscal tear and patellar cartilage pathology. Conclusions: Our study provides functional outcome data similar and comparable with ACL standard reconstruction, with the graetest improvements in early return to normal and especially sport activity. In this "Case series" with follow up shorten then 13 months is necessary to continue and randomise directly comparation IBLA repair against ACL standard reconstruction techniques.

Abstract no.: 48546

SKIN PLASTIC IN COMBINATION WITH TRANSOSSEOUS OSTEOSITIS IN ONCOLOGICAL HAND SURGERY

Evgenij VARGANOV
Hand Surgery Center CMS "Paracelsus", Chelyabinsk (RUSSIA)

Objective: Demonstration of the possibility to combine skin plasty and transosseous osteosynthesis fo treatment of hand tumours. Materials and methods. The material for analysis was 347 medical records of patients who underwent treatment between 1992 and 2017 in the center of hand surgery with tumors of the hand. All these patients carried dermepenthesis due to the presence of postoperative tissue defects. For the purpose of fixing the hand used apparatus Ilizarov and Obukhov. Primary skin plastic was used in 295, and the secondary one in 52. Depending on the condition of the soft tissues of the hands, we use different versions of plastics. Results. The analysis of short-term (less than 12 months) and long-term (up to 25 years) outcomes showed that in cases of commonly accepted techniques of skin plasty positive results were obtained in 74,8% and in the cases where transosseous osteosynthesis was used the success rate was 91,7%. The use of the combination of skin plasty and transosseous osteosynthesis provided a 1,4-fold reduction of the number of disability outcomes.

Abstract no.: 48550

HYDRAULIC DISTENSION FOR FROZEN SHOULDER – A SIMPLE AND EFFECTIVE TECHNIQUE.

Deepak ANANDAREDDY
J.J.M medical college, Davangere, Bengaluru (INDIA)

BACKGROUND & OBJECTIVES: Frozen shoulder is of unknown etiology characterized by a gradually progressive, painful restriction of all shoulder joint motion, chronicity and slow spontaneous restoration of partial or complete motion over month to year. Hydaulic distension of glenohumeral joint for frozen shoulder offers safe, cost effective, direct and immediate results. In this study we evaluate the efficacy of hydraulic distension as a management option for frozen shoulder. METHODS: 150 Patients with 162 shoulders of frozen shoulder (12 of them with bilateral shoulder involvement) were studied in the orthopaedic departments of Hospitals attached to J.J.M. Medical College, Davangere. Patients were treated with hydraulic distension under local anesthesia, on an out-patients and inpatient basis from August 2012 to September 2016. Various parameters like pain, range of movements and function of shoulder were assessed on pre-distension, post distension and at 6 weeks follow up. Results were graded as excellent, good, fair and poor based on above parameters. RESULTS: During immediate post distension period, 4% of the patients had excellent results, 44% good results, 46% fair results and 14% had poor results. At follow up 38% had excellent results, 52% had good results, 16% had fair results and 2% had poor results. CONCLUSION: Hydraulic distension is a safe, reliable, cost effective procedure without requiring specialized equipments in the management of frozen shoulder. Under total aseptic precautions, when performed with a right technique, it has absolutely no side effects. Keywords: frozen shoulder, hydraulic distension, predistension, local anaesthesia.

Abstract no.: 48556

HOW TO ACHIEVE OPTIMAL FUNCTIONAL OUTCOME IN HOFFA FRACTURE FIXATION: A CLINICO-RADIOLOGICAL STUDY

Shah WALIULLAH, Shantanu KUMAR, Deepak KUMAR, Vineet SHARMA, Santosh KUMAR, Ashish KUMAR
King Georges Medical University, Lucknow (INDIA)

Introduction: Coronal fracture of distal femoral condyles, Hoffa fracture is rare entity. Due to intra articular involvement management requires open reduction, absolute anatomical reduction and rigid internal fixation followed by early mobilization to ensure optimum outcome. We have prospectively analysed functional outcome of Hoffa fracture managed by open reduction and internal fixation along with the factors affecting outcome. Methods and Material: Total 17 patients, 14 male and 3 female with an average age of 34.6 years, were enrolled in our study after satisfying our inclusion criteria all patients were managed by open reduction through either anterior midline, anterolateral or anteromedial approach and internal fixation by either anteroposterior or postero-anterior cannulated cancellous screws. Non weight bearing mobilization of fracture started as patients started tolerating pain. Weight bearing was started after 12 weeks. All patients were followed up clinically as well as radio-logically at 6 weekly intervals. Functional outcome was accessed in terms of Knee Society Score.Results: All patients were followed up for a minimum of 18 months, all fractures got healed at an average of 12.1 weeks with average Knee society score 177.8 points. During follow-up we observed one patient with loss of reduction, two patient got stiffness beyond 90 degree and one patient developed post traumatic arthritis.Conclusion: Optimal outcome of Hoffa fracture can be achieved by absolute anatomical reduction, rigid internal fixation followed by protective weight bearing and early mobilization.Key-words: Hoffa fracture, Knee Society Score

Abstract no.: 48560

VANCOMYCIN IMPREGNATED BONE GRAFTS AS A CARRIER OF ANTIBIOTIC FOR TREATMENT OF INFECTED NON UNION OF LONG BONES

Shah WALIULLAH, Narendra Singh KUSHWAHA, Devarshi RASTOGI, Vineet KUMAR, Ajai SINGH, Rajendra Nath SRIVASTAVA
King Georges Medical University, Lucknow (INDIA)

Introduction: Infection is a biggest hurdle for the treatment of infective non union , may results in amputation of extremity ,if not controlled. After control of infection, Non union of long bone is principally managed by freshening of sclerotic bone ends, stable fixation and change in biological environment around fracture site. Biological repair requires removal of dead, necrotic tissue along with bone graft to facilitate union. We want to evaluate the efficacy of Antibiotic incorporated autogenous bone graft(AIABG) used in the treatment of infective non union of long bones.Methods & Material: 21 patients with infected non union of long bones,after satisfying inclusion criterias were recruited in our study. All patients were managed by debridement, open reduction, fracture stabilization with or without distraction osteogenesis along with autogenous bone grafting. In patients with active infection, AIABG was used in second stage surgery after control of infection. All patients were followed up clinically as well as radiologically, to access union and functional outcome.Results: All patient except three showed union at an average 23.2 weeks. Complication included recurrence of infection, one patient with lateral peroneal nerve palsy and one patient underwent amputation.Conclusion: AIABG is simple, effective and viable modality for treatment of infection in cases of non union of long bones.Key-words: Infected non union, Antibiotic incorporated autogenous bone graft(AIABG)

Abstract no.: 48561

THREE-DIMENSIONAL CT ANALYSIS OF FEMORAL AND TIBIAL TUNNEL POSITIONS AFTER MODIFIED TRANSTIBIAL SINGLE-BUNDLE ACL RECONSTRUCTION

Francois-Paul EHKIRCH[1], Peter UPEX[2]
[1]Clinique Maussins-Nollet, PARIS (FRANCE), [2]Saint Antoine University Hospital, Paris (FRANCE)

Introduction A correct femoral tunnel placement is essential during ACL reconstruction in order to correct knee instability and minimize the risk of failure. The purpose of this study was to analyse femoral and tibial tunnel positions with CTSCAN after single-bundle ACL reconstruction using a modified transtibial technique. Methods From January to June 2014, we prospectively analysed by 3D-CT data from 48 patients who underwent ACL reconstruction. Tunnel positions were analyzed according to the quadrant method described by Bernard et …? for the femur and the method described by Forsythe et …at the tibia. Results The femoral tunnel was located at 42.81% ± 1.63 from the proximal condylar surface (parallel to the Blumensaat line) and 40.85% ± 1.85 from the notch roof (perpendicular to the Blumensaat line). The tibial tunnel was located at 50.87% ± 1.22 from the anterior margin and 45.22% ± 0.96 from the medial articular margin. Conclusion Our modified transtibial allows a more anatomical placement of tibial and femoral tunnels during ACL reconstruction than traditional transtibial techniques but the center of the femoral tunnel is more shallow than anteromedial techniques.

Abstract no.: 48571

TREATMENT OF CHRONIC ANTERIOR SHOULDER DISLOCATION BY REVERSE ARTHROPLASTY

Catarina BISPO, Goncalo LAVAREDA, Sofia CARVALHO, Filipe MACHADO, Francisco GONCALVES, Mafalda BATISTA, Barbara CAMPOS
Hospital Ortopédico Sant'Iago do Outão, Setúbal (PORTUGAL)

Introduction: Shoulder dislocation in the elderly generally occurs as a result of falls from height, being frequently complicated by rotator cuff tears. Sometimes, there's a delay to seek for medical care because of a higher pain threshold and low functional demands. Chronic anterior shoulder dislocation in the elderly is a rare condition and current treatment approaches go from skillfull neglect to reverse shoulder arthroplasty (RSA). Case Presentation: The authors present a case of a 68 year old female who suffered a fall with right shoulder trauma. She didn't seek for medical advice until 10 months later. She had shoulder and scapula atrophy, 80º of anterior elevation, 0º of external rotation and buttock internal rotation. X-ray and CT scan revealed an inveterate anterior shoulder dislocation, a Hill Sachs lesion and a great tuberosity mal union. VAS score was 8, Quick-DASH 61 points, SSV 30%. Through a superior-lateral approach the patient underwent RSA. An extensive posterior capsular release and débridement of the fibrous tissue had to be done. Exams are presented. Outcomes: The patient followed rehabilitation protocol with a favorable evolution. Videos and functional scores are presented. Discussion: Surgical management of chronic shoulder dislocation is challenging. RSA use is supported by the literature and has showed good outcomes. The authors chose a RSA because of the semi constrained concept of the implant that provides more stability of the chronically dislocated shoulder, independently of soft-tissue defects. An extensive capsular release and special attention to components orientation are mandatory in this cases.

Abstract no.: 48580

OUTCOME OF HUMERAL SHAFT FRACTURES USING OFF SHELF CLASBY HUMERAL BRACE

Parthasaradhi GAJULA[1], George VISCOPOLEANU[2], Jagan Mohan Reddy VELPULA[3], Ashwin PIMPALNERKAR[4]

[1]Good Hope Hospital, Sutton coldfield (UNITED KINGDOM), [2]Foișor Orthopedics Clinical Hospital, Bucharest (ROMANIA), [3]Leighton Hospital, Crewe (UNITED KINGDOM), [4]Good Hope Hospital, Sutton Coldfield (UNITED KINGDOM)

Introduction: Humeral fractures constitute 3 to 5% of the fractures. They are caused by both low and high energy trauma. The treatment of these fractures are Surgeon dependent. Non operative treatment is more favourable because of low incidence of complications. Materials and Methods: We have done a study at our District General Hospital to see the outcome of non operative treatment using an off shelf clasby humeral brace. It was a retrospective study conducted between 2010 and 2015. The data was collected from the Orthotic department. We have identified n:95 patients However 22 patients were excluded from the study because some of them were given the brace for pain relief e.g pathological fractures, lost to follow up, as a splint following operative treatment. They were classified based on AO classification and were analysed by Microsoft excel and SPSS systems. Observations: There were n:73 patients suitable for the study. There were females (n:42), males (n:31). The average age was 62.4 years (11 to 95). The laterality of the injury, Left side (n: 45), Right side (n:38). Results: 86 % (n:63) of patients had successful outcome with the non operative treatment with clasby brace and 14% (n:10) of them required operative treatment for non-union. Conclusion: Our study has shown that the off shelf clasby humeral brace is effective in non operative treatment of humeral shaft fractures independent of age, sex, laterality, site and degree of comminution and displacement of the fracture, patient's co-morbidities and social habits like alcohol and smoking.

Abstract no.: 48586

RELATIVE SURVIVAL FOLLOWING TOTAL OR HEMIARTHROPLASTY FOR ACUTE HIP FRACTURES IN SWEDEN

Ola ROLFSON[1], Dennis LIND[2], Szilard NEMES[3], Peter CNUDDE[3], Erik BÜLOW[3], Cecilia ROGMARK[3]

[1]Sahlgrenska Academy, University of Gothenburg and the Swedish Hip Arthroplasty Register, Göteborg (SWEDEN), [2]Department of Orthopaedics, Skane university Hospital, Lund University, Lund (SWEDEN), [3]Sahlgrenska Academy, University of Gothenburg and the Swedish Hip Arthroplasty Register, Gothenburg (SWEDEN)

Introduction: This study describes and depicts mid-term survival rate for a cohort of Swedish hip fracture patients after total or hemiarthroplasty. We also explored whether the survival rate is prosthesis type specific and influenced by comorbidities, socio-economic and surgical factors. Methods: Prospectively collected socio-economic, patient- and surgery-specific data of the SHAR-linked database of 43,891 patients treated 2005-2012 were analysed using relative survival rate and multivariable modeling proceeded with cox proportional hazards model in transformed time. Results: At 6 months, the baseline excess hazard (compared to age and gender matched population) was very high, thereafter it decreased but remained non-negligible for 8 years. Both genders had survival rates inferior than their peers from the general population (HR = 0.72). Male gender, higher Elixhauser comorbidity index ($p<0.0001$), lower level of education and being widow or single was associated with worsening survival. Patients with a hemiarthroplasty had a worse survival than patients with a THA (HR=0.38). Of the hospital types considered university hospitals had lower survival rate ($P<0.001$). Discussion: Swedish hip fracture patients who undergo arthroplasty surgery have a high excess hazard of dying in the first half year following surgery. As choice of implant is based on patient frailty and activity level a corresponding difference of the relative survival rates between total and hemiarthroplasties is observed. There is an influence of gender mainly in the first year. Both comorbidities and socio-economic factors have an adverse effect on survival.

Abstract no.: 48593

FOOT POSTURE INDEX: A STUDY OF OBSERVER RELIABILITY AND CORRELATION WITH PEDCT.

Matthew WELCK[1], James THORNTON[2], Bosun BURAIMOH[2], Nicholas CULLEN[2], Andrew GOLDBERG[2], Dishan SINGH[2]
[1]ROYAL NATIONAL ORTHOPAEDIC HOSPITAL, BUSHEY (UNITED KINGDOM), [2]ROYAL NATIONAL ORTHOPAEDIC HOSPITAL, STANMORE (UNITED KINGDOM)

An accurate, reproducible and quantitative assessment of foot posture is a useful clinical tool to monitor progression of deformity and response to intervention. The foot posture index (FPI-6) is a validated tool, based on 6 clinical parameters, to quantify foot posture. These include palpation of the position of the talar head, and inspection of inversion/eversion of calcaneus, arch height and adduction/abduction of the forefoot. It has not been widely adopted in the orthopaedic community. This study aims to test the inter and intra observer reliability of the FPI-6 in a Foot and Ankle clinic, and to test its correlation with radiographic measures of foot alignment on weight bearing CT scan (pedCT). 10 patients (20 feet), had their FPI-6 measured on two occasions, by two separate examiners. The results were correlated with the Meary angle and Calcaneal pitch on pedCT. We found moderate to good intra-observer reliability for all 6 individual measurements (Cohen's Kappa statistic). There was a moderate inter-observer reliability for 5 out of the 6 measurements ($p<0.001$). However, the total, overall FPI-6 showed a high intraclass correlation for both intra (0.992, $p<0.001$) and inter observer reliability (0.967, $p<0.001$). Spearman's rank order correlation demonstrated a moderate correlation between the total FPI-6 and the Meary's angle (-0.626, $p=0.005$), but no correlation with calcaneal pitch. In conclusion, the overall value of the FPI-6 shows good intra and interobserver reliability for use as a clinical tool. There is however only moderate correlation with radiographic parameters on pedCT.

Abstract no.: 48601

ARTHROSCOPIC SURGERY FOR DEGENERATIVE TEARS OF MENISCUS- SYSTEMATIC REVIEW AND META-ANALYSIS OF 8 RANDOMISED PUBLISHED CLINICAL TRIALS

Kunal ANEJA[1], Parag SANCHETI[2], Navneet WADHWA[3], Alisha ARORA[4], Ayush Kumar SINGH[5]

[1]Deen Dayal Upadhyay Hospital, New Delhi (INDIA), [2]Sancheti Institute for Orthopaedics and Rehabilitation, PUNE (INDIA), [3]AUW Global, New Delhi (INDIA), [4]Bhagwan Mahavir Hospital, New Delhi (INDIA), [5]Grant Medical College and Sir Jamshedjee Jeejeebhoy Group of Hospitals, Mumbai (INDIA)

Arthroscopic partial meniscectomy is debatable approach for the management of degenerative meniscal tears. We performed a systematic review and meta-analysis to assess the evidence for the arthroscopic surgery in patients with degenerative tears of meniscus, using the PubMed/MEDLINE and Cochrane library by using the specific MeSH and Boolean operators including only the highest level of evidence, the Randomised Controlled Clinical Trials (RCCTs). The parameters were analysed for the study design, patient characteristics, and outcomes by using the appropriate statistical models. The results yielded 11 studies and 8 RCCTs met the inclusion criteria. A cumulative of 855 patients (mean 106.9, minimum 73, maximum 146, SD 27.8 ± SEM 9.8, 95% CI 83.6, 130.2) have been evaluated for a mean duration of 26 months over last 25 years (1993-2016). Scandinavian countries have predominantly contributed to the number of RCCTs (5) followed by rest of Europe (2) and Korea (1). Based on the impact factor of the journals (mean 11.57, minimum 1.15, maximum 59.55, SD 20 ± SEM 7, 95% CI -5.1, 28.3), we formulated an indexed weightage score (mean 100, minimum 9.9, maximum 514 SD 173 ± SEM 61.17, 95% CI -44.63, 244.6). The comparative controls included strengthening exercises (5), sham surgery (2) and intraarticular steroid injection (1). The weighted evidence score reflects that outcomes after arthroscopic partial meniscectomy were not superior than the non-operative intervention. The initial trial of non-operative approach for degenerative meniscal pathology in the context of limited health resources would be more appropriate.

Abstract no.: 48603

MODULAR STEM IN SECONDARY OSTEOARTHRITIS DUE TO DEVELOPMENTAL DYSPLASIA OF HIP

Deepak GAUTAM, Rajesh MALHOTRA
All India Institute of Medical Sciences, New Delhi (INDIA)

Introduction: Developmental Dysplasia of Hip (DDH) is a disorder of development of hip that fails to maintain the femoral head concentrically within the acetabulum. The patients with disabling secondary osteoarthritis are indicated for total hip arthroplasty. We present mid to long-term results of the patients operated for secondary osteoarthritis of hip using modular implant with or without femoral osteotomy. Materials and Methods: Between August 2008 and December 2015, sixty-six total hip arthroplasties were performed in 62 patients (33 males and 29 females). The mean age of the patients at the time of surgery was 40.6 years (Range 17 to 49 years). All the hips were classified as per the Crowe's classification. The decision of sub-trochanteric osteotomy was taken intraoperatively if the trial reduction was difficult despite extensive release. All patients were implanted with stem-sleeve modular implant in the form of S-ROM modular hip system as the stem. Results: The mean follow up was 38 months (Range 12 to 100 months). On clinical examination, all the patients were pain free except three. The mean Harris Hip Score significantly improved from 44.8 to 90.6 (Range 72 to 96). Radiological examination revealed no radiolucent lines exceeding 2 mm in any of the zones suggesting stability in situ. Only one hip (1.5%) had underwent revision surgery at 18 months following the index surgery. Conclusion: Only 1.5% failure in our series justifies the modular stem as a suitable implant for dysplastic hips requiring total hip arthroplasty. However, a randomized study would to clear the statement.

Abstract no.: 48607

THE EFFECT OF INITIAL TIBIAL PLATEAU DEPRESSION ON FUNCTIONAL OUTCOME FOLLOWING TIBIAL PLATEAU FRACTURE

Elizabeth GAUSDEN, Aleksey DHORVINSKY, Ashley LEVACK, Danielle SIN, Dean LORICH
Hospital for Special Surgery, New York (UNITED STATES)

The purpose of this study was to determine if the amount of articular depression upon injury is associated with functional outcome in patients with tibial plateau fractures. A retrospective review was performed in order to identify patients for this study. All patients had a preoperative computed tomography (CT) scan for surgical planning; and the amount of articular depression was measured on the coronal images. Patients also completed functional outcome assessments at their follow-up appointments, including Visual Analog Scale (VAS) for pain, Knee Outcome Survey-Activities of Daily Living Scale (KOS-ADLS), Short-Form-36 (SF-36) physical and mental component scores (PCS, MCS), and the Lower Extremity Functional Score (LEFS). A total of 56 patients met the inclusion criteria, with an average age of 58.2 years (SD 14.5). There were 30 female patients (55%) and 26 males. The mean amount of articular depression at injury was 9.15 mm (SD 5.08 mm). The amount of initial articular depression was not associated with any of the recorded functional outcome scores (VAS, p=0.401; LEFS p=0.663; KOS-ADL, p=0.690; SF-36 MCS, p=0.358; SF-36 PCS, p=0.844). The results from this cohort of patients with tibial plateau fractures indicates that the amount of initial articular depression is not associated with functional outcome after 12 months. It is possible that with modern bone grafting and fixation techniques that allow for appropriate restoration of the articular surface and joint congruity, the initial depression of the articular surface is unrelated to the ultimate functional outcome.

Abstract no.: 48622

COMPUTERIZED ADAPTIVE TESTING FOR PATIENT REPORTING OUTCOMES IN ANKLE FRACTURE SURGERY

Elizabeth GAUSDEN, Ashley LEVACK, Benedict NWACHUKWU, Danielle SIN, David WELLMAN, Dean LORICH
Hospital for Special Surgery, New York (UNITED STATES)

The goal of this study was to compare the legacy patient reported outcome scores used in foot and ankle surgery to the Patient Reported Outcomes Measurement Information System (PROMIS) scores. We hypothesized that the PROMIS scores would demonstrate less floor and ceiling effect. Patients with unstable ankle fractures treated surgically completed the legacy foot and ankle outcome scores, including the Olerud & Molander (O&M), the Weber score, the Foot & Ankle Outcome Scores (FAOS), PROMIS physical function (PF) and PROMIS lower extremity (LE). Clinically significant outcome improvement was determined by calculating the minimal clinically important difference (MCID). A total of 169 patients were analyzed at 310 total follow-up visits. There was no observed floor or ceiling effect in either the PROMIS PF or the PROMIS LE scores, but there was significant ceiling effect with the FAOS (1-8%) and the Weber (5%), and the O&M (6%). Clinically significant changes in the PROMIS LE score were detected in patients between their 6 months and 12 month post-operative visit ($p=0.0019$), whereas the reported O&M score did not identify a significant difference between patients at their 6-month and 12-month visit ($p=0.11$). Similarly, there was no significant difference between the Weber score at the 6-month versus the 12-month visit. These results indicate that the PROMIS LE is superior for evaluating patients following ankle fracture surgery in terms of lower floor and ceiling effects and greater ability to distinguish clinically significant changes in patients between time points following surgery.

Abstract no.: 48623

ENHANCED RECOVERY 2.0: MOVING TOWARDS OUTPATIENT DAY CASE TOTAL HIP AND KNEE REPLACEMENT SURGERY

Oliver ADEBAYO[1], Joe TURNER[2]
[1]Royal London Hospital, Ilford (UNITED KINGDOM), [2]Kings College Hospital, London (UNITED KINGDOM)

Introduction: Total hip and knee arthroplasty are the most common elective orthopaedic procedures done in the developed world. Ongoing developments particularly in pharmacology regimes and post-operative physical therapy pathways have meant that we continue to see a downward trend in length of stay through enhanced recovery pathways. These developments have allowed for the creation of an ambulatory or outpatient service for total joint arthroplasty with increasing interest in this modality due to the perceived benefits for patient, hospital and general healthcare system Methods: We conducted a systematic review of EMBASE, MEDLINE, PubMed databases for articles comparing outpatient day case total joint arthroplasty with inpatient pathways. We assessed eligibility criteria, complications, patient outcomes, patient satisfaction and cost. Results: We found a small number of prospective comparative trials and one case control study assessing between the two patient pathways. There was no significant differences with regard to complication risk or patient outcomes with regards to outpatient surgery. However patient satisfaction and costs savings were better with outpatient cohorts. Conclusion: More randomised control trials are required for the assessment of outpatient day case total hip and knee replacement surgery, however due to high levels of patient satisfaction and the potential for cost savings, it is reasonable to suggest that orthopaedic units with already established enhanced recovery pathways consider outpatient procedures as a possibility in the near future.

Abstract no.: 48627

GIANT-CELL TUMOR: THE ROLE OF DENOSUMAB IN RECURRENT OR UNRESECTABLE TUMORS - A 4 CASE REPORT AND REVIEW OF THE LITERATURE

Manuel FERNANDES MARQUES[1], Bruno LOPES CORREIA[2], Luis COSTA BARROS[2], Marta SANTOS SILVA[2], Arnaldo ALVES DE SOUSA[2], Diogo MARQUES PASCOAL[2], Pedro CARDOSO[2]

[1]Hospital Geral de Santo Antonio, Lisboa (PORTUGAL), [2]Hospital Geral de Santo Antonio, Oporto (PORTUGAL)

Introduction: Giant Cell Tumor's (GCT) are aggressive lytic tumor's that express rankl. Denosumab, is an emerging treatment for unresectable or recurrent GCT's, allowing sometimes the posterior resection of the tumor. Four cases are presented in which some questions are asked: What's Denosumab's length of treatment? Can it preclude surgery? Methods: Patient 1, female, 59 years old, presented a sacroiliac GCT (160 mm) with intrapelvic component. Had gait instability and severe pain. Is in the 25th month of denosumab. Patient 2, male, 29 years old with a supracetabular GCT (56 mm). Had mild pain but needed crutches to walk. Initiated denosumab 20 months ago and stopped 10 months ago, before undergoing surgical resection. Patient 3, female, 45 years old, with an unresectable left sacroiliac GCT (87 mm) at the level of S1, S2 and S3 roots. Is in the 28th month of treatment. Patient 4, female, 17 years old, presenting with dorsal pain for 4 months, had a left paravertebral GCT at the transverse processes and pedicles of D8/D9. Is in the fifth month of treatment. Results: Patient's 1, 3 and 4 had all great pain relief after 2 months of therapy. Patient's 1 lesion did not reduced size. Patient's 3 mass maintained size but became sclerotic, except for the center Patient's 2 mass became sclerotic but maintained pain, and needed a successfull surgical treatment. Conclusions: The presented cases encourage the use of denosumab in recurrent and unresectable GCT's. The role of surgery and it's timing remains still target of discussion.

Abstract no.: 48633

TRACKING CUMULATIVE RADIATION EXPOSURE IN ORTHOPAEDIC SURGEONS AND RESIDENTS: WHAT DOSE ARE WE GETTING?

Elizabeth GAUSDEN, Alexander CHRIST, Roseann ZELDIN, Joseph LANE, Moira MCCARTHY
Hospital for Special Surgery, New York (UNITED STATES)

The purpose of this study was to determine the amount of cumulative radiation exposure received by orthopaedic surgeons and residents in various sub-specialties. We obtained dosimeter measures over 12 months on 24 residents and 16 attending surgeons. The participants wore a dosimeter on the breast pocket of their lead apron. The dosimeters were exchanged every rotation (5-7 weeks) for the resident participants and every month for the attending participants. Radiation exposure was compared by orthopaedic subspecialty, level of training, and type of fluoroscopy used (regular C-arm compared to mini C-arm). Orthopaedic residents and attending surgeons participating in this study received monthly radiation doses lower than recommended dose limits (mean exposure ranges from 16-79 mrem/month versus 5,000 mrem/year United States Nuclear Regulatory Commission (USNRC) dose limits). Senior residents rotating on trauma were exposed to the highest monthly radiation (79 mrem/month) (range 15 - 243 mrem/month) compared to all other specialty rotations ($p<0.001$). Similarly, attending orthopaedic surgeons who specialize in trauma or deformity surgery received the highest radiation exposure of their peers, and averaged 53 mrem/month (range 0-355 mrem/month). All other attending surgeons who participated in the study, including surgeons specializing in spine, foot & ankle, pediatrics and arthroplasty or sports were exposed to substantially less monthly radiation (average 8 mrem/month, range 0-128 mrem/month) ($p<0.001$). Residents and attending surgeons performing trauma or deformity surgery are exposed to significantly higher doses of radiation compared to all other subspecialties within orthopaedic surgery.

Abstract no.: 48639

ANTERIOR ‘THREE WINDOW’ TRANSVERSE APPROACH TO ELBOW

Mohit Kumar ARORA
UCMS and GTB hospital, Gurgaon (INDIA)

Introduction: Various surgical approaches have been described to approach elbow joint. Out of these anterior approach is least commonly preferred due to the presence of neuro vascular structures. This study highlights the usefulness and convenience of anterior approach to fix fractures of capitellum and trochlea. Methods: 7 cases of fracture of capitellum/trochlea or both were fixed using the anterior approach by giving a transverse incision of about 5 cm along the flexion crease taking biceps tendon as reference point. Following careful subcutaneous dissection, the lateral antebrachial cutaneous nerve and cephalic vein is dissected and retracted laterally. The lacertus fibrosus is then identified and cut exposing the neurovascular bundle consisting of median nerve and brachial artery. Upon cutting the lacertus fibrosus, the neurovascular bundle is identified and retracted carefully to medial side. The capitellum or trochlea can then be approached through three intervals namely (a) lateral to biceps tendon, (b) between biceps tendon and neurovascular bundle and (c) medial to neurovascular bundle. The overlying brachialis muscle is split to expose the capitellum or trochlea. Results: 7 cases (5 males and 2 females) were operated using this approach. The elbow motion exercise were started within 2-5 days post op initially passive then active. After a mean follow up of 12 months, all the patients have achieved full range of motion at elbow joint. Conclusion: The anterior approach is a simple and easily reproducible approach. The fixation is more convenient from anterior side.

Abstract no.: 48640

EXCELLENT OUTCOME IN PATIENTS IMPLANTED WITH SHORT FEMORAL STEMS FOR TOTAL HIP REPLACEMENT

Deepak GAUTAM, Rajesh MALHOTRA, Ashish PANDE
All India Institute of Medical Sciences, New Delhi (INDIA)

Introduction: In the recent years, metaphyseal short hip stems have been widely used as a bone conserving option particularly in younger individuals requiring total hip arthroplasty. We present a prospective overview of the clinical and radiological results of a short-stem hip prosthesis. Materials and methods: 62 short metaphyseal stems were implanted in 50 patients between Sept 2011 and Jan 2015. Clinical evaluation was done using the standard Harris Hip Score and radiological evaluation using serial X-rays. The results of a patient administered questionnaire were recorded pre-operatively and at follow-up. Results: The minimum follow-up was 2 years. The mean age of the patients was 36 years. The mean Harris Hip Score increased from 24 pre-operatively to 93 at the final follow-up. 80% of patients were very satisfied and 15% were satisfied after surgery, whereas 5% were dissatisfied. There were three cases of intra operative fissures of proximal femur, which were successfully managed with cerclage wiring. One joint dislocation occurred which was managed with correction of excess anteversion of acetabular component. The radiological findings revealed no signs of loosening in any of the short-stem prostheses at the latest examination. Conclusion: The short metaphyseal hip stem implanted in younger patients, reported an overall high level of satisfaction. The clinical and radiographic results give support to the principle of using short metaphyseal anchoring stems in young patients. However, long-term results are necessary to validate the success.

Abstract no.: 48644

SEXUAL ACTIVITIES AFTER BANKART REPAIR .

Mohamed ASHRY[1], Khater AHMED HANY[2], Amr MOHAMED[2], Abd Alglil HESHAM[1]

[1]ministry of health.egypt, Cairo (EGYPT), [2]Ain Shams University, Cairo (EGYPT)

Introduction: Anterior shoulder instability is one of the most common orthopedic problems encountered nowadays in young population. Bankart repair considered to be treatment of choice by many orthopedic surgeons. Actually, there is no sufficient information available in the literature about how shoulder instability would affect sexual activity weather before or after bankart repair. The aim of this study to address the concerns of the patients as regard there sexual activity before and after bankart repair. Material & Mesthods: Retrospective study on 30 patients underwent bankart repair for anterior shoulder instability. A questionnaire survey was conducted to address their sexual activity before and after the surgery. Results: Preoperatively, 66.6% of patients experienced difficulties, primarily due to shoulder instability and fear of dislocation. At 6 months follow up visit, most patients had increased in the frequency of sexual activity after Bankart repair . In 53.3% of patients were seen having difficulties with arms positioning following Bankart repair, and they were likely to use different sexual position. The most common concern regarding sexual activity of patients was the fear of dislocation. Most patients were getting ashamed of obtaining information on sexual activity following Bankart repair from there physicians due to traditional issues. Conclusion:Fear of dislocation is the most common concern of shoulder instability patients pre and postoperative. Most surgeons are not aware of their patients' needs as regard their sexual life. Patients expectations should be discussed preoperative and safe positions should be clearly illustrated.

Abstract no.: 48651

A PROSPECTIVE STUDY ON HALLUX RIGIDUS TREATMENT WITH FIRST METATARSOPHALANGEAL JOINT IMPLANT ARTHROPLASTY

Claudia RODRIGUES[1], Luis Henrique BARROS[2], João ESTEVES[2], Marta SILVA[2], Luis COUTINHO[2], Ricardo RODRIGUES-PINTO[2], José MURAS[2]
[1]Centro Hospitalar do Porto, porto (PORTUGAL), [2]Centro Hospitalar do Porto, Porto (PORTUGAL)

First metatarsophalangeal joint arthritis is an important cause of foot disability and pain that result in gait impairment and significantly affect patients'quality of life. Joint substitution procedures have shown disappointing results but the development of new implants brought attention to this motion-preserving technique. The present study aims to prospectively evaluate patients submitted to first metatarsophalangeal joint implant arthroplasty. Twenty-five patients (26 procedures) submitted to first metatarsophalangeal joint implant arthroplasty between 2009-2014, mean age of 57.6 years[43 to 64], were included in this study. All patients were radiologically and clinically assessed with the AOFAS-HMI and VAS scores along the follow-up. Mean follow up was 5.3 years[2 to 7]. From the 25 patients that entered the study, 23 were very satisfied with the final outcome. AOFAS-HMI mean score improved from 42.3[22 to 55] preoperatively to 90.8[61 to 100] postoperatively. Final VAS mean score was 1 and 24 patients(96%) were satisfied enough to repeat the procedure. All patients returned to their normal professional activities. Radiological evaluation identified one patient with signs of osteolysis. We experienced three complications–a transfer metatarsalgia, a superficial would complication, and one aseptic loosening. The present study showed some promising results with an interesting mean follow-up of 5 years. Patients were globally satisfied with the procedure that allowed good clinical outcomes, preserving first ray normal function. The procedure allowed all patients to return to their normal daily activities with low complication rate. Current results draw attention to considering this approach as a good option for the treatment of hallux rigidus.

Abstract no.: 48654

EVALUATING THE TIBIAL AND FEMORAL FOOTPRINT OF THE POSTERIOR CRUCIATE LIGAMENT BY THE USE OF ANOBJECTIVE COORDINATE SYSTEM: A CADAVER STUDY

Ines VIELGUT[1], Manuel DREU[2], Stefan BIBER[2], Stephan GRECHENIG[3], Norbert KASTNER[2], Gerald GRUBER[2], Patrick SADOGHI[2]
[1]Medical Unicersity of Graz, Graz (AUSTRIA), [2]Medical University of Graz, Graz (AUSTRIA), [3]University Hospital Regensburg, Regensburg (GERMANY)

Purpose: The purpose of this study was to exactly assess the tibial and femoral insertion site of the posterior cruciate ligament (PCL) by the use of an objective coordinate system in a cadaver study and to prove the reproducibility of these measurements using intra- and interobserver coefficients. Methods: We studied 64 cadaver knees, which were previously preserved according to Thiel's technique The tibiae and femora were photographed in a 45° external rotated position. All standardized photographs were printed in order to assess the tibial and femoral footprints by the use of a coordinate system, which was drawn manually. We evaluated these measurements by use of the Cohen’s kappa inter- and intraobserver coefficient for two observers. Results: The photographs and tibial and femoral measurements were achieved with an almost perfect agreement of inter- and intraobserver coefficients. Further, we could confirm the assumptions of the anatomic footprints as described in in previous radiological investigations. Conclusion: Our findings confirmed the reproducibility of our coordinate system as an objective method for graft insertion sites.

Abstract no.: 48658

RESULTS OF MEDIAL MENISCAL ROOT REPAIR WITH CONTROLLED TENSION KNOTLESS ANCHOR

Mohamed ASHRY[1], Khater AHMED HANY[2], Abd Alglil HESHAM[1], Haroon YAHYA[2]

[1]ministry of health.egypt, Cairo (EGYPT), [2]Ain Shams University, Cairo (EGYPT)

Introduction:Meniscal root tear is an easily missed lesion though its fundamental function. It wasn't until recently that meniscal root tear became a popular term between orthopedic surgeons. Diagnosis and management of meniscal root tear represents a challenge because you have to know what you are looking and how to deal with it. Injury to medial meniscal root lead to meniscal extrusion, decreased contact area leading to increased cartilage stress & finally osteoarthritis. Untreated medial meniscal root tear leads to disturbed knee kinematics a rapid onset of knee osteoarthritis equal to total menisectomy. Purpose: Representing the results of meniscal root repair in decreasing risk of osteoarthritis,controlling posterior joint line pain, improved functional scores of the patients. Methods: A prospective study performed over 13 patients 5 Females, 8 males aging from 35 to 55 years. Radiological Findings suggesting medial meniscal root tear without any signs of Osteoarthritis with outerbridge classification type two or less. Arthroscopic meniscal root repair using cinch suture using low profile suture passer with controlled tension Transtibial pull out suture over Biocomposite swive Lock Knotless Anchor (Arthrex). Results: After 18 months ± 3.4 (range, 12-24 months) follow up, 76% had better subjective IKDC, Lysholm score, while 15% had retear, 7% still have knee pain. Conclusion:Medial Meniscal root repair using controlled tension Transtibial pull out suture over knotless anchor has a high healing rate with delayed osteoarthritic changes, better functional scores.

Abstract no.: 48660

GENTAMICIN-COATED NAILS IN REVISION SURGERY FOR COMPLEX OPEN TIBIA FRACTURES

Bruno CORREIA[1], Filipe MEDEIROS[1], Manuel MARQUES[2], João ROSA[3], Álvaro BOTELHO[1]

[1]Algarve Hospital Center, Portimão (PORTUGAL), [2]Oporto Hospital Center, Oporto (PORTUGAL), [3]Algarve Hospital Center, Faro (PORTUGAL)

INTRODUCTION: Tibia shaft fractures are the most common long bone fracture, account for 4% of all fractures seen in population. 24% are open fractures, with severe soft tissue injury and a higher risk of infection. Despite modern advances in the implants and fractures care, deep infection in complex open tibia fractures remains a problem, associated with high economic costs. There is some evidence that antibiotic-coated implants are beneficial for the treatment of this complication. METHODS: We report 5 patients treated with a gentamicin-coated intramedullary tibia nail (Expert Tibia Nail (ETN) PROtect™) for surgical treatment of infection after complex open tibia fracture. Treatment indications include open tibia shaft fractures with deep infection and nonunion after previous internal or external fixation of the fracture. Intravenous and oral antibiotics were administered after the surgery, based on the results of operative cultures. RESULTS: The mean follow-up was 14.4 months. In three cases a MRSA were isolated; one case with MSSA and one case of negative cultures. In four patients consolidation of the fracture was achieved (80%). No clinical signs of infection were present in all patients (100%). Four patients had complete normalization of inflammatory markers, ESR and CRP (80%). CONCLUSIONS: Infected nonunions remain one of the most challenging problems in Ortopaedic Surgery. Antibiotic-coated nails seem a potential option to treat deep infection, with a correct surgical debridement and appropriated antibiotics.

Abstract no.: 48671

DESTRUCTIVE PIGMENTED VILLONODULAR SYNOVITIS OF THE ANKLE JOINT– A CASE REPORT

Manuel FERNANDES MARQUES[1], Bruno LOPES CORREIA[2], Joao MAIA ROSA[2], Luis LOPES COUTINHO[2], André DIAS CARVALHO[2], Daniel ESTEVES SOARES[2]

[1]Hospital Geral de Santo Antonio, Lisboa (PORTUGAL), [2]Hospital Geral de Santo Antonio, Oporto (PORTUGAL)

Introduction: Pigmented villonodular synovitis (PVNS) is a relatively rare disease characterized by a benign proliferation of the synovium that can be locally aggressive and destructive. We present a rare case of PVNS affecting the ankle joint, discussing it's diagnosis and treatment options. Methods: A 60-year-old woman had a 6-months history of progressive pain and swelling of the left ankle joint, needing external support to walk. There was no history of trauma. X-ray showed articular ankle destruction with collapse of the talar dome, MRI revealed joint effusion with synovial hyperplasia and hyposignal seen on both T1- and heterogeneous sign on T2-weighted images. A CT guided biopsy showed mononuclear cell infiltrates and hemossyderin deposits. Bacteriologic testing was negative. Results: A tibio-talo-calcaneal fusion (destruction of the ankle joint, hindfoot varus and sub-talar degenerative changes) and placement of fibular graft was done using a retrograde nail, after ressection of all the synovia. Intra-operative samples confirmed the diagnosis. She had a non-weight bearing cast for 6 weeks starting progressive weight-bearing afterwards. X-ray's at 3 and 6 months confirmed fusion and the patient was able to walk without external support and had no pain. Discussion and Conclusion: PVNS diagnosis can be challenging and exclusion of other etiologies is mandatory. It is made by histologic evaluation of tissue sample, however MRI is also a relatively specific exam. Surgical treatment involves excision of all the involved tissue, which is sometimes difficult to perform in the ankle joint without structural compromise of the articular surface, making fusion necessary.

Abstract no.: 48674

DOUBLE DECKER FOOT ORTHOSIS IN LIMB LENGTHENING

Shreel KOIRALA
MS RAMAIAH MEDICAL COLLEGE, bangalore (INDIA)

Ilizarov technique for limb lengthening involves various forces. Many complications arise during the long course of treatment. Equinus deformity of the foot is a common complication known. An orthosis originally described by Arora for the correction of equinus was modified for the attachment of Ilizarov fixator and allowing the patient to weight bear on the limb. In our hospital, six patients who underwent limb lengthening 4 -tibial and 2-femoral we used the double decker foot orthosis. Each of them are evaluated for equinus, consolidation, growth of bone, ambulation and patient satisfaction. It has the main advantage of full weight bearing even when the limb is short, thus helping the regenerate to form well. It will also help to prevent equinus deformity. Thus, by using this orthosis, the complications of limb lengthening can be prevented and can be used in all the patients who are undergoing limb lengthening process.

Abstract no.: 48678

ROLE OF PRIMARY VALGUS OSTEOTOMY IN FRACTURE NECK OF FEMUR

Anchal Navneet MISHRA, Sanjiv GAUR, Rahul VERMA
GANDHI MEDICAL COLLEGE & HAMIDIA HOSPITAL, BHOPAL (INDIA)

INTRODUCTION:Femoral neck fracture is still a fracture of unsolved mystery with devastating effect on blood supply of femoral head,which is directly proportional to severity of trauma and displacement of fracture.Intracapsular hematoma is implicated with development of AVN of femoral head.Fractures in young adults are associated with higher incidences(12-18%)of osteonecrosis.We conducted a prospective study to evaluate results of primary valgus osteotomy and fixation by DHS/DCS in treatment of fracture neck femur Pauwel's type 2&3. METHOD:Between Oct2013 and Aug2015,we performed primary valgus osteotomy with DHS/DCS fixation for fracture neck femur in 25patients.Inclusion criterion:Patients<60years, Pauwel's type 2&3 Fracture neck femur.Exclusion criterion:Patients>60years,polytrauma patients or others whose G.C. is poor &patients with genuvalgus/foot deformity/spinal abnormality.Patients were followed up for 1year.RESULTS:Higher incidences of fractures seen in males(M:F-20:5) due to greater involvement in physical activity,more prone for RTA and fall from height.For all cases radiological examination was done regularly to assess the progress of union of osteotomy &fracture site.1 case didn't come for follow up and remaining 24 cases showed union of osteotomy in 8-12weeks and fracture union was seen in12-20weeks on an average.18(75%) cases showed excellent results, 4(17%) showed good results and remaining 2(8%)cases showed poor results.CONCLUSION: Primary Valgus osteotomy alters fracture line from vertical to horizontal,shifts weight bearing axis of limb medially & converts forces into compressive forces, improves gait by functional lengthening of limb.We conclude that primary valgus osteotomy &fixation with DHS/DCS has high success rate in patients with pauwel's type 2&3 fracture neck femur as far as the union of fracture is concerned.

Abstract no.: 48683

FACTORS ASSOCIATED WITH LATERAL EPICONDYLITIS OF THE ELBOW

Sang Don SHIM[1], Mincheol KAM[2], Hyung Bin PARK[3], Ji-Yong GWARK[3]
[1]DONG A Specialty Hospital of Joint Disease, Gwangju (SOUTH KOREA),
[2]Department of Orthopaedic Surgery, School of Medicine and Gyeongsang National University Changwon Hospital, Changwon-si (SOUTH KOREA),
[3]Department of Orthopaedic Surgery, School of Medicine and Gyeongsang National University Changwon Hospital, Changwon (SOUTH KOREA)

Introduction: Lateral epicondylitis (LE) is a common tendinopathy, its etiology and pathophysiology remain incompletely understood. Studies have linked metabolic factors to tendinopathies other than LE. This study evaluated possible risk factors for LE, including several metabolic factors. Methods: We evaluated one elbow of 933 subjects, using our criteria. Each subject received a questionnaire, physical examinations, blood tests, simple radiographic evaluations of elbows, MRIs of shoulders, and an electrophysiological study of upper extremities. We diagnosed LE when the following criteria were met: 1) pain located at the lateral aspect of the elbow, 2) point tenderness over the lateral epicondyle, and 3) pain during resistive dorsiflexion of the wrist with the elbow in full extension. Using multivariate logistic regression analysis, we calculated the odds ratios (ORs) for the studied variables including general physical factors, comorbidities, and serum metabolic parameters. P value was set at 0.05. Results: LE prevalence was 26.2% (244/933) among the subjects. According to the multivariate logistic regression analysis, female (OR, 2.467 [95% confidence interval (CI), 1.776 to 3.427]; p <0.001), dominant side (OR, 3.206 [95% CI, 2.237 to 4.594]; p < 0.001), manual labor (OR, 2.298 [95% CI, 1.502 to 3.516]; p < 0.001), and RCT (OR, 2.768 [95% CI, 1.962 to 3.905]; p < 0.001) were significantly associated with LE. No metabolic factors were significantly associated with LE. Conclusions: Female gender, dominant side, manual labor, and RCT are risk factors for LE. This study suggests that overuse activity is more associated with LE than are metabolic factors.

Abstract no.: 48684

LOSS OF POSITION AFTER INITIAL MANIPULATION OF DISTAL RADIUS FRACTURES IN ELDERLY

Nadeem KHALID
Dallah Hospital, - (SAUDI ARABIA)

A retrospective analysis was carried out on distal radius fractures at Dallah Hospital, Riyadh. Forty patients, above 60 years old, were selected from 2013-2015. Three measurements were taken on the X-rays of the injured wrist. Radial length, radial inclination & volar tilt were measured. X-rays were measured at the time of injury,soon after manipulation and at first follow-up at about a week. The criteria used to label loss of position were loss of 10 degrees in volar tilt, loss of 5 degrees in radial inclination and loss of 2mm in radial length. Total number of patients who lost position after manipulation was 23(57.5%). All the three measurements were lost in 4 (10%) patients. Volar tilt was lost in 17 (42.5%) cases, radial length was lost in 15 (37.5%) cases and radial inclination was lost in 7 (17.5%) cases. Statistical tests showed $p < 0.0001$ for volar tilt and radial length and $p < 0.05$ for radial inclination. Patients who were given a complete cast within twenty four hours lost position in 7 (23.3%) cases. The ten patients whose cast was completed later than twenty four hours but within a week had all lost their positions. We concluded that the elderly patients should be manipulated and not left alone as most of the time we can achieve good reduction. The reason for lost reduction is more likely to be the dorsal slab and that they should be given a complete cast / Charnley method of radial slab.

Abstract no.: 48692

TIMES TO SURGERY & OUTCOMES OF ANKLE FRACTURES AT A LARGE UK DISTRICT HOSPITAL

Natalie HOPE[1], Jonathan MCFARLAND[2], Sophie STANGER[2], John GRICE[2], Sunny DEO[2]

[1]Great Western Hsopital, Swindon (UNITED KINGDOM), [2]Great Western Hospital, Swindon (UNITED KINGDOM)

IIntroduction: Evidence suggests early reduction and fixation for ankle (AO/OTA 44) fractures improves outcomes, reduces complications and/or need for emergent re-operation. Current UK guidelines recommend fixation within 24 hours of injury. We investigated our Unit's compliance with guidelines and complication rates related to time to surgery. Our context is of an increasing burden of non-elective surgery, such that we created hip fracture slots in our elective schedules in 2010. Methods: From our electronic theatre and patient record systems, we obtained patients' data undergoing open reduction internal fixation (ORIF) of AO/OTA 44 fractures in 3 year long periods, 2009, 2011 and 2014. Exclusion criteria included open, paediatric, non-AO 44A-C fractures and non-ORIF procedure. Basic demographics and major complications e.g. infection, wound breakdown & deep vein thrombosis, were recorded. Patients were grouped into early surgery within 24 hours and those beyond this. Results: Over the 3 years studied 2009, 2011 and 2014, ankle fracture ORIF procedures remained similar, but with an increasing trend to earlier surgery. Operative numbers were: 58, 54 and 51 patients with early surgery comprising 40%, 25% and 53%. The major complication rates in 2009, 2011 and 2014 were 5%, 4% and 4% respectively. Most occurred in the moderate delay groups each year. Conclusions: There was increased compliance from 2009 to 2014 with early surgery guidelines. Creating elective slots for predictable trauma seems to have benefitted these patients. Moderate delay is associated with increased risk of major complication. We have as yet not detected major changes in complication rates.

Abstract no.: 48696

A MOMENT ON THE LIPS, A LIFETIME IN THE HIPS: POINT PREVALENCE OF METABOLIC SYNDROME, OBESITY AND SHORT TERM COMPLICATIONS IN PRIMARY JOINT ARTHROPLASTY IN AN URBAN SOUTH AFRICAN TEACHING HOSPITAL

Thando NCUBE[1], Joseph WESSELS[2], Chris FREY[1]
[1]Chris Hani Baragwanath Academic Hospital, Witwatersrand University, Johannesburg (SOUTH AFRICA), [2]Chris Hani Baragwanath Academic Hospital, Johannesburg (SOUTH AFRICA)

Orthopaedic surgeons are now faced with a real challenge of treating osteoarthritis in an increasingly obese population. We set out to ascertain the prevalence of metabolic syndrome (MetS) and obesity in arthroplasty patients at our institution. A prospective cross-sectional study of patients coming for elective primary total joint arthroplasty was done. NCEP-ATP III diagnostic criteria for metabolic syndrome were used. 66 out of 125 patients operated over a 3 month period had primary hip or knee arthroplasty. Mean age was 60.9 years with female to male ratio 3,4:1. Hips to knees ratio was 1.2 to 1. 90% of knee cases were females. 15.2% patients were HIV positive with mean CD4 count of 652 cell/mcL. Overall prevalence of MetS was 42.4% (females 51% vs males 13.3%), obesity 19.7% (females 23.5% vs males 6.7%), overweight 7.6% (females 9.8% vs males 0%) and normal 30.3% (females 15.7% vs males 80%). Complications within a 6 week period were 1 superficial, 1 deep wound infection and 3 deep venous thrombosis. All cases had MetS except 1 of DVT who had HIV. There is a high prevalence of MetS and obesity in primary arthroplasty patients in our institution. This is more marked in females coming for knee surgery. There is also a comparatively higher rate of short term complications such as sepsis and DVT in MetS. Therefore, orthopaedic surgeons need to develop heightened awareness and interest in MetS because an aging obese population will conceivably bring a higher burden of revision surgery in the future.

Abstract no.: 48698

SURGICAL MANAGEMENT OF FRACURES OF THE ACETABULUM

Hans VOLKERSZ[1], Quinton OTTO[2], Rafael MULAMBA[3], Ramon VALENTIN[4]
[1]Sunninghill/ Baragwanath Hospitals, Johannesburg (SOUTH AFRICA),
[2]Milpark/ Baragwanath Hospitals, Johannesburg (SOUTH AFRICA),
[3]Sebokeng/ Baragwanath Hospitals, Johannesburg (SOUTH AFRICA),
[4]Baragwanath Hospital, Johannesburg (SOUTH AFRICA)

Between 1980 and 2015 we treated 120 acetabular fractures surgically. Approaches known: Kocher Langenbeck, Anterior ilio-femoral, anterior ilio-inguinal/Stoppa. Our approach: Lateral. Follow-up: 2-35 years. Iliac blade osteotomies 6,no trochanteric osteotomies. No non-unions (Caveat:transverse fractures).12 mal-unions (10%),mainly protrusion acetabuli. AVN femoral head 1-2 years later in 12 cases (10%), all had posterior dislocations. OA most common finding, especially after CFD's .OA significant after 6 years plus. Timing of surgery: between 5-15 days post injury. Severely comminuted fractures not a contra-indication for surgery, helps to create proper socket for future THR. Letournel posterior wall/column plate reconstruction covered 85% of all fractures. Anterior wall/column reconstruction a bonus, usually not required for future THR. Conclusions: -Keep your options open, plan your surgical approach with future surgery in mind.- Lateral incision allows you to go to the back and the front of the hip, but not the anterior wall/column.-CFD remains a problem, ? intra-pelvic approach needed (shark fins ?).-Anterior wall/column needs separate approach if expertise is available and situation demands it. -Prognosis post adequate ORIF probably better than initially thought. THR is always available when and if required, combination of cross-linked PE and metal is still a pretty good one!

Abstract no.: 48702

MORTON'S NEUROMA – OPEN VERSUS PERCUTANEOUS SURGERY

Marta Sofia SANTOS SILVA, Pedro SERRANO, Luís BARROS, João ESTEVES, Luís COUTINHO, Luís COSTA, André GOMES
Centro Hospitalar do Porto, Porto (PORTUGAL)

Introduction: Morton's neuroma is a relatively frequent cause of metatarsalgia and functional alteration. It is a neuropathy caused by irritative compression resulting from repeated trauma of the common digital plantar nerve against the transverse intermetatarsal ligament. The objective of this study was to compare the results of the two surgical methods - open vs. percutaneous surgery. Methods: Between the year of 2005 and 2015, 40 patients with Morton's neuroma were treated. 25 patients underwent open surgery and the other 15 underwent percutaneous surgery - with deep transverse metatarsal ligament release and distal metatarsal osteotomies. The mean age was 55 years for open surgery and 50 years for percutaneous surgery. Pain (visual analogue scale), functional status (AOFAS scale), follow-up and recovery time, and complications were evaluated. Results: Patients undergoing percutaneous surgery reported better functional results on the AOFAS scale (92.2 vs 88.2;) and better pain control (1.1 vs 3.3). After 2 years, the functional improvement with the percutaneous procedure persisted (stable AOFAS scale). There was recurrence of metatarsalgia in 3 patients undergoing the open procedure. There were also 1 case of infection, 4 cases of dysesthesia and 2 cases of hypertrophic scar. Conclusions: Percutaneous treatment of Morton's disease is a reliable procedure providing good results after open neurectomy, with better outcomes in the longer term and lower rate of late metatarsalgia.

Abstract no.: 48704

ARE POST-OPERATIVE RADIOGRAPHS A USEFUL CLINICAL TOOL FOLLOWING VOLAR LOCKING PLATING IN DISTAL RADIUS FRACTURES?

Angus FONG, Alistair EYRE-BROOK, Stephen BOSTOCK
Sheffield Teaching Hospitals, Sheffield (UNITED KINGDOM)

Introduction: Using volar locking plates in distal radial fractures are increasingly common. However, there are no agreed follow-up regime recommended and practice of obtaining post-operative radiographs at follow-up varies. We aim to investigate the relevance of post-operative radiographs at first clinic follow-up at 4-6 weeks. Methods: All distal radius fractures that were fixed with volar locking plates were identified over a 3month period at a major trauma centre. These were obtained retrospectively through the operating theatre management system. Basic demographics are recorded and cross-referenced with radiographic images and further data was compiled through digital clinic records regarding follow-ups and complications. Results: After exclusions, 58 patients were identified, 43 patients had post-operative radiographs. Only 33% of the x-rays performed were not of a satisfactory standard. 9% of the x-rays were deemed to have sub-optimal fixation. This only contributed to 2 out of 9 complications post-fixation. Only 1 patient required further operative intervention (carpal tunnel release). Discussion: Although there were significant number of complications (15.5%), only 1 patient required operative treatment and only 4 (7%) of these complications can be recognised by an x–ray and none of these required further surgery. Adding to that there is poor correlation between radiographic appearance and patient symptoms or function in hand surgery. It is therefore difficult to objectively prove the benefits of performing check radiographs at 4-6weeks. Check radiographs should be reserved for those experiencing clinical symptoms at follow-up. This will not only protect patients from receiving unnecessary radiation, but also improve efficiency in clinic.

Abstract no.: 48710

OPEN TIBIAL SHAFT FRACTURE - CLINICAL CASE

Marta Sofia SANTOS SILVA, Pedro SERRANO, Manuel MARQUES, Bruno CORREIA, Diogo PASCOAL, Helder FONTE
Centro Hospitalar do Porto, Porto (PORTUGAL)

Introduction: Open tibial shaft fracture are the most common fractures of the long bones and affect mainly young men. Due to the high energy involved and their scarce skin coverage, these bones are also the ones that most frequently suffer from open fractures. The objective of this study was to present a patient with an open bilateral tibial shaft fracture and therapeutic options. Methods: An healthy, 32-year-old man who suffered a motorcycle accident, resulting in an open bilateral tibial shaft fracture (type IIIA + type IIIB Gustillo-Anderson classification). At physical examination pulses were present. Results: In the operative room, the wound was carefully desinfected. Osteotaxy was performed with bilateral external fixator. After 15 days, the patient underwent osteosynthesis with plates in the left lower limb, with apparent favorable clinical and radiological evolution. After 4 months, after soft tissue optimization, the external fixator was removed and calcaneotibial arthrodesis was performed on the right lower limb. After 9 months, nonunion was observed, with material failure on the left side, and extraction of the material and immobilization with a cast boot. After 2 years, fracture consolidation of the 2 limbs was verified. The patient had mild mechanical pain, with no evidence of infection and with autonomous gait. Conclusion: Although an open tibial shaft fracture are frequent, the treatment remains controversial, since there is considerable concomitant infection rates, pseudarthrosis and vicious consolidation. The clinical case presented illustrates challenging treatment options, but they have an excellent clinical and radiological result.

Abstract no.: 48712

SENSITIVITY AND SPECIFICITY OF INDIUM 111 –LABELLED WHITE BLOOD CELL SCAN FOR SUSPECTED PROSTHETIC JOINT INFECTION

Mohammed AL-SALMAN[1], Rohit RAMBANI[1], Tauseef ASHRAF[1], Kethesparan PARAMESPARAN[1], Eldho PAUL[2]
[1]United Lincoln Hospital Trust - Pilgrim Hospital, Boston (UNITED KINGDOM), [2]University Hospitals Of Lester NHS Trust, Boston (UNITED KINGDOM)

Objective: Sensitivity and specificity of Indium 111-Labelled WBC scan in patients with suspected prosthetic joint infection. Background: Prosthetic joint replacement is increasing yearly with an ageing population. Prosthetic joint infections are a serious risk which threatens the success of surgery and can leave patients in a far worse condition than their pre-operative state. An Indium scan is a widely used imaging modality to detect the presence of prosthetic joint infection, however there is little literature on its diagnostic accuracy. Method: We retrospectively reviewed imaging and electronic medical records (EMR) of all patients who underwent an Indium scan in the ULH NHS trust from 2013 to 2017. The indium scan results and the final clinical diagnosis of patients that had a prosthetic joint replacement were correlated and statistically analysed. Results: 36 patients had an Indium scan, of which 23 scans were performed for a suspected prosthetic joint infection. 9 scans had other indications and were excluded. Of the 13 positive indium scans, 8 patients had a final clinical diagnosis of prosthetic joint infection. No infection was detected in the negative indium scans. Conclusion: An indium scan for suspected prosthetic joint infection has a sensitivity of 100%, specificity of 67% and a diagnostic accuracy of 62%. Our results are similar with published studies that a positive indium scan result is not conclusive for a definitive diagnosis of prosthetic joint infection. Overall accuracy of an indium scan is 50-70% and is a useful screening test given its high negative predictive value.

Abstract no.: 48716

PIGMENTED VILLONODULAR SYNOVITIS OF THE SHOULDER COMPLICATED BY ROTATOR CUFF RUPTURE, ARTHROSCOPIC REPAIR AND 6 MONTHS FOLLOW UP.

Norma Angelica ALCANTARA
Hospital Español, ciudad de mexico (MEXICO)

Introduction:Pigmented Villonodular synovitis is a rare clinical pathology which was first described by Jaffe in 1942. The incidence in 1980 was of 1.8 cases for every million persons being the knee the most affected joint. Mankin in 2011 made an epidemiological study in which 215 cases of pigmented villonodlar synovitis were studied being presented only in the shoulder 1.8 percent of this. Case Report: In this case we present a 57 year old patient without relevant pathological history, with chronic shoulder pain. Clinical and image studies are performed diagnosing massive rotator cuff rupture. It is then performed arthroscopic surgery observing brownish hyperemous synovium as well as total tear of supraespinatus and infraespinatus tendon which were repair with suture anchors, as well as arthroscopic total synovectomy and subacromial space shaving were performed. A 6 months follow up MRI is done in which it is observed absence of synovial tissue and surgical changes. Clinically it can be observed with improvement in range of motion as well as pain. Discussion: Being Pigmented villonodular synovitis a rare disease as it, it is important to be able to compare different approaches and treatmentes. Chiang in 2009 was able to study 5 patients with pigmented villonodular synovitis with associated rotator cuff repair being this study one off the few if not the only one in which the rotator cuff is repaired. Comparing with our patient it can be observed a similar outcome, pain wise as well as rang e of motion.

Abstract no.: 48717

SURGICAL HIP DISLOCATION FOR THE MANAGEMENT OF IRREDUCIBLE POSTERIOR HIP DISLOCATION WITH FEMORAL HEAD FRACTURE: A CASE SERIES

Kaveh GHARANIZADEH, Mansour ABOLGHASEMIAN
shafa orthopedi research center,IUMS, tehran (IRAN)

Introduction:Irreducible Posterior hip dislocation associated with femoral head fractures are rare injuries that not well described. The objective of the study was to evaluate the results of the surgical hip dislocation in the management of the irreducible posterior hip dislocations with simultaneous femoral head fracture (pipkin).Methods:Five cases of irreducible pipkin type 2 fractures without any acetabular fracture was included.. Closed reduction under general anesthesia tried two times for all of them that were unsuccessful so all of them underwent Open reduction using Ganz technique of surgical hip dislocation. Patients followed 18 months (15-29 month) with Harris hip score (HHS) and radiography to evaluate joint congruency, avascular necrosis of the head (AVN) and osteoarthritis (OA).Results:In all cases there was a common clinical and radiographic features. The patient leg was in neutral rotation with no internal rotation and no adduction. On the radiography the head is impacted and locked on the posterior and superior of the acetabulum.. Four cases had congruous reduction at the last follow up and Mean HHS was 87without OA .in one case that surgery delayed for 36 hours after dislocation, AVN happened that needed total hip arthroplasty.Conclusion: Hip surgical dislocation could give the opportunity to manage both the dislocation and the fracture simultaneously and complete access to the acetabulum to repair labral injuries. Besides comminuted fracture of the head only could be repaired with this technique.

Abstract no.: 48719

CUSTOM TRIFLANGED IMPLANT IN RECONSTRUCTION OF SEVERE ACETABULAR BONE LOSS AND PELVIC DISCONTINUITY AFTER TOTAL HIP ARTHROPLASTY.

Nikolaj WINTHER[1], Michael PETERSEN MØRK[2], Jens STÜRUP[2]
[1]Department of Orthopaedic Surgery, Rigshospitalet, University of Copenhagen, - (DENMARK), [2]Department of Orthopaedic Surgery, Rigshospitalet, University of Copenhagen, Copenhagen (DENMARK)

Introduction: Revision of a failed total hip arthroplasty (THA) with massive acetabular bone loss and pelvic discontinuity is a reconstructive challenge. Treatment options includes morselized bone graft and structural allograft used with uncemented hemispherical acetabular components, cages, porous metal augments, and cup-cage reconstruction. The purpose of this study was to evaluate the use of a new custom-made triflanged implant for acetabular reconstruction. Methods: We reviewed 27 patients, mean age 63.7 (48-86) years) with a failed THA and pelvic discontinuity, that underwent revision THA from 2010 to 2016. Mean follow-up was 44 (10-84) months. The implant for acetabular reconstruction was custom-manufactured from Zimmer Biomet on the basis of a three-dimensional model of the hemi-pelvis created from computed tomography (CT). Preoperative radiological evaluation was made by x-ray and CT-scan and postoperative evaluation by x-ray. The Harris Hip score was performed and the acetabular bone defects were all classified as type V according to the Gross classification. Results: The mean outer diameter of the cup was 56 (52 to 62) mm. No significant intraoperative complications occurred. Mean Harris Hip score was 81 (68-97). Twenty-four patients (88%) were free of revision. Two patients experienced dislocation (8%), one treated with a constrained liner. One early aseptic loosening (3%), and one re-infection (3%) treated with life-long antibiotic was seen. Conclusion: The Custom made triflange implant for pelvic discontinuity provides a stable and rigid fixation on host bone with overall low early revision rate.

Abstract no.: 48721

FUNCTIONAL AND RADIOLOGICAL OUTCOME IN PRIMARY UNCEMENTED CERAMIC ON CERAMIC TOTAL HIP REPLACEMENT

Kuldeep MALIK[1], Inder PAWAR[2]
[1]ESI HOSPITAL ROHINI SECTOR 15, DELHI (INDIA), [2]ESI PGIMSR Basaidarapur Delhi, Delhi (INDIA)

Introduction: Traditionally, total hip replacement (THR) was done using cobalt-chrome into a polyethylene socket. However, because of wearing properties of these implants, implant loosening and loss of bone stock, particularly in younger and more active patients, was seen with greater frequency. This led to the development of ceramic implants having better wear characteristics. Objectives: The objectives of our study were to evaluate functional outcome using Harris Hip Score and Modified Merle d'Aubigné and Postel Method; and radiographic assessment of femoral and acetabular components. Methods: We carried out a prospective study, on 30 patients undergoing primary ceramic on ceramic THR, in 2014 and 2015, in a tertiary care hospital, with minimum of 6 months of follow up. For clinical evaluation, Harris Hip score and Modified Merle d'Aubigné and Postel score were calculated pre-operatively and post-operatively. For radiological evaluation, post-operative radiographs were checked for alignment of femoral stem, loosening of stem or acetabular component, osteolysis and presence of heterotopic ossification, at predefined regular intervals. Results: The mean Harris hip score, in our study, increased from 35 pre-operatively to 88.4 post-operatively, and mean Modified Merle d'Aubigné and Postel score increased from 9.3 pre-operatively to 16.2 post-operatively, with 90% hips having good to excellent results. This improvement was statistically significant ($p<0.005$). Conclusion: We found excellent results of primary ceramic on ceramic THR comparable to available literature, with no serious complication found in any patient.

Abstract no.: 48723

A NEW RADILOGIC CLASSIFICATION OF TALOCALCANEAL COALITION BASED IN 3D RECONSTRUCTION

Amel DJERBAL[1], Ahmed Fawzi NEDJAHI[2]
[1]algiers university, alger (ALGERIA), [2]chu salim zemirli, ALGER (ALGERIA)

Introduction: tarsal coalition is a congenital fibrocartilaginous or osseous union of two or more tarsal bones most often between the talus and calcaneus.a talocalcaneal coalition(tcc) is the most common intraarticular coalition within the tarsus.the purpose of this study is two-fold:1to analyze preoperative computed tomography images and the recoil in search of degenerative deterioration of the subtalar joint and medio foot.2 to develop a classification with or without osteoarthritis in two types : type1 without osteoarthritis or stable.type2 osteoartritis or unstable.Methods: a retrospective study of 10 patients with 11 talocalcaneal coalition.were treated with excision and soft parts interposition from 1996 to 2013 in the pediatric orthopedic surgery department.preoperative and retrospective evaluation was based on the kitaoka score and 2d 3d ct scans.Results: the mean follow-up was 6.3 years (9-16years).the average age at revision is 18.3years(11-28years).synchondrosis coalition were found in 8(72%)/11 patients 3(28%)osseous.subtalar joint osteoarthritis in 3(30%) patients with a mean follow-up of 16 years in at least one case we classify them in the unstable group(type2),In preoperative they all had a synchondrosis talocalcaneal coalition and flat foot with 15 degrees valgus rear foot. Stable group(type1)without osteoarthritis in 8(70%)in this group 3 patients who had osseous talocalcaneal coalition in preoperative with a minimum follow-up of 7 years in one case. Conclusions :talocalcaneal coalition is often associated with long-term subtalar osteoarthritis .the resected osseous tcc is more stable over the long-term than the synchondrosis tcc.this classification helps toplan initial treatment and subsequent follow-up of patients according to the type of talocalcaneacoalition.

Abstract no.: 48726

TWO DECADES OF OPEN FRACTURE PRESENTATION TO ONE LARGE DISTRICT HOSPITAL: THE IMPACT OF BOAST GUIDANCE AND THE MAJOR TRAUMA NETWORK

Sophie STANGER[1], James BATH[2], Natalie HOPE[2], David WOODS[2], Sunny DEO[2]

[1]Great Western Hospitals NHS Foundation Trust, Cheltenham (UNITED KINGDOM), [2]Great Western Hospitals NHS Foundation Trust, Swindon (UNITED KINGDOM)

Background: Open fractures of the tibia constitute potentially limb-threatening injuries. Guidance has been developed and adapted over 25 years by the British Orthopaedic Association and British Association of Plastic, Reconstructive and Aesthetic Surgeons, aiming to standardise and improve outcomes after these injuries. In 2012, the major trauma network was introduced, in part, to aid implementation of this guidance. Methods: At one large district hospital, all patients presenting with open fractures have been recorded over twenty-one years, from 1996 to 2016. Data collection was divided into four time phases and subdivided by affected bone. From 2007 onwards, yearly analysis was conducted with severity of injury and location of definitive treatment noted for each case. Results: Incidence of open fracture presentation was steadily increasing. The subgroup that showed the most significant increase was tibial fractures, rising from 48 (1996-2000) to 74 (2006-2011). However, a drop to 24 is subsequently noted (2011-2016). In particular, significant reductions are noted after 2009 and 2012 alongside the introduction of the BOAST guidelines and major trauma networks. Conclusions: Improvements in accessibility of hospital site and a steadily growing population led to an increasing incidence of open tibial fractures. However, more recently, the number being managed in district hospitals has declined in favour of larger specialist centres, a key feature of current guidance. Our data shows our hospital to be compliant with BOAST, aided by the introduction of a major trauma network. However, the overt and unseen implications of this warrant further discussion.

Abstract no.: 48729

INCIDENCE AND PREVALENCE OF RA: ANALYSIS OF BIOELEIGIBLE PATIENTS

Kuldeep MALIK, Shailendra GUPTA
ESI HOSPITAL ROHINI SECTOR 15, DELHI (INDIA)

Background: Prevalence of RA in India is higher than other eastern ethnic groups.(1) Almost 1% of the Indian population suffers from the most common inflammatory joint disease seen in clinical practice.(2) Various COPCORD studies have been carried out in different parts of the world. Objective: The study was conducted to analyse the incidence and the prevalence of RA amongst the patients visiting a Government Hospital in North western part of National Capital; New Delhi. A data of bio eligible patients and the patients on biological therapy was also compiled. Methods: A survey was done for 24 weeks in which data was collected from 2325 patients coming to orthopaedic department in a hospital. All the patients were instructed to fill questionnaire based on patient demographic details, duration of illness and therapy prescribed. The data provided was then evaluated by the physicians on the clinical basis to screen the patients of RA and to assess the exposure of screened patients to biological therapy. Results: Among the 2325 patients examined, 12.1% (283patients) were diagnosed with RA.Out of these, 22.2% (63patients) patients were exposed to at least one biological therapy..However due to totally reimbursement hospital there was not much difference between bio eligible patients 25.5% (72 patients) and biological exposed patients, major difference is mainly due to lack in patient awareness. Conclusions: Multi-centric studies on such lines should be carried out to assess current prescribing trends in RA. Moreover, data from such analysis can be of great help to study the actual prevalence and incidence of RA. . The data from such individual centres hold more relevance in a country like India where patients of RA goes not only to rheumatologist but also to physicians and orthopaedics.

Abstract no.: 48730

HOW TO AVOID MALPRACTICE CLAIMS IN ORTHOPAEDICS SURGERY: A REVIEW OF THE CURRENT MEDICAL AND LEGAL LITERATURE AND THE PUBLIC MEDIA

Samer Ss MAHMOUD
Health Education England-North East, Stockton-on-Tees (UNITED KINGDOM)

Introduction: Malpractice claims pose psychological distress to the surgeon and financial burden to the health organisation. Our aims were to identify vulnerable areas of Orthopaedics practice that commonly predispose to malpractice claims and extract the best practice guidelines to avoid them. Methods: We carried out a literature search using the terms: Orthopaedics AND Negligence, Orthopaedics AND Malpractice and Orthopaedics AND Claims in Pubmed, Embase, CINAHL, Cochrane library, 4 major public newspapers and 6 Legal medicine Journals. Results: 234 articles and papers were extracted relating to 10, 882 claim. Errors or delays in diagnosis were the most common sources of claims in Orthopaedics. Disabling injuries including amputation and major nerve damage represented 63.4% of claims ending in monetary payouts. Among Orthopaedics subspecialties, spine and lower limb surgery were equally quoted as common fields of claims. Adult reconstruction surgeons experienced the highest rate of alleged malpractice claims in their first decade of practice. Nerve injury after joint surgery was their commonest cause of claims. This was followed by failure of implant positioning. In spine surgery errors in diagnosis (delayed, missed or wrong) were the most common causes of claims followed by nerve injury causing disability. Surgeon commercial involvement posed a serious liability risk in medicolegal claims reviewed. Conclusion: Orthopaedic surgeons are are still at high risk of malpractice and negligence claims. Safe practice, fatigue avoidance, maintenance of good patient relationship and evidence based medical care were found to be the best guidelines to avoid claims of malpractice.

Abstract no.: 48733

IMPROVING THE ACCURACY OF DIGITAL TEMPLATING- AN AUDIT OF THE USE OF MARKER BALLS IN PELVIC RADIOGRAPHS

Hammad PARWAIZ[1], Ashley THORPE[2], Rosie SEATTER[2], Joshua FILER[2], Boris Aliaga CRESPO[2]

[1]Royal United Hospital Bath, Bristol (UNITED KINGDOM), [2]Royal United Hospital Bath, Bath (UNITED KINGDOM)

Aims: The use of a marker ball in digital templating for hip arthroplasty is a well established method of pre-operative planning and is used to overcome the inherent magnification in plain film radiographs. Our Trust policy is to place a marker ball in all anteroposterior pelvic films taken in the emergency department (ED) which have been requested for suspected neck of femur fractures. Methods: This policy was audited for all pelvic films taken in ED during July 2016, November 2016 and February 2017. Interventions between cycle 1 and 2 were to educate radiographers and publish the results in their newsletter, and between cycle 2 and 3 was to run a teaching session for radiographers, display posters in the x-ray department and place an electronic prompt on the x-ray machine to alert them of the need to place a marker ball in the x-ray field. Results: 16/81 (20%) radiographs complied with the policy in cycle 1, 25/51 (46%) in cycle 2 and 40/54 (74%) in cycle 3. Conclusions: Education of radiographers through newsletters and teaching sessions, as well as aide memoirs in the form of posters and electronic prompts have led to dramatic improvements in compliance with Trust policy, and this ultimately leads to better pre-operative planning. The next step is to switch from the Voyantmark to the Kingmark marker ball, as it is has greater accuracy of templating and is also easier to place within the field of an x-ray.

Abstract no.: 48735

CHRONIC FLEXOR TENDON LESIONS – RECONSTRUCTION USING HUNTER'S TECHNIQUE

Marta Sofia SANTOS SILVA, Pedro SERRANO, Luís BARROS, Sérgio FIGUEIREDO, Luís COSTA, Alexandre PEREIRA, Miguel TRIGUEIROS, César SILVA

Centro Hospitalar do Porto, Porto (PORTUGAL)

Introduction: Tendon injuries in the digital flexor sheath area are the most difficult to treat. The success to primary repair is not always achieved. Hunter's procedure is indicated when chronic tendon lesions are associated to irreparable A2 and A4 pulleys or exuberant scar is present at tendon sheath. Methods: 30 patients were submitted to reconstruction. In the first-stage, digital flexor tendon resection and a silicone rod implantation were performed. Early passive motion was started in all cases. The second-stage surgery was performed in a mean of five months and flexor digitorum superficialis, palmaris longus, plantaris or extensor of the fourth toe were grafted into the pseudosheath formed surrounding the silicone implant. Results: Evaluation by the Strickland criteria of total active motion was good to excellent in 65% and poor in 18%. In the first-stage, has been reported a complication rate of 10.1% (2 cases – infection and synovitis) and a rate of 23,1% in the second-stage (infection, tendon rupture, flexion contraction and adherence). The need of another surgery was verified in 6 cases. Conclusions: Two-stage flexor tendon grafting was followed with the intention of achieving better results under circumstances where the likelihood of poor results can be identified. It is a demanding procedure to the surgeon that should be comfortable with the technique, but also to the patient that should be motivated. With the correct indication and technical skill, this procedure is an effective way to restore digital function in tendon injuries in the digital flexor sheath area.

Abstract no.: 48740

TWO SCREW FIXATION FOR TWO PART SCAPHOID PROXIMAL POLE NONUNION

Waheeb AL-AZZANI[1], Kueni IGBAGIRI[2], Andrew MCMURTRIE[3]
[1]Wrexham Maelor Hospital, Wrexham, Cardiff (UNITED KINGDOM), [2]Maelor Hospital, Wrexham (UNITED KINGDOM), [3]Wrexham Maelor Hospital, Wrexham (UNITED KINGDOM)

Comminuted scaphoid non-unions are challenging to treat. A case of a 39-year-old engineer complaining of an 8 year history of intermittent right wrist pain following a fall is presented. Initial X-ray findings suggested a right proximal pole scaphoid non-union. Further imaging in the form of Computed Tomography (CT) confirmed a non-union through the scaphoid proximal pole consisting of two major fragments, prompting a different treatment approach. Management was with an open reduction, internal fixation and bone grafting with 2 headless compression screws (Acumed Acutrak Mini), one in each proximal pole fragment, was implemented. Over a 2-year follow-up period the patient has progressed exceptionally well, now tolerating heavy manual work. There currently are no clear standards for management of such non-unions with two proximal pole fragments. This case highlights the value of CT imaging for operative planning in cases of chronic scaphoid non-unions. It also supports the use of a double screw fixation technique as a safe and effective technique in cases of proximal pole non-unions with two proximal pole fragments.

Abstract no.: 48746

NECROTISING FASCIITIS; WHAT AN ORTHOPAEDIC SURGEON SHOULD KNOW

Waheeb AL-AZZANI[1], Muhammad SIDDIQUI[2], Andrew MCMURTRIE[2], Asad SYED[2]

[1]Wrexham Maelor Hospital, Wrexham, Cardiff (UNITED KINGDOM),

[2]Wrexham Maelor Hospital, Wrexham (UNITED KINGDOM)

Necrotising fasciitis (NF) is a rare but rapidly spreading life threatening soft tissue infection which involves skin, subcutaneous tissue and muscle associated with systemic toxicity. The precise incidence in the UK is not known and there is currently no surveillance programme that captures data on NF cases caused by all organisms. However, recent studies suggest a rise in incidence of NF in the UK and hence orthopaedic surgeons should be aware of its presentation and management. Early signs and symptoms of NF often mimic those of cellulitis hence the difficulty in early accurate diagnosis. Delayed and suboptimal management leads to increased mortality. Therefore, a high clinical suspicion and early surgical intervention is required to treat and control the spread of infection. The aims of treatment in NF are: prompt source control, early focused and systematic surgical debridement of infected tissue, early broad spectrum antibiotics, aggressive physiological support and resuscitations along with frequent re-evaluation. This article reviews the current literature and highlights common characteristics that aid the early diagnosis of NF, the role of laboratory and radiological investigations in supporting the diagnosis, technique for surgical debridement and subsequent wound care.

Abstract no.: 48749

CHRONIC ANTEROMEDIAL KNEE PAIN. INFRAPATELLAR PAIN SYNDROME

Radoslaw GRABOWSKI[1], Marcin DOMZALSKI[2]
[1]Medical University of Lodz, Łódź (POLAND), [2]Medical University of Lodz, Lodz (POLAND)

The infrapatellar pain syndrome (IPS) also know as an infrapatellar nerve injury is not a widely known syndrome. It is not a novel phenomenon. The infrapatellar branch of sapenous nerve (IBSN) is purely sensory and innervates both the anteromedial aspect of the knee. As early as 1945, surgeons were cautioned regarding the potential surgical trauma to IBSN. IPS can be caused by trauma such as fall on the knee or direct blow to the knee joint as well as surgical procedures such as arthroscopy, total knee replacement, patellar or hamstring tendon harvest for ACL procedures, tibial nailing and open procedures of the knee. The paramount problem with IPS is the long time for proper diagnosis of anterior knee pain syndrome. This IPS is not often reported and can be overlooked or misdiagnosed as it develops. We have found the patients with a history of IPS lasting seven and even 13 years. The importance of the IPS can be well described by the type of the pain that was described like a 'toothache' with different types such as: hypoesthesia, dysesthesia, painful neuroma and reflex sympathetic dystrophy. We would like to popularise and emphasise the role of infrapatellar pain syndrome in the postsurgical and posttraumatic anteromedial knee pain differentiation. Growing number of knee artrhroscopic procedures, knee arthroplasty surgeries will result in the increasing number of patients with anteromedial knee pain.

Abstract no.: 48750

EVALUATING PATIENT SATISFACTION FOLLOWING TRAPEZIECTOMY PERFORMED UNDER DIFFERENT TYPES OF ANAESTHESIA

Hammad PARWAIZ[1], Matthew HOWARD[2], Christopher JENKINS[2], Ilana LANGDON[2]

[1]Royal United Hospital Bath, Bristol (UNITED KINGDOM), [2]Royal United Hospital Bath, Bath (UNITED KINGDOM)

Aims: Wide awake local anaesthetic no tourniquet (WALANT) surgery is becoming increasingly popular, amongst both clinicians and patients, for a variety of different surgeries of the hand. Our aims were to evaluate the level of patient satisfaction for patients undergoing trapeziectomy under general (GA), regional (block) and local anaesthetic (LA). Method: A telephone questionnaire was developed based on similar patient satisfaction questionnaires from the literature. Pain and anxiety levels were recorded using a visual analogue scale from 0-10. Patients having had a trapeziectomy at our district general hospital were identified using the electronic hospital database of operative procedures, and were retrospectively contacted by phone. Results: 37 patients were interviewed totalling 49 trapeziectomies (10 LA, 8 GA, 31 regional block). 65% (24/37) of all patients and 43% (3/7) of those receiving GA would prefer to be wide awake given a choice. Operations under GA were perceived to have a less painful anaesthetic but more painful post-operatively. No patients had to be transferred from one type of anaesthesia to another due to too much anxiety or failure of anaesthetic technique. 95% (39/41) receiving LA or block felt their experience of the procedure was better or as they expected. 72% (26/36) of patients would recommend wide awake surgery to friends or family. Conclusion: Most patients prefer to be wide awake during trapeziectomy and would recommend it to their friends and family. The use of LA and regional blocks should be encouraged.

Abstract no.: 48754

GUNSHOT INDUCED INJURIES IN ORTHOPAEDIC TRAUMA RESEARCH

Esmee ENGELMANN
Groote Schuur Hospital, Amsterdam (NETHERLANDS)

Background: Gunshot-related violence kills over 1000 people and injures millions of others worldwide every day. This growing burden of gunshot injuries demands evidence-based ballistic trauma management. No comprehensive systematic overview of the current knowledge is available to date. This study aims to identify and analyse the most influential publications in the field of orthopedic ballistic trauma research. Methods: Every database in the Thomson Reuters Web of Knowledge was searched to conduct this bibliometric study. The most cited orthopedic ballistic trauma articles published between 1950 and 2015 were identified by use of a multi-step approach. Publications with ten citations and more were analysed for citations, journal, authorship, geographic origin, area of research, anatomical site, study type, study category, level of evidence and more. Results: The total number of included publications was 128 and total citations per publication ranged from 113 to 10. They were published in fifty different journals between 1953 and 2011. The majority of total (n = 106) and top ten (n = 8) studies originated from the USA. Most studies were on spinal gunshot injuries (n = 49; 38.33%), therapeutic (n = 65; 50.7%), retrospective (n = 85; 66.4%) and level IV evidence (n = 90; 70.3%). The majority of the studies was published between 1980 and 2000 (n = 111; 86.7%). Conclusions: Trauma centres with a high burden of gunshot injuries and limited resources need to share their experience to establish a more accurate picture of the global gun-related orthopedic injury burden in literature.

Abstract no.: 48759

TIBIOTALOCALCANEAL ARTHRODESIS IN CHARCOT ARTHROPATHY

Marta Sofia SANTOS SILVA, Pedro SERRANO, Bruno MAIA, Luís BARROS, João ESTEVES, Daniel SOARES, José MURAS
Centro Hospitalar do Porto, Porto (PORTUGAL)

Introduction: Charcot arthropathy is characterized by osteoarticular destruction of an active and load-bearing joint, causing functional deterioration and increasing the risk of infection and amputation. Surgical treatment is indicated for conservative refractory treatment. The objective of this work was to evaluate the impact of the Tibiotalocalcaneal arthrodesis with intramedullary nail, in patients with deformity of the hindfoot and ankle. Methods: Nine patients with a mean age of 52 years were studied. The criteria for surgery were non-acute Charcot arthropaty and absence of infection. Clinical evaluation was performed using the AOFAS score and imaging (X-ray). The postoperative protocol consisted of discharge of 6 to 8 weeks, followed by loading, when signs of consolidation were present. The mean follow-up and consolidation time, subjective assessment and co-morbidities were recorded. Results: There was a significant improvement in the AOFAS mean score from preoperative (51.3) to postoperative (74.3). Patients reported a significant improvement in quality of life and would repeat surgery. Patients were satisfied with the results obtained. The complications (infection, material failure, pseudarthrosis, amputation and death) were recorded. Conclusions: This series demonstrates the high rate of comorbidities characteristic of this population. The results lead us to reflect on the severity of complications mentioned in the published studies. However, patients report significant functional gain and quality of life. Tibiotalocalcaneal arthrodesis with retrograde intramedullary nail may be a rescue strategy in patients with functional disturbance and severe joint deformity.

Abstract no.: 48761

CEREBRAL PALSY DOESN'T END WITH CHILDHOOD: INCIDENCE AND TYPES OF ORTHOPEDIC SURGERIES FOR ADULT PATIENTS

Joshua HYMAN[1], Chun Wai HUNG[1], Hiroko MATSUMOTO[1], Fay CALLEJO[1], Jodie SHEA[2], Justin KUNG[1], Alexandra KHALEEL[1], Brian SNYDER[2], Joseph DUTKOWSKY[1], David ROYE[1]

[1]Columbia University Medical Center, New York (UNITED STATES), [2]Boston Children's Hospital, Boston (UNITED STATES)

Introduction–As patients with cerebral palsy (CP) are increasingly living into adulthood, orthopedic procedures these patients require as they age are still an enigma. The goal of this study is to evaluate the incidence of orthopedic procedures in the adult CP population. Methods –Adults (>18y) with a CP diagnosis who underwent orthopedic surgery between 2010-2015 were identified at 2 institutions. Procedures were categorized by anatomic region and intervention type (soft tissue (ST) vs bony). Trends in age, sex, GMFCS, length of stay, comorbidities were evaluated. Results – 111 adults underwent 118 surgeries over 5y (mean age at surgery 24.4+8.7y, 49%F/51%M). GMFCS levels: I:14%, II:14%, III:19%, IV:12%, V:43%, unknown:7%). Most common procedures were: 38% spine (53% fusion, 30% index growth friendly, 17% lengthening), 35% lower extremity (75% ST, 9% patella alta, 8% distal femur osteotomy, 7% distal tibial osteotomy, 2% proximal tibial osteotomy), 14% upper extremity (84% ST, 16% osteotomy and fusion), 10% hip (77% ST, 13% proximal femoral osteotomy, 5% acetabular osteotomy, 5% salvage), and 3% foot/ankle (30% ST, 70% osteotomy and fusion). 23% had pulmonary comorbidities, while 18% and 30% had cardiac and GI comorbidities respectively. There was a significant difference in days of hospitalization between GMFCS I-III and GMFCS IV-V (3.5+/-3.8 vs 12.5+/-14.9, $p<0.05$). Conclusion –Spine procedures were most frequently experienced by this cohort, followed by lower extremity, upper extremity, hip, and foot/ankle. GMFCS V patients comprised the majority of surgical patients. This points to the importance of lifetime care and follow-up of musculoskeletal issues with these patients.

Abstract no.: 48764

NON-TUBERCULOUS MYCOBACTERIA CAUSING PERI-PROSTHETIC JOINT INFECTION OF THE HIP, SUCCESSFULLY TREATED WITH TWO-STAGE REVISION ARTHROPLASTY WITH A MEGAPROSTHESIS: A CASE REPORT WITH 3-YEAR FOLLOW-UP

Gabriel Teodoro BALUYUT[1], Rafael CLAUDIO[2]
[1]The Medical City, Quezon CIty (PHILIPPINES), [2]The Medical City, Pasig City (PHILIPPINES)

Mycobacterium other than tuberculosis (MOTT) or Non-tuberculous mycobacteria (NTM) is an infrequent cause of infection, and even more rarely causes peri-prosthetic joint infections, with only several case reports of such currently published. We report the case of an 80 year old Female, who had previously undergone a monopolar partial hip arthroplasty in another institution after sustaining a femoral neck fracture. The patient was seen 5 years after her index surgery, complaining of a persistent draining sinus at the surgical incision. The patient was co-managed with our Infectious Disease Service, and underwent two rounds of surgical debridement, and application of antibiotic spacers. Initial workup showed no growth on cultures, and negative AFB smears. However further workup eventually revealed Mycobacterium Fortuitum as the culprit. A review of available literature has shown Mycobacterium Fortuitum to be more commonly associated with musculoskeletal infections including peri-prosthetic joint infections. Due to the extent of surgical debridement and resection needed to remove the non-viable bone from the affected proximal femur, the patient eventually underwent arthroplasty using a megaprosthesis. Currently at three-year follow up, the patient remains infection-free and is fully ambulatory with minimal residual pain, showing a remarkable improvement in her Harris Hip Score. The patient may have been unlucky to contract an NTM infection, but this case demonstrates that a multi-disciplinary team approach to treating such peri-prosthetic joint infections with the goal of restoring functional status can lead to good patient outcomes.

Abstract no.: 48765

WHAT ARE ORTHOPEDIC SURGEONS DOING FOR KIDS WITH CEREBRAL PALSY? A UNITED STATES PERSPECTIVE.

Joshua HYMAN[1], Chun Wai HUNG[1], Hiroko MATSUMOTO[1], Fay CALLEJO[1], Jodie SHEA[1], Justin KUNG[1], Alexandra KHALEEL[1], Brian SNYDER[2], Joseph DUTKOWSKY[1], David ROYE[1]

[1]Columbia University Medical Center, New York (UNITED STATES), [2]Boston Children's Hospital, Boston (UNITED STATES)

Introduction – Few studies have examined the trends in pediatric patients with cerebral palsy (CP) undergoing orthopedic surgery. The goal of this study is to examine trends in orthopedic procedures in the pediatric CP population. Materials/Methods – A consecutive sample of pediatric patients (<18y) with CP who underwent orthopedic surgery between 2010-2015 were identified at 2 institutions. Procedures were categorized by anatomic region and type. Trends were identified using age, sex, race, GMFCS, length of stay (LOS), and comorbidities. Results – 598 unique patients had 720 total surgical visits (mean surgical age 10.9+4y, 42%F/58%M). GMFCS level breakdown was: I-9%, II-13%, III-13%, IV-20%, V-38%, unknown-6%). Most common procedures were: 42% hip (35% soft tissue, 29% proximal femoral osteotomy, 33% acetabular osteotomy, 2% salvage), 27% lower extremity (79% soft tissue, 12% distal femur osteotomy, 5% distal tibial osteotomy, 4% patella alta, 1% lengthening osteoplasty of femur, 0.1% proximal tibial osteotomy), 27% Spine (50% fusion, 29% index growth friendly instrumentation, 20% lengthenings), 2% foot and ankle (52% soft tissue, 48% osteotomy and fusions), and 2% upper extremity (99% soft tissue, 1% osteotomy and fusions). A high incidence of comorbidities was observed: 36% pulmonary, 19% cardiac, and 55% gastrointestinal. The number of orthopedic procedures per visit was significantly greater for GMFCS I-III patients than GMFCS IV-V (7.4+-8.1 vs 5.3+/-5.5, $p<0.05$). Conclusion – The most common orthopedic surgeries for CP are hip-related, followed by lower extremity, spine, foot/ankle, and upper extremity. GMFCS IV-V patients underwent the most surgeries and required higher LOS.

Abstract no.: 48769

OPEN FRACTURE OF TALUS

Marta Sofia SANTOS SILVA, Pedro SERRANO, Bruno MAIA, Bruno CORREIA, Xará FRANCISCO, Helder FONTE, Joaquim RAMOS, Oliveira VÂNIA

Centro Hospitalar do Porto, Porto (PORTUGAL)

Introduction: Open fractures of talus are high-energy injuries. While treating these injuries, nonunion, bone vascularization and possibility of infection are the main issues predicting less favorable outcomes. Methods: A 47-year-old man, healthy, fell of stairs with left ankle trauma. At physical examination had no neurocascular injuries The imaging study showed an exposed fracture of the talus (type IIIA classification Gustillo and Anderson), with rupture of the lateral ligament complex of the ankle. Results: In the operating room, the wound was carefully disinfected. Osteosynthesis was performed with 2 4.5 mm cannulated screws and also a repair of the lateral ligament complex. The patient completed 8 weeks of limb discharge and 6 weeks of partial loading. No wound infection was registered. At 9 months, mild pain, 65º mobility arch and 90 points on the AOFAS scale. Radiographs and MRI images taken 1 year after the injury show no evidence of avascular necrosis. Conclusion: The fracture of the talus is a difficult and challenging pathology. Early debridement, anatomical reduction and adequate fixation are key management factors. Due to unsatisfactory results, authors have recommended the primary excision of the talus in patients with talus extrusion through the wound. Others have recommended maintaining talus as a relatively safe option with minimal risk of infection, preserving most of the normal ankle anatomy. Anatomical reduction of the fracture, satisfactory repositioning of the talus at the ankle joint and absence of infection resulted in a satisfactory result in our case.

Abstract no.: 48775

HOW TO ASSESS COMORBIDITY OF THE PATIENTS SUFFERING FROM HIP FRACTURE ASSOCIATED WITH OSTEOPOROSIS AND SUBSEQUENT HIP REPLACEMENT

Igor ZAZIRNYI[1], Iryna GOLOVACH[2]
[1]Feofania Hospital, Kyiv (UKRAINE), [2]Feofania Hospital, Kiev (UKRAINE)

Introduction. The aim of the study is devoted to the establishment of comorbidity of patients with an osteoporotic hip fracture who subsequently underwent hip replacement. Methods. Retrospective analysis was applied to the research of 60 cases of osteoporotic hip fractures; the patients' average age was 77.9±9.2 years. Fragility fractures were confirmed by Dualenergy X-ray absorptiometry. Out 37 patients participating in the research 32 were diagnosed with osteoporosis, other 5 patients — with the III degree osteopenic syndrome. All patients had a high comorbidity index: the Charleston' comorbidity in- dex was 8.66±1.92 points, CIRS comorbidity index — 12.4±4.8 points. The disturbances of cardiovascular system accounted for the largest share of comorbidity structure, first of all coronary heart disease, hyper- tension, heart rhythm disturbance, leading to congestive heart failure, and vascular disease of the central nervous system as well. Results.The older were the patients, the higher was comorbidity indexes accompanied by worse concomitant diseases and increased risk of complications. Severity of comorbidity and comorbidity index' values significantly influenced the choice of surgical treatment for hip fracture. Key words: hip fracture, osteoporosis, comorbidity, hip replacement.

Abstract no.: 48776

CATASTROPHIC WOUND COMPLICATION IN COMPLEX SPINAL PROCEDURE FOLLOWING CLOSURE WITH TWO-PART SKIN CLOSURE SYSTEM – A CASE REPORT.

Vijay RAJAMANI[1], Robert LEE[2]
[1]Royal National Orthopaedic Hospital, london (UNITED KINGDOM), [2]Royal National Orthopaedic Hospital, London (UNITED KINGDOM)

Objective: To present a rare case of catastrophic dermatological changes in the surgical wound caused by the newly introduced mesh used along with topical adhesive. Methods: A 65year old female patient known for degenerative scoliosis was treated with 2 staged lumbar spine L4 to S1 fusion surgery. Six months later posterior revision surgery was done. All these wounds (four) were closed in layers using subcuticular skin suture supplemented by usual topical adhesive. The wounds healed well. After 10 months, the patient had another posterior revision surgery with iliac screws (non- infectious SI joint pathology). This time the posterior wound was closed with subcuticular skin suture and supplemented with the new two-part skin closure system using a mesh (polyester) and topical adhesive (2-octylcyanoacrylate). Results: During the initial postoperative period, the patient had severe itching around the posterior wound. The surgical wound was found to be oedematous and erythematous with blisters confined to the mesh area. The mesh was removed immediately and the wound was treated with non-adhesive dressing and antibiotics for one week. Comprehensive assessment with adequate allergic history and social history was done. The patient was then recognised to have food allergy to beef and dermatological reaction to some specific dresses with artificial feathers. Conclusion: This report presents the unpredicted dermatological changes in the spinal wound which was due to the new mesh, made of polyester. It also implicates the significance of comprehensive allergic history in all surgical patients particularly for using this new two-part skin closure system.

Abstract no.: 48788

ANEURYSMAL BONE CYST OF TALUS: A CASE REPORT

Segla Pascal CHIGBLO[1], Eric LAWSON[2], Fiacre TIDJANI[2], Aristote HANS-MOEVI[2]

[1]orthopaedic unit CNHU HKM, Cotonou (BENIN), [2]orthopaedic unit CNHU HKM, cotonou (BENIN)

Introduction: Aneurysmal bone cyst is a benign osteolytic tumor usually located within the long bones metaphysis, spine and pelvis. Talus is an extremely rare site for aneurysmal bone cysts and there is several therapeutic option for this lesion. We report an aneurysmal bone cyst of talus managed in an hospital of a low-income country with no recurrence at one years of follow-up. Case report: A 16-year-old girl student receive for increasing right ankle pain since 4 months, without any trauma, and were maximal on walking. Right ankle radiographs and computed tomography scan showed an osteolysis lesion type Ia of Lodwick of the talus, with heterogen cortical effraction on subtalar articulation. Based on these findings, a pathologic fracture of talus due to a benign tumor was retained. The patient was operated two weeks after the consultation. A trepanation was made on the neck of the talus and extended intra-lesional curettage was performed. After curettage, the cavity was fulfilled of autolog spongious iliac bone graft. The pathology examination was in favor of an aneurysmal bone cyst. A below-knee cast immobilization was completed for 6 weeks. Radiographs at 12 weeks showed good incorporation of the bone graft and total weight bearing began. At one year of follow-up, there is no evidence of recurrence. Conclusion : Talar aneurysmal bone cyst is one rare etiology of heel pain which must not be forgotten in children.

Abstract no.: 48791

INTRA-ARTICULAR DISTAL RADIAL FRACTURES WITH 90° OR 180° TWISTED LUNATE FACET. STUDY OF 7 CASES : ADVANTAGES OF A VOLAR MEDIAL APPROACH.

Andre-Pierre UZEL[1], Issam AIT HADJ SLIMAN[2], Caesar TOMMEH[2], Than NGOC DANH[2], Gamal AYOUBA[3], Alioune BADARA DIOUF[3]

[1]chu pointe-à-pitre, Le gosier (GUADELOUPE), [2]chu pointe-à-pitre, pointe-à-pitre (GUADELOUPE), [3]chu pointe-à-pitre, pointe-à-pitre (GUADELOUPE)

Introduction. Intra-articular distal radial fractures occur in high energy trauma which can lead to a combination of bone and ligament lesions. We report 7 cases of complex articular fractures with fragments twisted lunate facet. The aim was to report the advantages of an antero-medial approach and the results of treatment. Material and methods. The study included 7 men with a mean age of 38 years and a mean follow-up of 48.7 months. All fractures occurred during high energy trauma. They were type IV fractures, according to Melone classification, combined with fractures of the 90° or 180° twisted lunate facet, displaced fractures of the styloïd process and dorsal dislocations of the radio-carpal joints were associated. We performed an antero-medial approach through the flexors digitorum and the ulnar pedicle to fix the lunar facet fragment by direct pining. Results. The objective results were according to the Green and O'Brien criteria modified by Cooney: 2 very good, 3 good and 2 average. The X-rays showed healed fractures except the ulnar styloid process in one case. According to Knirk and Jupiter classification evaluating arthrosis, we obtained 6 level 0, but one with subchondral sclerosis of the lunate facet, and 1 level 3. Discussion and conclusion. Imaging with conventional radiography is insufficient and a CT scan is warranted dictating the approach. Our approach allows direct access to the fragment of the lunate facet and easier visualization of the distal radio-ulnar joint compared to the Henry approach, thereby avoiding excessive traction of the median nerve.

Abstract no.: 48793

ONCOLOGICAL OUTCOME OF EWING'S SARCOMA OF SCAPULA.

Shahbaz MALIK[1], Muaaz TAHIR[1], Sheraz MALIK[2], Scott EVANS[1], Robert JORDAN[3], Seggy ABUDU[1], Lee JEYS[1]
[1]The Royal Orthopaedic Hospital, Birmingham, Birmingham (UNITED KINGDOM), [2]The Royal London Hospital, London (UNITED KINGDOM), [3]University Hospitals Coventry & Warwickshire NHS Trust, Coventry (UNITED KINGDOM)

Introduction: Primary malignant bone tumours of the scapular are rare and often present late with large tumours making treatment difficult and challenging due to anatomical constraints and functional loss associated with removal of the scapula. Since Ewing's sarcoma is radiosensitive, the dilemma is whether scapulaectomy with the attendant functional limitation is justifiable. We present our results of a large series of Ewing sarcoma of the scapula at a single institution. Method: We conducted a search of our database of over 3800 primary bone sarcomas and found 902 with Ewing's 26 of which were scapula. Data collected included patient demographics, diagnosis and management. The diagnosis and management of each patient was decided following multidisciplinary discussion within our supra-regional bone tumour unit. Results: 26 patients were studied. Mean age at diagnosis was 17 years (range 2 – 51 years) and mean follow-up was 7 years (range 0-27 years). The tumour volume was >200mls in all patients. 22 patients underwent surgery +/- pre-or-post-operative radiotherapy in 6. Local treatment of the tumour was radical radiotherapy in three patients and one received palliative radiotherapy because of advanced disease. 18/22 patients treated surgically were alive at mean 10 years (range 0-27). Local recurrence occurred in 3 (12%) of patients treated with surgery. Conclusion: Ewing's sarcoma of scapula is rare. Good survival can be achieved with total or subtotal scapulectomy. We believe that surgical treatment with chemotherapy offers the best chance of survival. Additional radiotherapy is recommended for patients with large volumes and close surgical margins.

Abstract no.: 48796

THE IMPACT OF PATIENT EDUCATION AND EARLY MOBILISATION ON ENHANCED RECOVERY AND SHORT-TERM OUTCOME AFTER TOTAL HIP AND KNEE ARTHROPLASTIES

Lauren THOMSON[1], Amin KHEIRAN[2], Rohit RAMBANI[1]
[1]NHS, Boston (UNITED KINGDOM), [2]NHS, Leicester (UNITED KINGDOM)

BACKGROUND: Total hip and knee arthroplasties are major surgical procedures usually associated with significant pain in the early postoperative period. Recent evidence support the influence of patient education in postoperative pain control and subsequently better functional outcome. The primary aim of this study was to evaluate the impact of patient education on enhanced recovery time and function following TKA or THA. METHODS: Ninety adult patients undergoing TKA and THA were prospectively stratified into 2 groups based on the treating hospital. Group 1 had educational hip and knee schools prior to their operation whereas group 2 did not have any. Demographic data, time to operation, time to discharge, ASA, PROM, analgesic efficacy before and after surgery were assessed and collected. RESULTS: Mean time-to-discharge was significantly shorter in group 1, 1 day (Mean 1.08 days) in comparison to group 2, 4 days (Mean 3.4 days) (p value <0.01). There were 24 knees and 26 hips in group 1 and 22 hips and 18 knees in group 2. All patients in group 1 were mobilized within 2 to 6 hours after surgery whereas group 2 mobilised within 24 hours. Group 2 required more analgesics after surgery and prolonged step- down approach. Post-op PROM at 6 weeks was much better in group 1 compared to group 2. CONCLUSIONS: Patient education enhanced time-to-discharge readiness, minimized the severity of pain on the day of the surgery and improved short term functional outcome in contrast to combined anaesthetic, intracapsular and wound infiltration of local anaesthetic.

Abstract no.: 48798

THE ROLE OF ULTRASONOGRAPHY FOR THE DIAGNOSIS OF CARPAL TUNNEL SYNDROME.

Andreas MAVROGENIS[1], Panayiotis MEGALOIKONOMOS[2], Evanthia MITSIOKAPA[1], Georgios PANAGOPOULOS[1], Vasileios IGOUMENOU[1], Dionysios DRAKOPOULOS[3]

[1]First Department of Orthopaedics, National and Kapodistrian University of Athens, Athens (GREECE), [2]First Department of Orthopaedics, National and Kapodistrian University of Athens, Piraeus (GREECE), [3]401 Hellenic Army General Hospital, Athens (GREECE)

Introduction: Carpal tunnel syndrome (CTS) is a common peripheral entrapment neuropathy. Its diagnosis is documented with clinical symptoms and neurophysiological evaluation. Recently, ultrasonography has been shown to be a promising noninvasive diagnostic alternative. In this study we compared the clinical symptoms and neurophysiological findings with ultrasonography for the diagnosis of CTS. Methods: 33 patients who presented with clinical symptoms of CTS were studied with nerve conduction studies and high resolution ultrasonography. The latency, amplitude, distance, and velocity of the median and ulnar nerves were measured. Needle electromyography was performed in the abductor pollicis brevis; additional muscles of the arm and forearm were studied to rule out proximal median nerve, brachial plexus, or radicular abnormalities. Ultrasonography studies were based on the morphological changes of the median nerve cross-sectional area in the sagittal plane of the wrist at the level of the pisiform bone, the changes of regional echogenicity and the identification of entities such as tenosynovitis, space-occupying lesions, supplementary muscles and vessels that may increase the pressure in the carpal tunnel. Results: 27 of the 33 patients (81%) with clinical symptoms of CTS showed positive results in both nerve conduction studies and ultrasonography; four patients (9%) presented positive results only in nerve conduction studies, and two patients presented positive findings only in ultrasonography. Conclusions: Ultrasonography is a useful, low-cost, and non-invasive tool for CTS diagnosis. It may be used as a primary diagnostic method and/or it may increase the diagnostic accuracy of nerve conduction studies in doubtful cases.

Abstract no.: 48799

ARTHRODESIS OF THE FIRST METATARSOPHALANGEAL JOINT USING LOCKING PLATING SYSTEMS

Kunovský RADEK
Trauma Hospital, Orthopaedic departement, Brno (CZECH REPUBLIC)

The purpose of this study was to determine the results of fusion of the first metatarsophalangeal joint using a low-profile dorsal titanium plate with locking screws. Fifty-one patients (56 feet) had first MTP joint arthrodesis from January, 2010, through December, 2015. The reasons for indications were: 23 cases for hallux rigidus, 15 cases for hallux valgus, 3 for hallux varus, 2 for hallux erectus, 4 for rheumathoid forfoot and 9 cases after failure surgery. First MTP joint arthrodesis was fixed with Variable Angle LCP 1st MTP Fusion Plate 2.4/2.7. after the joint surfaces were prepared with matching dome-shaped power reamers to achieve congruous cancellous bone surfaces. At a minimum of 3-year followup, patients returned for postoperative evaluation of pain, function, and radiographic findings. Fifty patients (98%) reported good to excellent results, one (2%) as acceptable and zero as poor. For functional evaluation we used Gainor foot score. Visual analog pain scores improved from an average of 6.2 preoperatively to an average of 1.1 postoperatively. At hallux rigidus group the mean preoperative hallux valgus angle of 18.4 degrees improved to a mean postoperative angle of 9.8 degrees. The mean preoperative 1-2 intermetatarsal angle of 9.2 degrees improved to a mean postoperative angle of 8.7 degrees. At hallux valgus group hallux valgus angle improved from 50.2 to 17.8 degrees, 1-2 intermetatarsal angle improved from 14.5 to 12.5 degrees. There was 3 nonunion that we resolved by rearhrodesis. Stable arthrodesis enable early rehabilitation and eary comeback to sports and working activities.

Abstract no.: 48804

DIVERGENT ELBOW DISLOCATION WITH IPSILATERAL RADIAL SHAFT FRACTURE- UNCOMMON COMPLEX INJURY BUT GOOD CLINICAL OUTCOME.

Giri SITARAM, Serajdin AJNIN, Mahesh THIBAIAH
Heart of England NHS Foundation Trust, Sutton Coldfield (UNITED KINGDOM)

Background: Elbow is anatomically one of the most inherently unstable joint. Elbow dislocations are usually convergent type where the radius and ulna move as a single unit. Divergent dislocations are uncommon injuries. Fractures associated with elbow dislocations usually occur around the elbow and involve the coronoid, radial head or the olecranon. Ipsilateral forearm fractures with divergent elbow dislocations are extremely uncommon and are mostly reported in children. Case Report: We present a case of 31 year male who presented to casualty with a deformed elbow following a fall from push bike. Initial radiographs revealed a divergent elbow dislocation with ipsilateral displaced mid-shaft radius fracture. There was no distal neurovascular deficit. The dislocation was promptly reduced in the casualty under sedation. He went to the operation theatre the next morning. Following an internal fixation of the radial shaft fracture, EUA did not reveal any elbow instability. He was immobilised in plaster cast for 4 weeks followed by ROM exercises. At the last follow up at 4 months he did not have any residual elbow symptoms, had returned back to full time work. He had a ROM from 20-120 degrees and good supination and pronation. X-rays showed some calcification in anterior capsule. Previous reports of divergent dislocation with ipsilateral forearm fractures suggest stabilization of proximal radio-ulnar joint. Prompt reduction of the dislocation followed by later fixation of the forearm fractures results in good radiological and functional outcome. Although capsular calcification does seem to occur, but has no effect on the functional outcome.

Abstract no.: 48805

EFFECTIVENESS OF CT IMAGING AND OBSERVATION FOR DETECTION OF DELAYED INTRACRANIAL HEMORRHAGE IN PATIENTS WITH ANTICOAGULATION/ANTIPLATELET THERAPY.

Anna ANTONI
Medical University of Vienna, Vienna (AUSTRIA)

Introduction: Delayed intracranial hemorrhage can occur up to weeks after TBI and was reported more frequently in patients with anticoagulation/antiplatelet therapy. Due to this risk some hospitals perform extensive observation and cranial computer tomography (CCT) protocols, while others discharge asymptomatic patients after CCT. Methods and Materials: We retrospectively analyzed data of patients with a blunt TBI and anticoagulation/antiplatelet therapy treated between 2012 and 2014 in our level I trauma center. Included patients showed no pathologies in initial CCT, were admitted for a minimum of 24 hours and received a routine control CCT before discharge. Results: In total 318 patients fulfilled the inclusion criteria. A majority of 97% had a Glascow Coma Scale (GCS) of 15 at time of presentation and 78% of patients were not unconscious after TBI. Warfarin was the most common anticoagulation/antiplatelet therapy (51.6%) followed by Clopidogrel (18.6%). We observed 8 delayed hemorrhages (2.5%). Warfarin was used in 6 of these 8 patients. One patient needed urgent craniotomy while the other patients were discharged after an extended observational period. The patient with severe bleeding showed a deterioration of neurological status during the observational period. There were no significant differences in measured S100, coagulation studies or primary neurological symptoms between patients with our without delayed hemorrhage. Conclusion: Observation of patients with TBI and anticoagulation/antiplatelet therapy can lead to early detection of delayed hemorrhage. Routine control CCT without clinical deterioration seems not to be effective if patients are observed in a clinical setting.

Abstract no.: 48807

PAEDIATRIC CALCIFIC TENDONITIS: A RARE CAUSE OF HAND PAIN

Kathryn KNEALE[1], Rupert WHARTON[2], Dimitri AMIRAS[2], Afshin ALAVI[2], Khaled SARRAF[2]

[1]St Mary's Hospital, London, Truro (UNITED KINGDOM), [2]St Mary's Hospital, London, London (UNITED KINGDOM)

Introduction: Calcific tendonitis is characterised by the deposition of calcium around tendon insertions, causing acute pain, inflammation and restricted movement of the overlying joint. The shoulder is most frequently involved, but any tendon may be affected. There is a female preponderance in the fifth and sixth decade. Case Report: A 5 year old girl presented with a two day history of a painful left hand, following a fall. She was apyrexial and systemically well. On examination there was scaphoid tenderness with reduced extension of the wrist, and overlying erythema. Plain radiographs showed a lobulated sclerotic bony lesion in the region of the scaphoid raising concern about a possible malignancy. Radiographs of the contralateral hand and wrist were normal, as were basic blood tests. MRI demonstrated a low signal scaphoid with surrounding high signal material, and subsequent USS showed calcific densities superficial and deep to the flexor tendons of the first digit, within the tendon sheath. Symptoms resolved with analgesia and temporary splinting. Serial radiographs over twelve weeks demonstrated resorption of the calcific deposits, associated with complete resolution of symptoms. Discussion: Only seven cases of calcific tendonitis in children are reported in the literature, from 1985 to 2017, making it an uncommon presentation. Two children were 3 years old, the rest over 7 years of age. Just two cases involved the hand. Conclusion: This case serves to remind clinicians to consider calcific tendonitis as a potential diagnosis in children with similar presentations, and that symptoms can resolve completely with expectant management.

Abstract no.: 48810

ARTHROSCOPIC DECOMPRESSION OF A PARALABRAL CYST CAUSING SUPRASCAPULAR NEUROPATHY

Catarina BISPO, Goncalo LAVAREDA, Sofia CARVALHO, Filipe MACHADO, Francisco GONCALVES, Mafalda BATISTA, Barbara CAMPOS
Hospital Ortopédico Sant'Iago do Outão, Setúbal (PORTUGAL)

Background: Shoulder pain in a patient with manifestations suggesting a rotator-cuff tear but normal tendons by imaging studies is difficult to address. Suprascapular nerve entrapment is a rare cause of shoulder pain. Paralabral cysts, located in the suprascapular or spinoglenoid notch, can cause its compression. They are usually in relation with posterosuperior labral tears. Symptomatic cysts may be treated surgically by open excision or arthroscopic decompression. Case Presentation: The authors present the case of a 43 year old male, factory worker, who suffered from posterior left shoulder pain. He didn’t have a story of trauma. He had supra and infra-spinatus atrophy, complete range of motion although painful and weakness in external rotation and abdution with no sensorial deficits. Jobe, O’Brien and apprehension tests were positive. X-ray revealed a Hill sachs lesion. MRI revealed a large posterosuperior paralabral cyst (3x5cm), compressing the suprascapular nerve at the scapular and spinoglenoid notches. There was a posterior subluxation of the humeral head >50%. EMG was normal. VAS score was 7. SSV 50%. The patient underwent shoulder arthroscopy. The posterior labral defect was repaired and the cyst drained. Exams are presented. Outcomes: The patient followed rehabilitation protocol with favorable evolution. Videos and functional scores are presented. Discussion: Suprascapular nerve entrapment is a rare condition that should be considered in the differential diagnosis of shoulder pain and treated before irreversible neuropathic changes occur. In the presence of a paralabral cyst, arthroscopic surgery allows the drainage of the cyst and the treatment of the labral defect.

Abstract no.: 48812

ARTHROSCOPICALLY – ASSISTED CORACOCLAVICULAR AND ACROMIOCLAVICULAR LIGAMENTS RECONSTRUCTION USING AUTOGENOUS PALMARIS LONGUS TENDON

Sang-Jin CHEON[1], Yong-Geon PARK[2], Eom-Ji KIM[2]
[1]Pusan National Univ. Hospital, - (SOUTH KOREA), [2]Pusan National Univ. Hospital, Busan (SOUTH KOREA)

Purpose: We evaluated the clinical outcome of arthroscopically - assisted coracoclavicular(CC) and AC ligaments reconstruction using autogenous tendon and TightRope® in patients with chronic AC joint dislocation. Method: 23 patients (21 men and 2 women) with a chronic Rockwood type III(n=19) and type V(n=4) AC joint dislocation underwent this arthroscopically - assisted reconstructive surgery of CC and AC ligamentous complex at the same time using autogenous tendon graft and TightRope®. The mean patient age was 52.3±14.2 years (range, 19-85) and the mean follow-up was 30.6±15.7months (range, 12-60). Maintenance of CC and AC joint reduction on radiographs were evaluated postoperatively and during follow-up period. Also, AC Joint Separation Questionnaire (AC scoring) and University of California-Los Angeles (UCLA) score, visual analog scale(VAS) were evaluated clinically for all patients. Result : All patients had maintained interoperative reduction of AC joint and CC space without dislocation and had one complication at final follow-up. 16 patients had an excellent results and 7 a good result by AC scoring. The UCLA score and VAS showed significant improvements from preoperative 11.0±2.42 (range, 7-15) and 5.6±1.96 (range, 3-9) to postoperative 31.1±1.43 (range, 29-34) and 0.5±0.61 (range, 0-2), respectively($p<0.05$). All patients were satisfied with this index procedure and resolved symptoms and returned to previous activity level. Conclusion: Arthroscopically – assisted CC And AC ligaments reconstruction using a autogenous tendon graft and TightRope® for chronic AC joint dislocation is reliable method that can provide adequate stability and improved clinical outcome.

Abstract no.: 48815

MODIFICATION OF LUMBAR DISC HERNIATION BY IL-1RA- A COMPARATIVE EXPERIMENTAL IN VITRO STUDY

Wolfram TESKE[1], Jasper BOEHM[2], Sonja ZIRKE[3], Christoph VON SCHULZE PELLENGAHR[2], Veronika GERSTEN[3], Matthias LAHNER[2]
[1]Ruhr University Bochum, Bonn (GERMANY), [2]Ruhr University Bochum, Bochum (GERMANY), [3]Spine Research Institute, Bochum (GERMANY)

Autologous conditioned human serum (ACS) was superior caompred to triamcinolone in a prospective randomized double blinded study using the peridural injection technique in the treatment of disc herniation induced radiculopathy. The expression of interleukins caused by disc herniation in animal experiments results in mechanic and thermic hyperalgesia whereas cytokine inhibition reduces the time related influence of these inflammatory stimuli. Data to potential similar effects in human disc herniation are missing. Our pilot study investigated the influence of ACS on human disc tissue grafted by minimal invasive nucleotomy. The samples were divided, incubated in ACS and physiological NaCL solution in a special tube for IL-1Ra enhancement. Both groups were scrutinized by histological and immunohistochemical methods using MIB-1/ Ki-67 as proliferation marker. Our results showed no significant difference between the study and the control group. Neither ACS induced regenerative nor lytic effects could be demonstrated on human disc herniation tissue. A positive local influence on a clinically significant lumbar disc herniation using an injection application technique of ACS in the disc seems unlikely. A nucleolytic effect on slipped disc tissue especially through a single intradiscal injection technique is not expected according to our results. The positive effects of epidural-perineural ACS injections in patients with slipped disease seems to be independent from the disc tissue itself. Further investigations are necessary to understand the ACS influence in molecular enzymology of disc pathology.

Abstract no.: 48816

EVALUATION OF TREATMENT OF FRACTURES OF THE MIDDLE THIRD OF THE CLAVICLE BY TITANIUM ELASTIC STABLE INTRAMEDULLARY NAILS.

Nehad EL MAHBOUB[1], Mohamed HAMZA[2]
[1]Misr univeristy for science and technology, Cairo (EGYPT), [2]Misr univeristy for science and technology, Giza (EGYPT)

Fracture of the middle third of the clavicle is one of the common fractures. Options of treatment include conservative treatment with the possibility of nonunion, malunion and disfigurement, open reduction and internal fixation by plate and screws with possibility of infection, skin irritation and prominence of screws under the skin and intramedullary fixation which may be done after open or closed reduction. 25 patients with fracture of the middle third of the clavicle in the period between January 2012 to June 2014 at Misr University for science and Technology hospital underwent reduction either closed or open through a small incision and intramedullary fixation by titanium elastic stable intramedullary nails which were left protruded outside the skin for easy removal after fracture healing. Arm sling was applied for 2 weeks in all cases. The age ranged between 16 to 45 years. 17 cases were males and 8 cases were females. The right side affected in 15 cases while the left side in 10 cases. All cases evaluated radiologically for reduction, position of the nail and fracture healing and clinically for function by disabilities of the arm shoulder and hand (DASH) score. The follow up period ranged between 6 to 24 month. All cases united during the follow up period.Superficial infection around the nail entry was reported in 3 cases and treated by frequent dressing. One case refractured after removal of the nail and treated by sling.

Abstract no.: 48819

THE SENSIBLE INNERVATION OF THE GREATER TROCHANTER – ANATOMICAL DETAILS FOR A BETTER TREATMENT OF THE GREATER TROCHANTERIC PAIN SYNDROME

Wolfram TESKE[1], Birthe GENTH[2], Christoph VON SCHULZE PELLENGAHR[2], Monika VON DÜRING[3], Sonja ZIRKE[4], Matthias LAHNER[2]
[1]Ruhr University Bochum, Bonn (GERMANY), [2]Ruhr University Bochum, Bochum (GERMANY), [3]Ruhr University Bochum, Bocum (GERMANY), [4]Spine Research Institute, Bochum (GERMANY)

25 % of patients with knee arthrosis show symptoms of a greater trochanteric pain syndrome. The disease is seen as a complication of hip replacement also. The incidence is higher using a Hardinge approach than a posterior approach. The exact cause of the syndrome is unknown yet. The intention of our study was an anatomical and embryologic investigation of the sensible innervation of the greater trochanter to improve the treatment. The buttocks of 7 human cadavers were dissected and macroscopic and microscopic examined. Additional embryological studies were performed on a male fetus of 50 mm length and a female fetus of 29 mm length. The sacral plexus and the branches, especially the sciatic nerve, the gluteal superior nerve and the gluteal inferior nerve were meticulously dissected and all branches to the greater trochanter were identified. None of cadavers showed variations of the hip and the proximal femur. Nerve origins from the sciatic nerve, the gluteal superior nerve and the gluteal inferior nerve running to the greater trochanter were not seen. In all cadavers a nerve branch accompanying the medial circumflex femoral artery was shown. The nerve branch penetrated together with the artery the femoral periosteum. In all specimen the origin of this nerve branch was the femoral nerve. Descending from the femoral nerve the branch runs medial of the iliopsoas muscle lateral the pectineus muscle and entered the periosteum caudal of the inferior gemellus muscle.The axons were not myelinated in most cases with a men diameter of 73µm.

Abstract no.: 48820

CLINICAL AND RADIOLOGICAL EVALUATION OF TLIF FOR DEGENERATIVE DISC DISEASES USING A NOVEL MODULAR CAGE

Mohamed ELMEKATY[1], Emad EL MEHY[2], Yohan ROBINSON[1]
[1]Department of Surgical Sciences, Uppsala University Hospital, Uppsala (SWEDEN), [2]Orthopedic Surgery Department, Tanta University, Tanta (EGYPT)

Introduction: It is challenging to insert TLIF cage with large footprint to enhance union rate and minimize cage subsidence. The novel modular cage provides large surface area for fusion with less invasiveness and dural manipulation. Modular cage consists of integral rail and slot multi-segmental system inserted through unilateral foraminotomy and assembled within disc space. Objective:Evaluation of modular TLIF cage for DDD.Methods: 20 patients with DDD (14 cases degenerative spondylosis and 6 cases degenerative scoliosis) were analyzed retrospectively with one- year follow-up.Changes in lumbar lordosis angle, segmental disc angle and disc height were measured preoperatively, postoperatively and at one year follow- up. Cage subsidence, fusion rate, screw loosening and % of endplate coverage were also assessed. Results: 37 lumbar levels were treated with modular TLIF cage. Endplate coverage was 65% and 61% along antero-posterior and transverse diameters respectively. Lumbar lordosis angle and segmental disc angle significantly increased postoperatively with insignificant loss of correction at one year follow up. Middle and posterior parts of disc height significantly restored by mean 37% while mean loss of anterior, middle and posterior disc height at one-year follow-up was 0.9mm, 0.5mm, and 0.6mm for each parameter respectively. No cage subsidence occurred. 100% fusion rate with no screw loosening.Conclusions: TLIF modular cages demonstrated no incidence of cage subsidence or migration, high fusion rate, and no screw loosening. Also, it was effective in restoring lumbar lordosis angle, segmental disc angle and disc height, which is attributed to larger footprint of modular cage.

Abstract no.: 48822

CONGENITAL PSEUDARTHROSIS OF THE CLAVICULE - A CASE REPORT IN THE ADULT AND LITERATURE REVIEW

Manuel FERNANDES MARQUES[1], Luis COSTA BARROS[2], Bruno LOPES CORREIA[2], Rui CLARO[2]

[1]Hospital Geral de Santo Antonio, Lisboa (PORTUGAL), [2]Hospital Geral de Santo Antonio, Oporto (PORTUGAL)

Introduction: Congenital pseudarthrosis of the clavicle (CPC) is a rare disorder with an obscure etilogy first described by Fitzwilliams (1910). Most reports of surgical treatment are of patients in childhood, making it an even rarer disease present in the adult population. Methods: A 27 year old male, presented with a bump over the middle third of is right clavicle and a foreshortened shoulder girdle causing a severe deformity. He had no discomfort or pain at palpation of the clavicular area, had a normal shoulder ROM and strenght. X-ray revealed a CPC. A ressection of the pseudarthrosis was carried and internal fixation with a reconstruction plate was done, using iliac graft to restore bone lenght. Results: Radiographic healing ensued after 12 weeks and the patient started rehabilitation at 6 months for optimal recovery. Fourteen months after the surgery the patient shows an excellent clinical and radiological result without no functional impairment. Discussion and Conclusion: Pseudarthrosis of the clavicule is almost always a right side lesion found in infancy. In the adult it presents has a variable shoulder deformity usually with no ROM or strength deficit. X-rays or histologic examination confirm the diagnosis. Complications are rare and conservative management gives good results. Surgical management is an option in symptomatic patients, and in the presence of severe or increasing deformity and should be done around the age of 6 years, despite the fact that it was not done in this case

Abstract no.: 48826

IPSILATERAL PERONEAL COMPARTMENT SYNDROME- IT CAN EASILY BE MISSED LEADING TO LONG TERM MORBIDITY.

Giri SITARAM, Yaganti SAIDAIAH, Serajdin AJNIN
Heart of England NHS Foundation Trust, Sutton Coldfield (UNITED KINGDOM)

Background: Compartment syndrome in the lower limb is commonly seen in the anterior compartment or multiple compartments following an acute traumatic event or chronic repetitive trauma. Case Report: 39 year female presented to the casualty in the evening with a history of progressive leg pain following a 15 miles charity walk in the same afternoon. She appeared to be in significant pain. She had moderate swelling of the leg with diffuse tenderness and a negative passive stretch. A definitive diagnosis could not be made but in view of pain she was admitted for close observation. On re-examination in the morning her leg was slightly more swollen and passive stretch was positive. Decision was made to decompress and she was taken to theatre within the next 4 hours. Per-operatively there was partial devitalization of the peroneal compartment but the rest of the compartment was normal. Devitalised muscles were debrided and the wound left open. She was taken back to theatre in 48 hours for closure of the wound. At 4 months follow up she had grade 4 power in ankle eversion and persistent sensory loss in the superficial peroneal nerve distribution. Discussion: Absence of definite trauma and lack of gross swelling can lead to delay in diagnosis of isolated peroneal compartment syndrome. A high index of suspicion is essential. Although previous reports mention good outcome even when decompression was performed up to 24 hours but we had an unfavourable outcome even after a delay of 14 hours from the onset.

Abstract no.: 48827

QUANTITATIVE FIT ANALYSIS OF A SCAPULA PLATING SYSTEM

Johan CHARILAOU[1], Steven ROCHE[1], Roopam DEY[1], Sudesh SIVARASU[1], Frida HANSSON[2], Ruan VAN STADEN[3], Sithombo MAQUNGO[1]
[1]groote Schuur Hospital, University of Cape Town, Cape Town (SOUTH AFRICA), [2]Karolinska Institutet, Stockholm (SWEDEN), [3]Tygerberg Hospital, University of Stellenbosch, Cape Town (SOUTH AFRICA)

Background: Scapula fractures seldom require open reduction and internal fixation. The combination of lesser used exposures, anatomical orientation, bony morphology and limited implant options make surgical management challenging. This study aims at testing the anatomical congruence of the only available scapula implant system. Methodology: Intact dry cadaver scapulae were used as models (total n=50, left n=32, right n=18). All were denuded of soft tissues, skeletally mature and displayed no evidence of previous fractures. Two observers templated all six available anatomically pre-contoured scapula plates as well as lateral end of clavicle plates. A quantitative fit analysis was done. The maximum distance between plate and model was obtained with a Vernier caliper. Measurements were grouped into an anatomical (<2mm), intermediate (>2mm), and no fit category. Each category was assigned a numeric value to obtain an average score. Results: Glenoid plates did not fit any of the specimens (n=50, 100%). Lateral scapula body plates had a good fit in n= 13 (26%) and an intermediate fit in n= 37 (74%). Medial scapula body plates had a no fit in n=33 (66%). Lateral end of clavicle plates had better scores than dedicated acromion plates for scapula spine and acromion fractures. Conclusion: The glenoid plate is inadequate to achieve and maintain fracture reduction. The use of pre-contoured clavicle plates should be considered as these provide more variable options. Further development of a versatile plating system is needed to appropriately manage scapula fractures operatively.

Abstract no.: 48832

A RANDOMISED CONTROL TRIAL OF INTRA ARTICULAR INJECTATES IN KNEE OSTEOARTHRITIS: A COMPARISON ON CORTICOSTEROID AND NSAID INJECTIONS.

Sean FLYNN[1], Iain FEELEY[2], Martin KELLY[2], John O'BRYNE[3], Eoin SHEEHAN[2]

[1]Midlands Regional Hospital Tullamore, Ennis, Co. Clare (IRELAND), [2]Midlands Regional Hospital Tullamore, Tullamore (IRELAND), [3]Royal College of Surgeons Ireland, Dublin (IRELAND)

Background Intra articular corticosteroid injections are a commonly used non-operative treatment strategy in knee osteoarthritis. Intra articular hip injection with Ketorolac (an NSAID) has proven to be as efficacious as corticosteroids. Methods The study design was a single centre double blinded RCT. Severity of osteoarthritic changes were graded on plain film weightbearing radiographs using the Kellgren and Lawrence system. Injection was with either 30mg Ketorolac or 40mg Methylprednisolone, given by intra-articular injection, in a syringe with 5mls 0.5% Marcaine. Pre-injection clinical outcomes were assessed using the Numerical Pain Score (NPS), WOMAC, and Oxford knee scores. Patients' NPS scores were assessed via telephone interview at Day 1 and Day 14 post-injection. An assessment of all clinical outcomes took place in clinic at six weeks. Results There were 42 participants (49 knees) in the study. No patients were lost to follow-up. Mean age was 66.12 years (Range 50 – 85). 25 patients received a corticosteroid injection, 17 a NSAID injection. Mean Kellgren and Lawrence score was 3.2. There was no significant difference in pre-injection clinical scores in either group. There was a significant improvement of NPS on Day 1 and 14 in both injection groups ($p<0.05$). These results were sustained at 6 weeks, with no statistical significance between steroid and NSAID groups. There were no reported complications during follow-up. Conclusions Corticosteroid or NSAID are a safe and effective treatment strategy in the short term. Further follow is required to see if this trend in sustained.

Abstract no.: 48833

SILVERBACK - A DEMOGRAPHIC STUDY OF SPINAL COLUMN INJURIES IN ELDERLY MAJOR TRAUMA PATIENTS AT A MAJOR TRAUMA CENTRE

Angus FONG, Michael PETRIE, James TOMLINSON
Sheffield Teaching Hospitals, Sheffield (UNITED KINGDOM)

Introduction: Silver trauma is still a fairly new concept. As we move to recognise them as a different entity, we recognise that there is a need for more information with regards to spinal trauma within this group in order to shed light on patterns of injuries and risk factors in order to predict management needs. Method: Retrospective study of all elderly (>65) spinal trauma in one year at a major trauma centre. Demographics and injuries details collected from TARN database and then cross reference with local radiological imagings from PACS and operation details through electronic operation records. Results: 109 (44%) elderly patients with spinal column injuries are identified from a total of 247 spinal trauma patients. Average age 80.1 with 56% female (vs 35%). 55% of these injuries had a low energy mechanism vs 17% in non-elderly. Average ISS of 14.7 with 34% having chest injuries. These are both lower than the overall population. Only 12.8% proceed to have spinal surgery. The spread of injured zones in the spine is similar to the overall population. As expected, all the central cord syndromes were recorded in this group. Discussion: The most significant difference of this group is that a much higher proportion of spinal fractures were associated with low energy trauma. Not surprisingly, there are also a higher representation in female patient presumably because of osteoporosis. Perhaps due to the low energy trauma, the need for surgery is less and that they are also less susceptible to spinal cord injuries.

Abstract no.: 48837

SHORT-TERM RESULTS OF TOTAL HIP ARTHROPLASTY FOR POST TRAUMATIC ARTHRITIS IN ACETABULAR FRACTURE INTERNAL FIXATION

Afshin TAHERIAZAM
Tehran Medical Sciences Branch, Islamic Azad University, Tehran (IRAN)

Background:Post traumatic arthritis is common in young patients. It should be treated by normal joint biomechanics to not developing. Total hip arthroplasty (THA) after this disorder is a challenge for orthopedics. Objectives:The aim of this study was to assess the short term outcomes of THA following acetabular fracture. Patients and Methods:85 patients with post-traumatic arthritis after acetabular fractures were treated by THA in Milad and Erfan hospitals, Tehran, Iran during 5-year. Short-term outcomes of subjects were evaluated. 73/85 were male and the mean age of participants was 49 years (18-69 years). Prospective functional outcome and complications of THA was recorded in follow up of patients for a period of 5.21 ± 0.38 years. Results:There was no dislocation, DVT or PTE and only 4 cases with preoperative sciatic nerve injury detected. Two cases (2.35%) underwent re-operation. Our analysis of results showed that Modified Hip Harris Score (MHHS) improved from 43.64±4.42 preoperatively to 93.26±3.28 postoperatively ($P<0.0001$). Five-years survival was 95% with all variables considered. Conclusion:THA makes good pain relief and functional outcome with few complications and cementless acetabular reconstruction for posttraumatic arthritis after acetabular fracture is suggested.

Abstract no.: 48840

TRABECULAR TITANIUM SHELLS IN PRIMARY TOTAL HIP ARTHROPLASTY

Ricardo FERNANDEZ-FERNANDEZ[1], Sarah MILLS-GAÑAN[2], Gregorio ARROYO-SALCEDO[2], Pablo DIAZ-FREIRE[2], Enrique GIL-GARAY[2]
[1]Hospital Universitario La Paz, MADRID (SPAIN), [2]Hospital Universitario La Paz, Madrid (SPAIN)

In 1997 tantalum was introduced in orthopaedic surgery. Its high porosity, elasticity modulus and coefficient of friction provide excellent primary stability and bone ingrowth. Nowadays, titanium shells with tantalum or highly porous titanium coating are common in revision surgery. 3D trabecular titanium shells provide a tridimensional structure for bone ingrowth. In primary surgery its use is less defined. Objetive: Compare clinical and radiological results of a single acetabular design with conventional titanium versus trabecular titanium structure. We studied prospectively 53 THA in 53 patients, mean age 53.3 years (11-78). Mean follow-up was 48.9 months (6-62). Group A included 15 Delta PF cups (Lima Corporate) and Group B 38 Delta TT (Lima Corporate) 3D trabecular titanium cups. Harris Hip Score was used for clinical results. Radiological analysis included abduction angle, horizontal and vertical distance to Köhler and centre of rotation (Ranawat). Radiolucent and osteolisis in different zones (De Lee and Charnley) were assessed. Cup migration was defined as 2mm migration or 3º change in abduction angle. Results: At last follow-up all cups showed signs of radiological osseointegration. None cup had been revised for any reason. HHS improved from 27 to 88.87 points and from 44.7 to 93.8 points, group A and B respectively ($p<0.05$). Postoperative gaps in zone 2 were from frequent in group B (2 vs 8 cups). These gaps resolved during follow-up in most of the cases. Both cups showed excellent clinical and radiological results short-term results. With trabecular titanium shells showed dome gaps in 20% of the cases.

Abstract no.: 48841

NATIONAL HIP FRACTURE DATABASE AND BEST PRACTICE TARIFFS; IMPROVING ORTHO-GERIATRIC STANDARDS AT A DISTRICT GENERAL HOSPITAL

Kalon HEWAGE[1], Nimlan SHANMUGATHAS[2]
[1]Conquest Hospital, Hastings, Aberdeen (UNITED KINGDOM), [2]Conquest Hospital, Hastings (UNITED KINGDOM)

Introduction: Osteoporosis is one of the most common conditions affecting those over the age of 65, and with an ageing population, this is only set to increase in prevalence. As a result of such demographic trends, the incidence of neck of femur (NOF) fractures are set to rise. These numbers have increased by 25% between 1990 and 2000, and now represent a higher lifetime risk in certain female populations than that of breast cancer. In order to curb the increasing cost of hip fractures, a range of specialty teams, agencies and departments are required to ensure the impact of a hip fracture is kept minimal according to evidence based treatment guidelines. Aim, Assess the compliance with national best practice tariffs for fragility hip fractures after the introduction of a new dedicated integrated Orthopaedic surgery and Geriatric medicine care pathway admissions pro forma NoF fracture patients. Method: Retrospective analysis of data 3 moths pre- and post introduction of the new NoF admission pro forma, comparing to the national best practice tariff criteria for fragility hip fractures. Results: 155 patients in the 3 months prior and 133 patients in the 3 months post new integrated care pathway. Analysis demonstrated overall increase in the documentation. Geriatric medicines metrics did not improve swell as Orthopaedic surgical metrics. Conclusion: Improved compliance with standards known to be associated with cost effective care that reduces morbidity and mortality in fractured NoF patients. Room for increased Geriatric medical support to post operative patients.

Abstract no.: 48842

OS TRIGONUM SYNDROME - CASE REPORT

Nadia OLIVEIRA[1], Eduardo SALGADO[2], Sandra ALVES[2]
[1]Centro Hospitalar Cova da Beira, Covilha (PORTUGAL), [2]Centro Hospitalar Cova da Beira, Covilhã (PORTUGAL)

The Os trigonum is a small bone on the posterior-lateral aspect of talus that results from the failure of fusion of a secondary ossification center to the talar body. Although its occurrence in the general population is relatively frequent (3-15%), only a small portion are symptomatic due to posterior ankle impingement (Os trigonum syndrome). The syndrome has most frequently been described in athletes that engage in frequent plantar flexion like ballet and soccer as it usually results from either micro trauma from repetitive hyperplantar flexion or an episode of acute forced hyperplantar flexion. Misdiagnosis may occur as symptoms and physical examination findings may mimic other causes of posterior ankle pain. Management of these patients includes conservative measures or surgical excision. We present a case of Os trigonum syndrome occurring in a non-athlete that was successfully treated by surgical excision via an open posterior-lateral approach.