Posters
Synovial osteo-chondromatosis at the carpo-metacarpal joint of the thumb: A case report

Hiroyoshi Hagiwara, Osamu Miyamoto, Mayu Yamamura, Takahiro Nishimura and Sueo Nakama
Shimotsuga General Hospital, Japan

Introduction: We present a case of the synovial osteochondromatosis which affected the carpo-metacarpal joint of the thumb. The mass was surgically resected and no recurrence has appeared for three-year follow-up.

Case study: A 57-year-old woman was present at our institution, suffering from pain and swelling at the left thumb. She had felt the pain for 5 years and noticed the mass at three years ago. The pain had gradually been exacerbated and the mass had also gradually swollen. Radiography, CT and MRI revealed rugged bony mass (approximately 25×25×15mm) at the carpo-metacarpal joint of the thumb. After one month, the mass was surgically resected in two pieces. Histological examination revealed synovial chondromatosis and no malignancy. At 3 months postoperatively, she felt no pain and no restriction of the range of motion at any joints. The recurrence has not occurred for three-year follow-up.

Discussion: Synovial osteochondromatosis in the hand is uncommon. To our best knowledge, there are some reports of the intra-articular synovial osteochondromatosis in the hands but only one English literature reported the synovial osteochondromatosis at the carpo-metacarpal joint of the thumb.

Biography
Hiroyoshi Hagiwara has graduated from Hirosaki University and is currently working for Tochigi Medical Center Shimotsuga General Hospital, Japan. He has published many abstract and research abstract in many reputed national and international journal.

hiroyoshiha@yahoo.co.jp

Notes:
Xanthogranulomatous osteomyelitis

Mohammad Amin Eshaghi
Isfahan University of Medical Sciences, Iran

Xanthogranulomatous osteomyelitis is a rare type of inflammatory process which is characterized by composition of immune cell aggregation on histological studies. Delayed-type hypersensitivity reaction of cell mediated immunity may be implicated in its pathogenesis. Gross and radiological examination can mimic malignancy and differentiation should be confirmed by histopathological evaluation. We describe the case of a 14 year-old Afghan boy presenting with pain in right shoulder and left leg with prior history of trauma. Fever, limitation in right shoulder range of motion and tenderness in right shoulder and left thigh were detected following examination. Mild leukocytosis, elevated alkaline phosphatase and increased erythrocyte sedimentation rate with negative C-reactive protein (CRP) were revealed. X-ray imaging showed mixed density, periosteal reaction with soft tissue component and bone marrow infiltration in right humerus and left fibula. On magnetic resonance imaging (MRI), signal abnormalities in medulla, metaphysis and diaphysis of left fibula associated with cortical irregularity and diffuse soft tissue hyper signal areas were demonstrated. Finally, xanthogranulomatous osteomyelitis was confirmed by histological sample. The clinical manifestations and radiographic and laboratory findings of this rare condition are discussed.

Biography

Mohammad Amin Eshaghi has completed his study as an Orthopedic Surgeon from Isfahan University of Medical Sciences, Iran.

amin_eshaghi@yahoo.com

Notes:
Demographic presentation, activity indices, damage index: Comparative study between pediatric lupus erythematosus versus adult systemic lupus erythematosus in sample Egyptian population

Eman Hassan Elsayed Hassan and Amira Hassan El-Gerby
Alexandria University, Egypt

Systemic lupus erythematosus (SLE) is a complex autoimmune disease that can affect all organ systems due to alterations of both the innate and adaptive immune systems. Although onset during infancy is rare, the incidence of SLE rises steadily during childhood until mid-adulthood, especially among females. In this study we aimed to highlight the possible discrepancies in clinical presentations as well as serological profiles of pediatric and adult onset SLE patients, we also focused attention on the disease assessment by SLE activity index (SLE DDI) and damage index at time of presentation. Subjects were subdivided into 2 groups: Group I: A total of 92 Pediatric systemic lupus erythematosus (pSLE) that were selected from the students attending the school children hospital of medical health insurance. Group II: A total of 90 adult systemic lupus erythematosus (aSLE) patients and were recruited from those attending the Alexandria Main University Hospital and outpatient clinic. All patients were subjected to: detailed history taking and complete physical and mental examination, also activity indices as well as damage index were applied for every lupus patient of the studied groups, laboratory investigations were done for all patients. Our results demonstrated that, regarding mucocutaneous manifestations: pSLE patients have values higher than aSLE patients regarding photosensitivity (63.3% and 61.1%) and vascular lesions (23.9% and 22.2%) respectively. Regarding hematological manifestations: pSLE patients have values higher than aSLE patients regarding anemia (86.96% and 84.4), leucopenia (28.3% and 22.22) and thrombocytopenia (46.7% and 25.56%) respectively. Regarding renal abnormalities, pSLE patients have higher incidence of nephritic syndrome than aSLE patients. Regarding SLEDAI, pSLE patients have values statistically higher than aSLE patients, while no differences of damage index was noticed.

Biography
Eman Hassan Elsayed Hassan has completed her PhD from Alexandria University, Egypt and Postdoctoral studies from Alexandria University Faculty of Medicine, Egypt. She has published more than 7 papers in reputed journals.

emanhassan96@yahoo.com
Get the axial rotation of the vertebrae and pelvic radiographs direct manner is difficult. This work presents a new radiographic method for obtaining the axial vertebral and pelvic rotation. Rotation angles are got by the construction of several lines so that they are directly displayed and are measurable by a protractor. It is possible to construct the methods not only manually on conventional radiographs or on paper, but also use the same principle for the processing of digital images on a computer. Relevance of the method for measuring the axial vertebral rotation was verified by a special tool, which was obtained by X-ray images of the vertebrae with a defined rotation. Then the measurement results were compared not only images in the transverse plane (CT, MRI) but also with a method according Perdriolle which gets very similar values. This method is suitable for rotation in the range to 30° (45°) according to the image quality, thus to the point where it ceases to be seen one of the pedicles. Normally obtained radiographs don’t always show the whole pan, so we proposed two methods for measuring the axial pelvic rotation. The first uses the visibility of pelvis inlet and symphysis and second visibility of complete iliac wings. Both original methods were tested so far only on a 3D model with defined axial rotation. Not always is a patient straightened by the pelvis parallel to the X-ray cassette. Therefore our knowledge of pelvic rotation makes it possible to correct the measurement of the rotation of the vertebrae especially lumbar section which is the position of the pelvis significantly affected. In this case, we can get accurate values for comparison of changes in rotation during the reporting period. A freely available computer program was written that can be measured mentioned and some other methods on digital images.

Biography
Cerny Pavel has completed his PhD from Charles University in Prague, Faculty of Physical Education and Sport. He is the Director of orthotics-prosthetics company ORTOTIKA, S.R.O. and teacher that field in the same university and in West Bohemia University in Pilsen. He has published more than 25 scientific papers. He is author of some technical patents too.

Notes:
Calculation of pediatric femoral fracture rotation from direct roentgenograms

Ketenci I E, Ozel M S, Kaya E, Tuna S and Saygi B
Haydarpasa Numune Training and Research Hospital, Istanbul

**Background:** Radiologic determination of pediatric femoral fracture rotation has been debated. Measuring the ante-torsion angle of the fractured femur by computed tomography and comparing it with the opposite side has been the method of choice for this purpose. However, no simple method for direct measurement of femoral fracture rotation exists in the literature. In this study, our aim was to test a mathematical method of measuring the axial plane mal-rotation from direct roentgenograms.

**Materials & Methods:** A pediatric femoral shaft fracture model was produced. The bone was secured to a wooden frame that allowed the distal part of the fracture to rotate around an axis. Radiographs were taken at known intervals of rotation ranging from the neutral position to 60° external rotation and to 60° internal rotation in 5° increments of rotation. Five independent, blinded observers measured the radiographs and calculated the fracture rotation according to a standard formula. Calculated rotation values were compared with known rotation values.

**Results:** Calculated rotation values were close to actual rotation values throughout the arc of rotation. The mean absolute error of five observers for all measurements of external and internal rotation was 3.97° (±0.83). The correlation coefficient between calculated and actual rotation values was 0.9927. The inter observer intra class correlation coefficient for calculated rotation was 0.997.

**Conclusions:** Absolute error and correlation coefficient values indicate that this method is accurate and reliable in determining the fracture rotation.

**Biography**
Ketenci I E was born in Rize, Turkey in 1979. He completed primary school in Rize and middle school education in Istanbul. He graduated from Marmara University School of Medicine in 2004. He completed his orthopaedic surgery residency in Marmara University in 2010. After one year of military duty he is working as an orthopaedic surgeon in Haydarpasa Numune Training and Research Hospital, Istanbul since 2011.

emreket@yahoo.com

Notes:
Role of biological therapy on cardiovascular risk in rheumatoid arthritis

J Uceda, R Hernandez, S Rodriguez and J L Marenco
Hospital Nuestra Señora de Valme, Spain

Background: Although there are conflicting data on the subject, it seems that there is a higher incidence of cardiovascular events (CVE) in Rheumatoid Arthritis (RA) compared to population control. Apart from classical cardiovascular risk factors (CV), we must consider the severity of the inflammatory process plays an essential role in accelerated atherosclerosis in this pathology. Also some of the treatments used increase the CV co-morbidity. On the long term security of biological therapies, we find heterogeneous data in different studies and registries. A decrease in CV risk in RA patients treated with anti-TNF-α agents was observed.

Objectives: The main aim was to evaluate the CV risk and prevalence of CVD in RA treated with biological therapies versus RA treated with classics disease modifying drugs (DMARDs).

Methods: Retrospective cohort study over the CV risk and prevalence of cardiovascular events in RA patients treated with biological therapies. We reviewed a cohort of 260 patients diagnosed with RA (ACR 1987). We recorded socio-demographic variables, classics CV risk factors (smoking history, cholesterol levels, hypertension and diabetes mellitus), immunological profile (presence of RF and/or ACPA) and treatment (DMARD sorbiological therapy) at the time of the study. The CV risk was measured by the estimated SCORE of atherosclerotic cardiovascular mortality risk in 10 years, for specific values of systolic blood pressure and total cholesterol, according to smoking history, gender and age, calibrated to Spain. Also checked all cardiovascular events occurred since the beginning of RA until time of the study.

Results: Of our sample, 72% were women, with a current average age of 58.5 years. 48%were receiving biological therapy with or without concomitant DMARDs. Among the classic CV risk factors highlighted: 38% overweight and obesity in 32% of patients, 14% had diabetes mellitus and 39% hypertension; 51% had dyslipidemia and 18% were smokers. Regarding the immune profile had ACPA + 61% and 65% FR +. 13% of patients who did not realize biological therapy treatment showed a high Score (5-10) versus 3.7% of patients with biological therapy treatment, this difference was statistically significant. Regarding the prevalence of cardiovascular events we found no difference between groups, 13 and 15% respectively.

Conclusions: In our study, patients with RA treated with biological therapy have lower cardiovascular risk than patients treated with DMARs. There were no differences in the prevalence of CVE between groups. Both findings are consistent with those published in the literature. Probably the reduction of inflammation with TB has direct relation with cardiovascular risk reduction in patients with RA.

Biography
Julia Uceda Montanez, graduated in Medicine and Surgery from the University of Seville, Spain, in 1997. She received the title of specialist in Rheumatology in 2001, made his specialty in the Hospital Universitario Virgen del Rocío, Seville. Dr Uceda holds a PhD from the University of Seville since 2014, title obtained by the doctoral thesis carried on biologic therapies in rheumatoid arthritis. She currently works in the Rheumatology Unit, University Hospital of Valme, Seville. She is a member of the commission of biological therapies in autoimmune diseases in the same hospital, and collaborates with leading university final degree work students of the Medical University of Seville. She is the author of several articles in journals of national and international rheumatology.

juliauceda@gmail.com
Association between the presence of anti-citrullinated peptide antibodies and disease activity measured by DAS28 in a cohort of 260 patients with rheumatoid arthritis

S A Rodríguez Montero, R Hernández Sánchez, J Uceda Montañes, C Almeida and J Marenco
Hospital Nuestra Señora de Valme, Spain

Background: Rheumatoid arthritis (RA) is a systemic autoimmune disease of unknown and multi-factorial etiology, whose prevalence is around 1% of the adult population. Anti-citrullinated peptide antibodies (ACPA) are the most specific serological markers of RA, with a specificity of 98-99% in some studies. The presence of auto-antibodies such as rheumatoid factor (RF) and ACPA is related to more severe structural damage and joint destruction during disease progression.

Objectives: To assess whether the presence of ACPA is associated with higher levels of disease activity score (DAS 28) in a sample of patients with RA.

Methods: We performed a descriptive study of a cohort of patients from Valme Hospital diagnosed with RA. Patients were identified from an electronic database. Demographic data, immunological profile (presence of RF and/or ACPA), treatment (DMARDs or biological therapy) and disease activity measured by DAS 28 were collected transversely.

Results: Two hundred and sixty RA patients were included, current average age of 58.5 years, 72% were women and 48% were receiving biological therapy. Regarding serological markers, 61% were ACPA positive, 65% were RF positive and 54.3% were ACPA and RF positive. Mean DAS28 was 2.6 for RF and ACPA negative patients, compared to 2.8 for patients that showed positivity for one or both auto-antibodies, without statistically significant difference. With respect to the sub-group of patients receiving biological treatment (n=122), no significant difference of the mean value of DAS28 was seen (regarding to the presence/absence of ACPA): DAS28 2.53 for ACPA positive versus 2.52 for ACPA negative.

Conclusions: The presence of ACPA in RA patients has been traditionally considered a predictor of radiographic progression and higher clinical activity. But recently, new studies suggest that, although ACPA positivity does maintain relationship with structural damage, there is no association with the severity of clinical activity measured by DAS28. In line with these results, in our population of RA we found no relationship between the presence of ACPA and/or RF and disease activity, but it should be noted that the present is a cross-sectional study, so further prospective studies will be needed to elucidate this point.

Biography

Sergio A. Rodríguez Montero, graduated in Medicine and Surgery from the University of Seville, Spain. He received the title of specialist in Rheumatology in 2005, made his specialty in the Hospital Universitario Virgen del Rocío, Seville. He currently works in the Rheumatology Unit, University Hospital of Valme, Seville. He is the author of several articles in journals of national and international rheumatology.

sergio.mont@gmail.com

Notes:
Cardiovascular disease in rheumatoid arthritis, does the presence of anti-peptide citrullinated antibodies have any association?

R Hernández, S A Rodriguez, J Uceda, C V Almeida and J L Marenco
Valme Hospital, Spain

**Background:** Rheumatoid arthritis (RA) is a systemic autoimmune disease of unknown and multi-factorial etiology, whose prevalence is around 1% of the adult population. It most commonly affects women between the 4th and 6th decade. Patients with RA have an increased cardiovascular morbidity and mortality (CV) being the main cause of death. “Systematic Coronary Risk Evaluation (SCORE)” allow us to estimate the risk of death from cardiovascular disease as 10 years.

**Objectives:** To evaluate whether the presence of anti-peptide citrullinated (ACPA) antibodies is associated with increased frequency of cardiovascular disease (CVD) in patients with rheumatoid arthritis (RA) or with greater SCORE.

**Methods:** observational, analytical case-control study nested in a cohort of patients diagnosed with AR follow-up in the Valme hospital area. Cases were considered the patients who have developed a myocardial infarction or cerebro-vascular or ischemic heart disease and controls RA patients without CVD. They all determined ACPA levels, the classic cardiovascular.

**Results:** A total of 260 patients were included from a database of 327 patients with AR. In 67 of these, we couldn’t get the main variables of the study and were excluded. When analyzing separately the association between the presence of ACPA + and classic cardiovascular risk factors, we found no statistically significant differences between ACPA (+) vs. ACPA (-) to the DMHTA, dyslipidemia, obesity and smoking.

**Conclusions:** In our sample, unlike other published studies, we found no differences in the occurrence of cardiovascular events, or the SCORE in patients ACPA (+) vs. ACPA (-). While subgroups of patients with ACPA + have a greater tendency to be treated with biological therapy. This lack of differences could also be explained by the early implantation of both primary and secondary prevention of cardiovascular disease in patients with RA.

raquel.hernandez.rhs@gmail.com
Amniofix in treatment of osteoarthritis of knee

Ashish Anand
VAMC, USA

Amniotic membrane has been used extensively in management of non-healing ulcers and has been reported to be successful in 85% of the cases. In recent years, there have been several studies using rat models which support the use of amniotic membranes and chorion in the regeneration and repair of soft tissues. These findings have lead to interest in their use in OA. The potential for chorion and amnion to moderate osteoarthritis, as of yet, has not been explored in length; however indirect evidence suggest they may have advantageous effects on cartilage. The use of amniotic membrane (AM) in the form of HAMCs and dHACM is an appealing therapeutic option for the repair of articular cartilage damage caused by OA. We report our case series of 10 patients of variable age group who had failed all conservative treatment options and were unwilling for surgery. Patients were injected with Amniofix injection and were followed at 4 weeks and 8 weeks and 6 months. Patients reported improvement in their VAS pain levels of more than 65 percent as well an improvement in their functional capacity measured with regards to walking distance. No Failures were reported at short term follow up of 6 months and there were no side effects. Out short case series suggests that Amniofix can be used in treatment of arthritic pain and thereby delaying the need for Knee Arthroplasty. To the best of our knowledge there is no other study described in English Literature elucidating the benefits of Amniofix in osteoarthritis and ours is the first one.

ashishanandortho@yahoo.com

Successful management of femoral trauma in a through knee amputee with a previous mal-united fracture: Implications and functional outcome

Beth Lineham1, P V Giannoudis2 and Paul Harwood1, 2
1Leeds General Infirmary, UK
2University of Leeds & NIHR Leeds Biomedical Research Unit, UK

Background: After amputation, patients are more likely to injure their residual limb. An injury of a previously amputated limb, especially if the residuum is not anatomically normal, poses a dilemma for management.

Case Description & Methods: This case report discusses a femoral fracture sustained proximal to a through knee amputation.

Findings: The fracture was at the site of a mal-united fracture. A shortening osteotomy with bone graft was undertaken to improve alignment and prosthetic fit and remove poor quality bone. This was stabilised using an intramedullary nail, supplemented with an anti-rotation plate.

Outcomes: This fracture went on to uneventful union and the patient was able to comfortably use a prosthesis with increased functionality compared with prior to the recent injury.

Conclusion: In these unusual cases, careful planning is necessary to ensure all aspects of the problem is dealt with. Each case should be treated on its own merits.

bethbrown@doctors.org.uk
Measurement of wire deflection on loading may indicate progress to union in fine wire Ilizarov constructs: An in vitro model

Beth Lineham1,2, Todd Stuart1 and Paul Harwood4
1University of Leeds, UK
2Leeds General Infirmary, UK

Introduction: No entirely reliable method exists for assessing union during Ilizarov treatment. Premature removal results in treatment failure and alternative methods warrant investigation. Wire deflection might provide an indication of fracture site deformation on weight-bearing, indicating progress towards union. This study aimed to test a method for assessing wire deflection within an Ilizarov frame.

Materials & Methods: Tests were performed on clinical grade, all tensioned wire, 4 ring Ilizarov constructs stabilizing a simulated bone, with and without an unstable defect. Models were sequentially loaded to 700N using an Instron testing machine. A digital depth gauge attached to the superior ring measured relative wire displacement at the ring closest to the fracture. Tests were repeated 3 times.

Results: In the unstable model, wires tensioned at 882N and 1274N produced mean maximum deflections of 2.76mm and 2.69mm compared with 0.050mm and 0.046mm in the intact bone model (significant p<0.0001 Students T-test). Both models produced highly linear load deformation curves (R2=0.983 and 0.997).

Conclusions: A measurable difference in wire deflection between stable and unstable situations exists using this method, which appears valid and reliable with clear correlation between displacement and load. This approach might be clinically applicable and further clinical testing is required.

bethbrown@doctors.org.uk

PSI: New instruments for a new generation of knee arthroplasty

Cesare Chemello
Asiago Hospital, Italy

Introduction: Custom Made Surgery seems to be the future of total knee replacement (TKR). “Patients specific instrument” (PSI) helps the surgeon to perform a real tissue sparing surgery (TSS) and it allows to customize the technique and to standardize the results. Usually rheumatologic knees have important axial deviation and important bone loss, for this reason it is difficult to use a traditional prosthesis. The aim of our study was to illustrate the advantages and disadvantages of PSI in a prospective study of 100 pre-navigated total knee replacements.

Materials & Methods: 100 patients, affected by knee advance osteoarthritis and by axial deviation exceeding 3°, underwent to TKR (Advance Prophecy Wright). In the pre-operative examination, a TC was performed following strict protocols. We used a strict radiological protocol Post operative axes were compared to the planned ones and the following angles were examined: between anatomical and mechanical femoral axis (α-AAM), femoral flexion shield (FSF), tibial slope (ST) and frontal angle of the tibial component (α-CT). Negative outcome was considered as axial deviations ± 2 for FSF, ST and ±3 for α-CT e α-AAM.

Results: All patients achieved an excellent clinical and functional result according to KSS. Unplanned gender prosthesis was implanted in two patients. In only 1 case we changed the component size (femoral). In two cases, a 17 mm insert was necessary. Final knee flexion was necessary always more than 105°. Only 2 errors of the final α-AAM

Conclusion: This technique allows performing a TSS surgery, to reduce surgical time, to obtain optimal alignments. This technique also allows converting a challenging knee in a normal knee.

cesarechemello@gmail.com
Coenzyme Q10 supplementation and health status of rheumatoid arthritis patients

Hadi Abdollahzad
Kurdistan University of Medical Sciences, Iran

Progressive cartilage and bone destruction culminates to physical disability and deteriorates health status in rheumatoid arthritis (RA). In addition to adverse effects and high costs, current therapies sometimes fail or produce only partial responses. Recently, trends toward nutritional supplements as adjunct therapies have been extended. Anti-inflammatory and anti-nociceptive effects of coenzyme Q10 (CoQ10) in the arthritis animal model have been characterized. The current study was carried out to investigate the effects of CoQ10 supplementation on health status in rheumatoid arthritis patients. In this double-blind, randomized placebo-controlled clinical trial 54 RA patients with moderate and severe disease activity score (DAS28>3.2) were selected from those referred to specialized clinics of Urmia University of Medical Sciences. Eligible participants randomly allocated to supplement or placebo groups. In addition to usual pharmacologic therapies, each patient received a 100 mg/day capsule of CoQ10 in supplemented group (n=27) or placebo in control group (n=27) for two months. Patients’ demographic data were recorded at the baseline. Before and after the intervention dietary food intakes and health assessment questionnaire (HAQ) were completed through respective questionnaires. Data were analyzed using SPSS. Energy and macronutrients intake showed no significant differences within and between groups. CoQ10 significantly lowered HAQ score and led to a significant difference between two groups. It appears that oral CoQ10 supplement can be applied as an adjuvant treatment in combination with anti-rheumatic drugs. Longer clinical trials with higher doses of CoQ10 may be necessary to confirm the results of our study.

The treatment of end stage ankle arthritis with total ankle replacement

James K De Orio
Duke University Medical Center, USA

The replacement of the arthritic ankle with metal and plastic was first developed in the 1970s. However, significant failure of initial cemented ankle replacements discouraged surgeons and patients from pursuing this course of treatment. Now, however, prostheses used without cement have continued to evolve and are proving very reliable. With early and midterm results of newer ankle replacements reaching survival curves greater than 90%, more and more surgeons and patients are turning toward ankle replacement for relief. It has been shown that ankle replacements provide equal relief to an ankle fusion and unlike the ankle fusion, allow a significant amount of motion and do not jeopardize the subtalar and talonavicular joint nearly as much as the fusion. The two kinds of ankle replacements available for use are categorized as mobile and fixed bearing. As their name implies, mobile bearing polyethylene spacers are not fixed to either the tibial or the talar component whereas the fixed bearing ankles have the spacer fixed to the tibia. Current thought suggests the fixed bearings have the edge in terms of survivability. We have also learned to balance the ankle and to add additional hindfoot arthrodeses or ligament repair as necessary. Thus it is common to perform a lateral ligament reconstruction, gastrocnemius release, deltoid peel, subtalar arthrodesis, calcaneal osteotomy and a dorsiflexion osteotomy of the first metatarsal during the course of total ankle replacement to balance the ankle, increase range of motion and provide normal support for activities of daily living. Finally, the newest ankles have been developed to use CT scanning to create patient specific molds used at the time of surgery to ensure accurate alignment. Ankle replacements are here to stay.
Cutting edge concepts in the use of stem cell and PRP injections in an office setting

Joseph Purita
The Institute of Regenerative and Molecular Orthopedics, USA

The presentation concerns PRP and Stem Cell (both bone marrow and adipose) injections for musculoskeletal conditions in an office setting. Indications are given as to which type of cell and technique to use to accomplish repair. Stem cells, both bone marrow derived (BMAC) and adipose, are used for the more difficult problems. PRP injections are utilized for the less severe problems. Indications are given when to use Stem Cells versus PRP and when to use both. The newest concepts in stem cell science are presented. These concepts include the clinical use of MUSE cells, exosomes and Blastomere like stem cells. Basic science of both PRP and stem cells are discussed. This presentation defines what constitutes an effective PRP preparation. Myths concerning stem cells are dispelled. One myth is that mesenchymal stem cells are the most important stem cell. This was the initial interpretation of Dr. Arnold Caplan the father of mesenchymal stem cell science. Dr. Caplan now feels that MSCs have an immunomodulation capacity which may have a more profound and immediate effect on joint chemistry and biology. We now learn in the talk that the hematopoietic stem cells are the drivers of tissue regeneration. Also discussed are adjuncts used which enhance the results. These therapies include supplements, LED therapy, lasers, electrical stimulation and cytokine therapy. The scientific rationale is presented for each of these entities as to how they have a direct on stem cells.

Joint preserving surgery for hallux valgus in rheumatoid arthritis with minimum 2-year follow-up

Junichi Kushioka, Hideki Tsuboi, Shigeyoshi Tsuji, Akihide Nampei, Makoto Hira, Yoshio Nagayama, Shosuke Akita, Shirou Ohshima, Yukihiko Saeki and Jun Hashimoto
Osaka Minami Medical Center, Japan

Introduction: To date, arthrodesis and resection arthroplasty of the first MTP joint are major procedures for the hallux valgus in rheumatoid arthritis (RA) patients. Good clinical results of these procedures have been reported, however, arthrodesis or resection arthroplasty sacrificed the function of the first MTP joint. Recently, because of the introduction of biologics, RA can be well controlled and the function of joints can be preserved. We operate for hallux valgus in RA patients using Scarf osteotomy (joint-preserving surgery) and investigated clinical results of Scarf osteotomy for hallux valgus in RA patients.

Methods: Between April 2011 and September 2013, a total of 44 RA patients (55 feet) who underwent Scarf osteotomy for hallux valgus were followed up for a mean duration of 28 months. All patients were available for follow-up for at least 2 years. X-rays of feet were taken pre and postoperatively at the final follow-up. The angle of the hallux valgus (HVA), M1M2 (M1M2A) and M1M5 (M1M5A) were examined. And the deviation of sesamoid bone was scored using Hardy's classification.

Results: The mean HVA were 48.7 degrees preoperatively and 14.1 degrees at final follow-up. The mean M1M2A were 13.8 degrees preoperatively and 8.8 degrees at final follow-up. The mean M1M5A were 32.4 degrees preoperatively and 22.0 degrees at final follow-up. The position of the sesamoid bone was improved in all cases at final follow-up using Hardy’s classification.

Conclusions: Our results show that Scarf osteotomy is a beneficial procedure for hallux valgus in RA patients.
Surgical results of unstable complex elbow fracture-dislocation: Report of twenty cases

Kaveh Gharanizadeh
Iran University of Medical Sciences, Iran

Introduction: Unstable elbow fracture – dislocation is difficult to manage and could end in devastating results. Terrible triad and Transolecranon fracture-dislocation are the most problem maker types.

Methods: 18 patients with terrible triad and one Transolecranon fracture-dislocation that underwent surgery were followed for 1-4 years. In the terrible triad group 13 cases approached with single lateral incision and five with double incision (lateral and anteromedial). Patients were examined for MEPS (Mayo elbow performance score) and DASH (Disabilities of the arm, shoulder and hand) questionnaires are filled. Radiographies are evaluated for joint congruity, union of the fractures, heterotopic ossification and post traumatic osteoarthritis.

Results: The mean of DASH score was 17.6 and for MEPS was 86 that shows good result. One case ended in poor result because of the redislocation after surgery. If we ignore this case the results will be excellent.

Conclusions: Surgical management of the unstable elbow fracture-dislocation can end in good results if congruous and stable joint reconstruction could be achieved. Also we suggest lateral approach with transosseous suture fixation of the coronoid fragment for the most cases of terrible triad fracture-dislocation.

Clinical results of open reduction and internal fixation of slipped capital femoral epiphysis (SLIP): A case series

Kaveh Gharanizadeh
Iran University of Medical Sciences, Iran

Introduction: Management of slipped capital femoral epiphysis (SLIP) is challenging. Recently new technique developed based on the extended retinacular flap dissection (ERFD) of the femoral head that offers ORIF of the SLIP.

Material & Methods: Between 2010 till 2014 all the cases of SLIP that underwent ORIF with the ERFD technique were included. They followed clinically by Merle d’Aubigne Scale and visual analog scale for pain and radiographically for AVN, recurrence of SLIP, chondrolysis and DJD

Results: Six cases with the mean age of 14 (11-19) included and all were men except one. Two had rare valgus SLIP and others were classic varus one. Three had bilateral problem. Five had acute or chronic SLIP and one was an old one. All of them had severe displacement. Mean follow up is 26 months (12 –40). In one case, complete old AVN of the head discovered during surgery that ensued in bad outcome clinically and radiographically. Excluding this case there was no AVN and mean Merle d’Aubigne Scale 16 and radiographically with no complication and complete union and good alignment.

Conclusions: ORIF with ERFD could be a safe and powerful technique in severe SLIP.
Inhibition of osteoclastogenesis and inflammatory bone resorption by targeting BET proteins and epigenetic regulation

Kyung-Hyun Park-Min
Hospital for Special Surgery, USA

Epigenetics is becoming increasingly appreciated as a new area of research that may provide insights into the pathogenesis of inflammatory autoimmune diseases such as rheumatoid arthritis (RA). Epigenetics refers to the control of gene expression by chromatin regulators, modifications of chromatin components such as histones, DNA methylation, or non-coding RNAs. Recent drugs targeting epigenetic processes have shown great promise for the treatment of cancers and inflammatory conditions. Receptor activator of nuclear kappa B ligand (RANKL) is a key inducer of osteoclastogenesis and emerging evidence suggests that RANKL-induced histone modifications are important for osteoclastogenesis. However, these epigenetic mechanisms in osteoclasts are not well understood and have not been therapeutically targeted. Thus, we have investigated the epigenetic regulation of osteoclast differentiation. We find that the small molecule inhibitor, I-BET151 that targets bromo and extra-terminal (BET) proteins that ‘read’ chromatin states by binding to acetylated histones strongly suppresses osteoclastogenesis. Interestingly, I-BET151 attenuates inflammatory arthritis by diminishing both inflammation and bone resorption and protects mice from oestrogen deficiency induced osteoporosis. Through transcriptome analysis, we reveal an important role of a MYC/NFAT axis in osteoclastogenesis. Interestingly, I-BET151 attenuates inflammatory arthritis by diminishing both inflammation and bone resorption and protects mice from oestrogen deficiency induced osteoporosis. Through transcriptome analysis, we reveal an important role of a MYC/NFAT axis in osteoclast differentiation. I-BET151 suppresses osteoclastogenesis by, in part, inhibiting a MYC/NFATc1 axis. These findings implicate the importance of MYC and BET proteins in osteoclast differentiation and demonstrate that targeting an epigenetic molecule in osteoclasts can be effective in suppressing the pathological bone resorption. Taken together, our study opens up a new line of investigation in the understanding and therapeutic targeting of pathological bone resorption.

parkminK@HSS.EDU

Risk of multiple sclerosis during tumour necrosis factor inhibitor treatment for arthritis- A population based study from DANBIO and the Danish Multiple Sclerosis Registry

Lene Dreyer
Gentofte University Hospital, Denmark

Background: Evidence of tumor necrosis factor-α (TNF) as an important factor in the pathogenesis of multiple sclerosis (MS) has emerged. However, attempts of treating MS with TNF-inhibitors (TNFi) have increased disease activity.

Objectives: To investigate whether TNFi treatment in arthritis patients is associated with an increased risk of developing MS and if rheumatoid arthritis (RA) is associated with a decreased risk compared to the general population.

Methods: Data from the national DANBIO Registry and the Danish Multiple Sclerosis Registry was linked. A cohort of 27,875 patients with arthritis (64% RA patients) was followed up for MS. During follow-up 2000-2012, 10,296 patients started TNFi therapy. Standardized Incidence Ratios (SIR) of MS was estimated using standardized incidence rates from the general populations and person-years at risk.

Results: During 113,527 person-years, 12 incident MS cases occurred in the cohort, overall SIR=1.11(95% CI 0.63-1.96). SIR for arthritis patients ever treated with TNFi therapy was 1.38(95% CI 0.69-2.77, N=8) and 0.80(95% CI 0.30-2.12, N=4) in never treated. An increased risk was observed in males treated with TNFi (SIR 3.48 95% CI 1.45-8.37) and in ankylosing spondylitis (AS) patients (SIR 3.91 95% CI 1.47-10.42). The SIR for all RA patients was 0.65(95% CI 0.24-1.72).

Conclusions: We found no overall association between RA and MS. No overall increased rate of MS was seen in TNFi exposed arthritis patients, but TNFi treated AS and male patients had an increased MS risk. However, low statistical power and diagnostic delay of MS should be taken into consideration when interpreting these results.

lene.dreyer@regionh.dk
Management of high-energy bicondylar tibial plateau fractures by minimal internal fixation and the ilizarov frame: The knee function

Mohamed El Sayed
Tanta University, Egypt

Background: Management of comminuted bicondylar tibial plateau fractures remains a challenge to orthopedic surgeons. Studies of long-term outcomes of treatment of the tibial plateau have included a mixture of fracture types, including low-energy split and split-depressed fractures. Thus, the middle- to long-term results of management of high-energy fractures are still lacking. The aim of this study was to evaluate the knee function and development of arthrosis after a minimum of 3 years in high-energy tibial plateau fractures treated by the Ilizarov external fixator.

Methods: This is a retrospective study performed at an academically supervised level III, trauma center, in which percutaneous and/or limited open internal fixation and an ilizarov frame were applied for displaced bicondylar high-energy tibial plateau fractures (Schatzker types V and VI and Orthopedic Trauma Association types C1, C2 and C3). There were 55 patients in this study and they were followed for a minimum of 3 years. Completion of the Iowa knee score and the Short Form-36 (SF-36) General Health Survey was a must.

Results: After healing, none of the studied patients needed a secondary reconstructive procedure. The knee motion ranged between 15° of extension and 155° of flexion, with an average of 88 % of the total arc of the contralateral knee. The average Iowa knee score was 94 points (range, 65 to 100 points), at the final follow-up visit. Twenty-eight patients rated their outcome as excellent; 17, as good and 10, as fair. All the studied patients returned to their previous original works. Thirty-five of them were performing strenuous labor. At the final follow-up visit, there was arthrosis grade 1 in the X-rays of 25 patients, grade 2 in 10, grade 3 in 2 and no evidence of arthrosis was found in 18 X-rays (grade 0). Compared with the radiographic appearance 3 years after surgery, there was no evidence of progression of arthrosis in 42 patients, while arthrosis progressed for one grade in 13 patients. The SF-36 subscale scores were similar to those of age-matched controls.

Conclusion: Patients suffering from high-energy bicondylar tibial plateau fractures could be safely treated by minimal internal fixation and Ilizarov external fixation. This procedure has good prognosis for satisfactory knee function for up to 16 years of follow-up. The intra-articular displacement should be reduced properly and only very minimal displacements are accepted. This leads to a better knee function and low arthrosis rate.

ParkminK@HSS.EDU
Ilizarov external fixation for management of severe relapsed clubfeet in older children

Mohamed El-Sayed  
Tanta University, Egypt

**Background:** Although the standard treatment of clubfoot deformity is conservative by serial casting techniques, relapses are not uncommon. Management of relapsed clubfoot deformity in older children is an orthopedic challenge. There is a growing interest in management of such complex deformities using the Ilizarov technique.

**Methods:** In this study, the Ilizarov frame was used to correct severe relapsed clubfoot deformities in older children, whom underwent previous surgical interventions. 42 relapsed clubfeet were included. The Dimeglio classification was used for clinical assessment of the relapsed feet pre-operatively as well as post-operatively.

**Results:** After an average follow-up period of 4.6 years, and according to the Beatson and Pearson numerical assessment, favorable results (excellent or good) were found in 37 feet, while poor results took place in only five feet.

**Conclusion:** Based on the final clinical and radiographic results, the Ilizarov technique could be considered as a good management alternative for such severe deformities.

mhosney2012@hotmail.com

Fracture and sarcopenia – Dangerous association

Pedro Miguel Marques  
Hospital Garcia de Orta, Portugal

Isolated dislocation of the trapezio-metacarpal (TMC) joint of the thumb is an uncommon hand injury. The lesion is usually the consequence of an axial transmitted force through a partially flexed thumb. Ligaments do not only represent the primary source of joint stability, but also set the limits of motion in conjunction with the passive tension of muscles. Therefore their integrity is essential to maintain the static and dynamic stability between the 1st metacarpal bone and the trapezium. The optimal treatment strategy for the acute thumb CMC joint dislocation remains a subject of debate. Closed reduction and cast, closed or open reduction with transfixion with Kirschner wires and reconstruction of ligament and capsulorrhaphy have been performed so far according to joint stability and surgeon’s preference.

spotmarques@gmail.com
An update on lower limb joint replacement in rheumatoid arthritis

Sameer M Naranje
Helena Regional Medical Center, USA

More than 2/3rd of patients of Rheumatoid arthritis (RA) become disabled 20 years from primary diagnosis. RA is one of the most common indications for lower limb joint replacement in Northern Europe and North America. Though improved medical treatment of RA over last 2 decades have decreased the rate of hip and knee surgery, over a third of patients will need a major joint replacement, of which the majority will receive a total hip or knee replacement (THR and TKR). This paper summarizes an update on the major lower limb arthroplasty surgery for patients with RA. A multidisciplinary approach is needed for preoperative optimization. RA patients may need joint replacement at relatively younger age when compared to the patients with osteoarthritis and may need multiple revision surgeries over their lifespan. Patients should be made aware of this and increased risk of infection and peri-prosthetic fracture rates associated with their disease. Biologic agents should be stopped pre-operatively due the increased infection rate. However, continued use of methotrexate does not increase infection risk, and may in fact be helpful in recovery. The surgical sequence is commonly hip, knee and then ankle. Cemented total hip replacement (THR) and total knee replacement (TKR) have superior survival rates over uncemented components. Achieving ligamentous balance may be challenging in knee replacements in these patients and more constrained implants may be needed in patients with poor ligaments and severe deformities. The evidence is not clear regarding a cruciate sacrificing versus retaining in TKR, but a cruciate sacrificing component limits the risk early instability and potential revision. The results of total ankle replacement remain inferior to THR and TKR though the science of ankle replacement continues to evolve. RA patients achieve equivalent pain relief after joint replacement, but their rehabilitation is slower and their functional outcome may not be optimum due to continued presence or worsening of the disease. Again, the key to managing these complicated patients is to work as part of a multidisciplinary team to optimize their outcome.

sameernaranje@gmail.com

Diagnostic tools and techniques for rheumatic diseases

Sourabh Malviya
Medanta Super-speciality Hospital, India

Autoimmune rheumatic diseases presents in many ways. A good history and detailed clinical examination of patient are extremely important for proper diagnosis of over 100 types of arthritis. Recognition of patterns of joint involvement (topography) as well as those of disease presentation and progression is essential for correct clinical diagnosis. In Rheumatology practice, a working diagnosis can usually be made on proper clinical examination of the patient. Routine laboratory & immunologic laboratory tests as well as imaging modalities, serves critical role in care of patients with rheumatic disease to diagnose, look for disease activity, end organ involvement, prognosis and response to treatment. But scope of misuse of tests is also large for misdiagnosis, inappropriate therapy and unnecessary health care expenditure. Increasing emphasis on primary care medicine leads to greater primary care ordering and analysis of such tests. Aim should be to focus on utility and interpretation of most frequently used tests.

saurabh.malviya@medanta.org
Current trends in the management of spondyloarthritis: It’s not ankylosing anymore!

Subramanian Nallasivan
Velammal Medical College Hospital and Research Institute, India

Ankylosing spondylitis is an inflammatory disease that affects the spine predominantly and also the peripheral joints. It affects more often men than women and three times more common among Caucasians than African Americans. Characteristic symptoms are low back pain with prolonged early morning stiffness that improves with exercise. X-rays, MRI spine and sacroiliac joints and HLA B27 along with CRP and ESR would help in the diagnosis of patients with suspected spondyloarthritits. It is less likely to ankylose nowadays, with newer drugs in the therapeutic armamentarium. It is part of large spectrum of seronegative arthritis and also includes colitis related arthritis, reactive arthritis etc. The development of the Assessment of Spondyloarthritis International Society (ASAS) classification criteria for both axial and peripheral SpA or ESSG criteria or The New York criteria all have been the welcome advancement in early diagnosis. A common treatment regimen for all the spondyloarthropathies (ankylosing spondylitis, reactive arthritis, psoriatic arthritis, and enteropathic arthritis) involves medication, exercise and good posture practices. With the advent of TNF alpha inhibitors, management of spondyloarthritis has been revolutionized. TNF-α inhibitors can induce remission and prevent both clinical and radiological disease progression in AS with significant improvement in patients’ symptoms, function and quality of life and long-term follow-up studies showed durable clinical efficacy. Recent Cochrane review found Researchers looked at trials done up to June 2014 (21 trials with 3308 participants) on the effect of anti-TNF drugs (adalimumab (Humira®), etanercept (Enbrel®), golimumab (Simponi®) and infliximab (Remicade®)) on ankylosing spondylitis. (Maxwell LG et al Cochrane review group). In developing countries, biosimilars have been developed and their efficacy is similar to innovator molecules and the cost of the treatment has reduced to affordable levels. The FDA Arthritis Advisory Committee has recommended the approval of CT-P13 (Remsima), a biosimilar version of the TNF inhibitor infliximab (Remicade), for ankylosing spondylitis, Crohn’s disease and ulcerative colitis. My own patient’s review (last 1 year) showed 8/11 patients responded very well to the biologic drug Adalimumab being marketed as Exemptia as Biosimilar and Enbrel marketed as Intacept (biosimilar). BASDAI and BASFI showed significant improvement and some of the patients as young as 16 yrs old have regained normal life.

nsmani100@yahoo.co.uk

Should we remove the fabella in total knee arthroplasty of osteoarthritis

Weikun Hou
Xi’an Honghui Hospital, China

The fabella is a sesamoid bone in the musculotendinous junction of the lateral head of the gastrocnemius muscle, which is subject to injury and abnormalities. Should we remove or remain the fabella in total knee arthroplasty? Here we compared the impact of fabella removing or remaining on the clinical effects of total knee arthroplasty (TKA) of osteoarthritis (OA). From December, 2013 to March 2015, 200 Kellgren & Lawrence grade OA patients (200 knees) with fabella visible on pre-operation X-ray received TKA, whom were divided into fabella removing or fabella remaining group randomly. The length of surgical time, quantity of post-operation drainage, VAS scores (1 d, 2 d, 3 d, 1 w, 1 m and 3 m post-operation), HSS scores (1 w, 1 m and 3 m post-operation), posterolateral pain and palsy of common peroneal nerve post-operation were compared. The release of lateral structures was compared in the vegus. In cases of genu valgum, the release degree of the knee lateral structure was compared between the two groups. Two hundred patients (200 knees) were followed up from 3 to 6 months with an average 4 months. No significant difference was found in the length of surgical time, quantity of post-operation drainage, VAS and HSS scores between the two groups (P>0.05). The posterolateral pain and palsy of common peroneal nerve post-operation were only happened in fabella remaining group. More knee lateral structure release was needed in fabella remaining group in cases of genu valgum. Removing of fabella does not influence post-operation knee function but reduce the incidence of knee posterolateral complications and be helpful to the balance of soft tissue during operation in genu valgum cases.

setflyhou@gmail.com
Is there a relationship between chronic pain and psychological stress and anxiety related to the upper quadrant in adults? A systematic review and meta-analysis

Victor Doménech-García, Gorka Ortego, Jorge Hugo Villafañe, Pedro Berjano, Lucia Bertozzi, Pablo Bellosta and Pablo Herrero Víctor Doménech García
San Jorge University, Spain

Purpose: Systematically review and synthesis the research evidence linking chronic pain and stress and anxiety related to the upper quadrant in adults.

Subjects & Methods: Data were obtained from Pub-med database from their inception to July 2015. Two authors independently conducted the searches, extracted data and completed methodological quality assessments. Articles were included if they measured the psychological stress or anxiety related to upper quadrant in adults with chronic pain, or explored the association between the two. The methodological quality of the cohort and case–control studies was evaluated using the Newcastle-Ottawa scale, whilst the quality of the RCT was evaluated using Pedro scale.

Results: Twenty-three studies involving 17,809 participants met the inclusion criteria. Four studies, including 5 pair-wise comparisons, were included in the meta-analysis: Three were cohort studies and 1 was cross-sectional study. The meta-analysis outcome was the relationship between chronic pain and psychological stress. The estimate odds ratio for all studies combining was 2.33 (95% CI, 1.04-2.33; p=0.039). A high heterogeneity of findings appeared (Q =28.94, I²= 86% p=0.00). Egger t test was no significant and negative.

Conclusion: This study shows that there is a relationship between stress and chronic pain in the upper quadrant. Despite this, we cannot support that stress is a risk factor for chronic pain due to the low quality of the results according Grading of Recommendations Assessment, Development and Evaluation (GRADE). It was not possible to make a quantitative analysis comparing the relationship between anxiety and chronic pain in the upper quadrant.

An overview of interventional physiatry

Stuart B Kahn
Mount Sinai School of Medicine, USA

Participants of this lecture will learn a basic understanding of the uses of interventional spin pain procedures. The concepts of appropriate utilization for these procedures will be paramount. A review of spine anatomy, Imaging and Pain H&P, as well as pain management diagnostics will be discussed in how these procedures are utilized not only on a therapeutic basis, but to show their important role in diagnosis of spine pain disorders as well. Several case presentations will be intermixed into the lecture as well. References to literature and studies defining efficacy of the treatment value of each type of intervention will also be given.
Retroperitoneal fibrosis: A clinical and outcome analysis of 81 cases and review of literature

Hang Liu
The First Hospital of China Medical University, China

Objective: To investigate the clinical features and outcomes of retroperitoneal fibrosis (RPF).

Methods: 81 RPF treatment cases in the First Affiliated Hospital of China Medical University were retrospectively analyzed, including clinical characteristics and laboratory data.

Results: RPF was found predominantly in elderly men with a typical clinical manifestation of back pain, abdominal pain and lower limb edemas. In laboratory examinations, the acute-phase reactants such as erythrocyte sedimentation rate (ESR) and C-reactive protein (CRP) levels increased significantly. Renal function failure was frequently found in patients with urethral obstruction. All patients had retroperitoneal soft tissue shadows or urethral obstructions on computed tomography or magnetic resonance imaging, 8 of which had histological diagnosis of idiopathic RPF. 46 patients received surgical interventions; 50 patients received medication treatment alone including corticosteroids, immunosuppressants and tamoxifen; 21 patients received corticosteroids after surgical intervention. Surgery followed by medication was most effective for RPF.

Conclusion: Computed tomography and magnetic resonance imaging helps to exclude secondary causes, but biopsy remains the gold standard for diagnosis. Long-term low dose corticosteroids and immunosuppressants may prevent relapse of RPF.

staronlyone@163.com

The effect of patella eversion on clinical outcome measures in simultaneous bilateral total knee arthroplasty, a prospective randomized controlled trial

Pengfei Zan
The Tenth People’s Hospital, China

Background: During total knee arthroplasty (TKA), surgical exposure requires mobilization technique of the patella. With this trial, we intended to investigate the effect of patella eversion on clinical outcome measures in simultaneous bilateral TKA.

Methods: We prospectively enrolled 44 patients (88 knees) from April 2008 to June 2014. One knee was operated with patella eversion (group A) and the other with patella lateral retraction (group B) randomly. Follow-up results, including the operation time, complications, the time of achieving strait leg raise (SLR) and 90° knee flexion, were recorded. The data of range of motion (ROM) and Visual Analogue Scale (VAS) score were collected separately at seven days, three months, six months and one year postoperatively.

Results: The time of achieving SLR was (2.7±0.8) days in Group A and (2.1±0.7) days in Group B, which were significantly different (P=0.032). Significant difference was found on active and passive ROM during the follow-up times between Group A and B, except the passive ROM at 6 month postoperatively. No significant difference was found on operation time, complications, patella baja or tilt, time of achieving 90° knee flexion and VAS score during the follow-up times.

Conclusions: Patellar eversion was adverse to the early knee function recovery after TKA, it would delay the time of achieving SLR, decrease the passive and active ROM. Additionally, more carefully and scientifically designed randomized controlled trials are still required to further prove the claim.

zpf-dragon@163.com
Multiple versus single ultrasound guided suprascapular nerve block in treatment of frozen shoulder in diabetic patients

Mohamed A Mortada, Mahmoud M Ashour, Samah F Abbas, Hanan A Ammar, Nillie Ezzeldin and Nahla A Salama
Zagazig University, Egypt

Background: Suprascapular nerve block (SSNB) is used with increasing frequency by anesthetists and rheumatologists in the management of frozen shoulder.

Objective: To compare between single and multiple (nine) SSNB in the treatment of diabetic frozen shoulder.

Patients & Methods: Type 2 diabetic patients with frozen shoulder divided into 2 equal groups. Patients in group 1 were subjected to single SSNB. Patients in group 2 were subjected to multiple (nine) SSNB 3 times per week. Participants will be assessed clinically and by ultrasound at baseline and after 3 weeks and 4 months.

Results: At assessment points (3 weeks & 4 months), there was a significant improvement of all clinical & ultrasound parameters in both groups in comparison with the base line parameters (p≤0.001). But the improvement in the multiple injection protocol was significantly better than the improvement in the single injection protocol was used.

Conclusion: Course of multiple (nine) injections for suprascapular nerve block gave a better outcome than a single injection for suprascapular nerve block.

Leptin improves the locomotion recovery of spinal cord injury

Maosheng Xia, Booman Li, Shuang Qi, Guangfeng Sun and Li Yang
The First Hospital of China Medical University, China

Spinal cord injury (SCI) causes long-term disability and has no effective clinically treatment. The initial trauma always results in permanent functional impairment and severe disability followed by secondary injury mechanism, which is characterized by increased inflammation, glial scarring and neuronal cell death. Leptin (a glycoprotein) could induce the activation of Janus kinase (JAK2)/signal transducers and activators of transcription-3 (Stat3) pathway via leptin receptor. In vivo, we discovered the intraperitoneal injection of leptin improved the locomotion recovery of spinal cord injury. Then, we researched the neuro-protective and anti-inflammatory role of leptin on the spinal cord neurons and astrocytes. In the cultured neurons, we discovered leptin administration could enhance the expression of caveolin-1, block the composition of P2X7R-Panx1 complex and reduce the damage to neurons induced by ATP or by modeling operation of SCI. Even without injury operation, the pretreatment with leptin could suppress neuronal Ca2+ imaging triggered by ATP in spinal cord of live transgenic mice. In the cultured astrocytes, we discovered that: 1) the chronic administration of leptin could suppress the release of AA and PGE2 stimulated by ATP from the cultured spinal cord astrocytes; 2) leptin could elevate the expression of caveolin-1 through JAK2/Stat3 signaling pathway; 3) the increased caveolin-1 blocked the conjunction between Src and EGFR; 4) our results highlight leptin as a promising therapeutic agent for SCI.
Differential adverse events of TNF blockers versus IL-17 axis blockers in treatment of spondyloarthritis

Marina N Magrey  
Case Western Reserve University, USA

Availability of biologics, particularly tumor necrosis factor alpha (TNF-α) inhibitors, has revolutionized the treatment of spondyloarthritis (SpA). The main side effect associated with TNF-α inhibitors is increased rate of infection. Despite significant concerns about tolerability and adverse events of TNF-α inhibitors in treatment of SpA, they have stood the test of time with acceptable safety outcomes. However, there is a subset of patients with psoriatic arthritis (PsA) and ankylosing spondylitis (AS) who fail to respond to TNF-α inhibitors, lose efficacy over a period of time, or develop serious adverse events, particularly opportunistic infections. Newer therapeutic options have become available for these patients including interleukin-17 (IL-17) axis antagonists. Their safety data is limited to clinical trials only, with no registry data available as yet. There are no large head-to-head comparative trials between TNF-α inhibitors and IL-17 axis inhibitors. Based on data from clinical trials of relatively limited duration, infection rates are quite similar between these two classes of biologics but there are, as yet, no reports of reactivation of opportunistic infections like tuberculosis with IL-17 axis antagonists. However, pre-screening for tuberculosis and prophylaxis in appropriate candidates is still needed. The current available data have shown no other major discrepancies in the adverse events between TNF-α inhibitors and IL-17 axis inhibitors. More data is needed to effectively determine the comparative safety of TNF-α inhibitors versus IL-17 axis antagonists.

mmagrey@metrohealth.org