

10th International Conference on

Orthopedics, Trauma and Rheumatology

March 08-09, 2018 London, UK

Scientific Tracks & Abstracts Day 1



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Overuse injuries in professional ballet: Injury-based differences among ballet disciplines

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Introduction: Despite overuse injuries being previously described as the most frequent in ballet, there are no studies on professional dancers providing the specific clinical diagnoses or type of injury based on the discipline.

Methods: This was a descriptive cross-sectional study performed between January 1, 2005, and October 10, 2010, on injuries occurring in professional dancers from leading Spanish dance companies who practiced disciplines such as classical, neoclassical, contemporary and Spanish ballet. Data, including type of injury, were obtained from specialized medical services at the Trauma Service, FREMAP, Madrid, Spain. Statistical Package for the Social Sciences (SPSS) software (version 17.0) was used to perform the statistical analysis.

Results: A total of 486 injuries were evaluated, a significant number of which were overuse disorders ($P > 0.0001$), especially in the most technically demanding discipline of classical ballet (82.60%). Injuries were more frequent among female dancers (75.90%) and classical ballet (83.60%). A statistically significant prevalence of patellofemoral pain syndrome was found in the classical discipline ($P = 0.007$). Injuries of the adductor muscles of the thigh ($P = 0.001$) and of the low back facet ($P = 0.02$) in the Spanish ballet discipline and lateral snapping hip ($P = 0.02$) in classical and Spanish disciplines were significant.

Conclusion: Overuse injuries were the most frequent injuries among the professional dancers include in this study. The prevalence of injuries was greater for the most technically demanding discipline (classical ballet) as well as for women. Patellofemoral pain syndrome was the most prevalent overuse injury, followed by Achilles tendinopathy, patellar tendinopathy and mechanical low back pain.

Biography

Francisco J Sobrino is a Medical Specialist in Traumatology and Orthopedic Surgery, developing his professional career in the field of sports & dance traumatology, labor traumatology, arthroscopic surgery and musculoskeletal injuries prevention. He has received his Doctorate degree in Medicine and Surgery at the Complutense University of Madrid. He has completed his Masters in Musculoskeletal System Biomechanics and Medical Specialist in Clinical Anatomy, Functional Anatomy of the Knee and Diploma at Musculoskeletal injuries prevention at Complutense University of Madrid and the Spanish National Health Institute. He has published 18 articles in national and international books and scientific journals. He has achieved 4 awards at national and international symposium and congresses. He is also a Member of the Spanish Scientific Society of Traumatology and Orthopedic Surgery, Spanish Society of Sports Traumatology, Spanish Society of Labor Traumatology, Member of the International Dance Council (CID) UNESCO.

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Bone regeneration using rhFGF-2-impregnated gelatin hydrogel for early-stage osteonecrosis of the femoral head

Yutaka Kuroda

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Osteonecrosis of the Femoral Head (ONFH) is a multifactorial disease that can cause femoral head collapse, pain, gait disorders. ONFH is common among young people in their 30s and 40s. In the clinic, although patients are diagnosed, 70-80% of untreated patients experience femoral head collapse and have to undergo total hip arthroplasty. In the past decades, minimally invasive regenerative therapy has been desired for the early stages of ONFH. The purpose of this study was to evaluate the safety and clinical outcomes of rhFGF-2 gelatin hydrogel. Ten ONFH patients up to precollapse stage-2 underwent a single local administration of 800-μg rhFGF-2 gelatin hydrogel and were followed up for one year. Primary outcomes included adverse events and complications. Secondary outcomes included changes in Harris Hip Scores, VAS pain scores, UCLA scores, radiological changes as determined via X-ray, CT, and MRI images. There were 14 adverse events (five patients). Patients completely recovered from all adverse events without problem. The surgery was performed with a minimally invasive technique (1 cm of skin incision), and walking was allowed from the day after surgery. Mean clinical scores improved significantly after four years compared with before surgery. There was only one case of femoral head collapse, and it had the greatest necrosis volume fraction and was considered to be in the early collapse stage at the time of operation. The other nine cases did not involve ONFH stage progression, and collapse was prevented. CT and MRI images confirmed bone regeneration in the ONFH. Clinical application of rhFGF-2 gelatin hydrogel for precollapse stage of ONFH was feasible and safe. Our research is ongoing; further phase II multiple center study has been started in January 2016.

Biography

Yutaka Kuroda is currently working as an Assistant Professor of Department of Orthopedic Surgery, Kyoto University. In 1994, he has received the BE. degree in Economics from Keio University, Medical Doctor License at St. Marianna University School of Medicine in 1999 and Medicine Doctor's degree (PhD) at Graduate School of Medicine, Kyoto University in 2011. His researches focus on the bone regeneration using growth factor and osteonecrosis of the femoral head. He is also a Member of the Japanese Investigation Committee of Health and Welfare on the establishment of guidelines for osteonecrosis of the femoral head.

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Young Scientist Forum Day 1



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Operative treatment for Edinburgh types 2B and 3B clavicle fractures

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Introduction & Aim: Clavicle fractures are a very common orthopedic injury, especially in the younger and more active age groups, with a higher proportion of affected individuals being male. Fractures of the clavicle can be managed either operatively or non-operatively, with plating being the mainstay of operative treatment. The purpose of this study was to analyze the outcome of surgical fixation of Edinburgh Type 2B and 3B clavicle fractures and ascertain whether operative treatment is indeed beneficial for these types of injuries.

Method: The IT department at Salisbury District Hospital provided a list of patients admitted with clavicle fractures between April 2007 and December 2012. Data was then collected from patient notes, looking at the outcomes of Edinburgh Types 2B and 3B clavicle fractures that were operated on between these dates.

Results: There were a total of 66 clavicle fractures classified either Edinburgh Type 2B or 3B fractures that were operatively treated between the dates above. These patients were followed up with a mean follow-up time of 4 months. 59 (89.3%) of these fractures united uneventfully, 11 (16.7%) of which needed removal of metalwork. 4 (6.1%) of these patients healed with delayed union. 1 (1.5%) patient experienced asymptomatic non-union of the fracture and 2 patients needed revision fixation surgery. A total of 2 (3.0%) patients experienced a wound infection and a further 2 were found to have a transient sensory loss on follow-up (eventually resolving).

Conclusion: We recommend operative treatment by fracture fixation for patients that experience Edinburgh Types 2B and 3B clavicle fractures. Operative treatment for these injuries is safe, has a low complication rate, quicker return to normal activities and benefits from excellent functional and cosmetic results.

Biography

Warran Wignadasan graduated from King's College London with a Bachelor's in Medicine and Surgery and a Bachelor's in Anatomy and Human Sciences. He has worked around the United Kingdom, completing his foundation training in Leicester and is currently doing his surgical training in the Wessex deanery. He has completed his MRCS exams and looks forward to a career in Trauma and Orthopaedic surgery.

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Bryonia alba L., a new approach to rheumatic diseases

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Bryonia alba L. (Cucurbitaceae) has been used to treat rheumatic pain in Turkish folk medicine. According to phytochemical investigations, it has been found to have cucurbitacins and some flavone C-glycosides. Antioxidant, anti-inflammatory and anti-nociceptive activities of *B. alba* were investigated in this study. n-hexane, ethyl acetate and methanol extracts were prepared from *B. alba* roots, successively. For the evaluation of anti-inflammatory, anti-nociceptive activities of these extracts, carrageenan-induced hind paw edema, acetic acid-induced increased vascular permeability, p-benzoquinone induced writhing, tail flick tests were performed. DPPH, ABTS, non-site-specific hydroxyl radical scavenging activity and FRAP assays were used for the assessment of antioxidant activity for the extracts. According to the results, the ethyl acetate extract showed the potent anti-inflammatory activity on both anti-inflammatory mice models and also the same extract displayed statistically significant activity on p-benzoquinone induced writhing model. Furthermore, total phenolic and total flavonoid content assays were conducted on ethyl extract of *B. alba* roots which have the highest anti-inflammatory and anti-nociceptive activity among tested extracts. As a result, ethyl acetate extract of *B. alba* roots could be used for the treatment of inflammatory diseases.

Biography

Mert Ilhan has received his BS degree from Faculty of Pharmacy, Ankara University, Turkey and pursuing his PhD studies in the Department of Pharmacognosy, Faculty of Pharmacy, Gazi University with Professor Esra Akkol. He has 13 published articles in SCI indexed journals and 1 chapter in international book.

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Functional evaluation of pre-contoured medial malleolus locking plate in malleolar fractures

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There are multiple modalities described in literature to fix medial malleolus but no clear guidelines are there for choosing the type of implant in various fracture patterns. Hence we hypothesized the use of low profile pre-contoured locking plate for all types of fracture patterns for better fixation, reduction, early mobilization and weight bearing. A prospective longitudinal study on 30 patients followed up for 6 months to study functional and clinical outcomes of medial malleolus plating in treatment of malleolar fractures by using FADI and AOFAS scores for 2 years at Central Institute of Orthopedics, Safdarjung Hospital, New Delhi. Isolated medial malleolar, bimalleolar and trimalleolar fractures were included in patients of age >18 years. Mean age at injury is 34 years with male predominance in younger population with equal distribution of males and females in >50 years age group. SER was found to be most common pattern. At the end of 6 months, mean VAS score was found to be 0.43, mean FADI score was 103.23 whereas mean AOFAS score was 92. Mean dorsiflexion was 20 degrees and mean Plantar flexion was 49.66 degrees. 1 patient (3.33%) developed superficial infection, 2 patients (6.67%) developed mild terminal restriction of movement. No patient developed deep infection and required implant removal for same. All patients showed union at the end of 6 months. It is concluded that it is an excellent technique as 90% patients showed excellent results in our study.

Biography

Rahul Grover is currently a final year Orthopaedic Surgery Resident at Central Institute of Orthopaedics, Safdarjung Hospital, New Delhi. He has completed his graduation from prestigious Vardhman Mahavir Medical College and Safdarjung Hospital, New Delhi in 2014. He has joined MS Orthopaedics in 2015. He has a keen interest in orthopedic trauma, spine surgery and arthroplasty. He has four publications in indexed journals till date and has authored a book in orthopaedics and is working on some upcoming titles. He has patented an orthopaedic implant.

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The struggle with rheumatism through *Dracunculus vulgaris* Schott: In the light of ethnobotanical information

Fatma Tugce Guragac, Mert Ilhan and Esra Küpeli Akkol
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Rheumatism is a systemic inflammatory disease which related with a number of painful conditions of joints, tendons, ligaments, bones and muscles. People all over the world suffer from the pain and disability caused by this disease. There is no panacea for rheumatism, that's why it is included in the group of chronic incurable diseases. The purpose of the current treatment is controlling the pain and reducing the inflammation. Several potential drugs such as non-steroidal anti-inflammatory drugs, corticosteroids, disease modifying anti-rheumatic drugs, methotrexate and cyclosporine are being tested but none of them has been found safe; all are known to cause certain side-effects. Traditional medicines are large scale sources for the discovery of original drugs. *Dracunculus vulgaris* Schott (Araceae) is used in traditional Turkish medicine against rheumatic pain. This study was designed to evaluate this folkloric usage of *D. vulgaris*. Petroleum ether, ethyl acetate and methanol extracts were prepared from the roots of this plant, successively. Carrageenan, prostaglandin E2 and serotonin-induced hind-paw edema, acetic acid-induced capillary permeability and 12-O-tetradecanoyl-phorbol-13-acetate (TPA)-induced mouse ear edema models were used to appraise anti-inflammatory activity of the extracts. Anti-nociceptive activity was tested using a p-benzoquinone induced abdominal constriction test. According to our results, petroleum ether extract showed the highest activity when compared to ethyl acetate and methanol extracts in test models. In further studies, it has been planned to perform phytochemical studies on petroleum ether extract of this plant to reveal active constituents.

Biography

Fatma Tugce Guragac has received her BS degree from Faculty of Pharmacy, Gazi University, Turkey and pursuing her PhD studies with Professor Esra Akkol in the Department of Pharmacognosy, Faculty of Pharmacy, Gazi University. Her research combines pharmacognosy and pharmacological approaches to focus on antidepressant, anti-inflammatory, antinociceptive and wound healing activities of different compounds isolated from plants used in folk medicine.

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Acute calcific tendonitis at the pectoralis major attachment: A benign cause of red flag signs

Christian Gray Stephens
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Introduction & Aim: Acute calcific tendonitis at the pectoralis major insertion is rarely reported in the radiology literature, but not in the orthopedic literature. We present a case that illustrates the typical findings with discussion from a shoulder surgeon and a senior radiologist.

Case Study: A 60-year-old woman was woken at night with sudden onset left shoulder and arm pain. She was otherwise systemically well. Her shoulder range of motion was globally restricted. Past medical history included previous spinal surgery and a hepatitis A infection within the last year.

Investigation: Plain radiographs of the shoulder and humerus were unremarkable save for a small anterior proximal humeral protuberance at the junction of proximal third and distal two-thirds of the humeral shaft. Blood tests were unremarkable. CT and MRI imaging showed a calcific tendon with associated cortical defect and surrounding inflammation. Because of the sinister red flag symptoms (night pain) and suggestion of cortical erosion with periosteal reaction, the differential diagnosis list included sarcoma. For this reason, it was referred to the local sarcoma service.

Result: This was reviewed by a Senior Radiologist. The diagnosis of calcific tendonitis of pectoralis major calcific tendonitis was made. The decision was made by the sarcoma MDT to not biopsy the lesion but instead review clinically with interval scan and safety netting. On 6-weekly follow up the patient's symptoms had improved. Because of the knowledge regarding this potential diagnosis, unnecessary invasive diagnostic procedures (CT biopsy) or surgeries were avoided.

Conclusion: Both orthopedic surgeons within sarcoma services and wider members of the multidisciplinary team should be aware of this diagnosis. This would help to prevent over investigation of benign self-limiting pathologies.

Biography

Christian Gray Stephens, MB BCHir, MA (hons) (Cantab) is a Research Fellow at Royal National Orthopaedic Hospital, Stanmore. He attended Medical school at Cambridge University. He took his foundation training in Cambridge shire before undertaking a research fellowship in RNOH, Stanmore. He is interested in Trauma & Orthopaedics, sarcoma and joint reconstruction.

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The spectrum of musculoskeletal trauma and fractures

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Musculoskeletal trauma encompasses a wide range of pathologies that make up a significant proportion of the emergency department's workload. These range from minor soft tissue injuries in the minor injuries unit to poly-trauma in the resuscitation bays and a significant amount of resources are utilized in dealing with these injuries effectively. How these injuries are managed immediately will significantly affect the patient's outcome. It is important that our practice remains evidence-based to ensure these injuries are managed optimally and do not lead to complications in management or unwanted legal repercussions. In this session we will look at musculoskeletal trauma presenting to the emergency department and discuss its management in the light of the most recent evidence. We will consider a range of injuries from minor soft tissue injuries to poly-trauma and periprosthetic injuries.

Biography

Wasim Khan is a University Lecturer and Honorary Consultant Trauma and Orthopedic Surgeon. He is based at the University of Cambridge and Addenbrooke's Hospital that is a level 1 Trauma Centre. He has completed an Orthopedic Academic Higher Clinical Training program in London where he was a Lecturer from 2010-14. He has completed national and international clinical and research fellowships. He has over 15 years of experience in the diagnosis and management of soft tissue, fractures and musculoskeletal injuries. His current clinical practice routinely involves management of upper and lower limb trauma. He has a special interest in lower limb and knee trauma with his elective interests being knee surgery, including arthroscopic surgery, joint replacements and revision arthroplasty. He has a special interest in tissue regeneration and aims to explore better ways of treating chondral lesions. He has authored over 250 papers, 50 chapters and 5 books.

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Open fracture, evaluation, management prospective and retrospective for 500 case of gunshot and explosive injuries in Libyan civilian war from 2011–2018

Abdulwanis S Mohammed

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Open fractures are complex injury that involve both, the bone and surrounding tissues. Management goals are prevention of infection, union of fracture and restoration of function. Achievement of these goals requires a careful approach based on detailed assessment of the patient and injury. The classification of open fracture is based on type of fracture, associated soft tissue injury and bacterial contamination present, tetanus prophylaxis and intravenous antibiotics administration is a useful adjunct. The open fracture wound should be thoroughly irrigated and debrided, although the optimal method of irrigation remains uncertain. Controversy also exists regarding the optimal timing and technique of wound closure. Extensive soft-tissue damage may necessitate the use of local or free muscle flap. Techniques of fracture stabilization depend on the anatomic location of the fracture and characteristics of injury.

Biography

Abdulwanis S Mohammed is currently working at Benghazi University, Jallah Trauma Hospital, Libya.

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How to manage persistent draining wounds after total joint arthroplasty

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Introduction & Aim: Persistent wound drainage has been recognized as one of the major risk factors of Peri-prosthetic Joint Infection (PJI). Currently, there is no consensus on the management protocol for patients who develop wound drainage after Total Joint Arthroplasty (TJA). The objective of our study was to describe a multimodal protocol for managing draining wounds after TJA and assess the outcomes.

Methods: We conducted a retrospective study of 4,873 primary TJAs performed between 2008 and 2015. Using an institutional database, patients with persistent wound drainage (>48 hours) were identified. A review of the medical records was then performed to confirm persistent drainage. Draining wounds were first managed by instituting local wound care measures. In patients that drainage persisted over 7 days, a superficial irrigation and debridement (I and D) was performed if the fascia was intact and if the fascia was not intact modular parts were exchanged. TJAs that underwent subsequent I&D, revision surgery, or developed PJI within one year were identified.

Results: The overall rate of persistent wound drainage was 6.2% (302/4,873). 65% (196/302) of patients with draining wounds did not require any surgical procedures. Of the patients with persistent drainage, 9.8% underwent I and D and 25.1% underwent revision arthroplasty. Moreover, 15.9% of these patients developed PJI within one year. Compared to those without wound drainage, TJAs complicated by wound drainage demonstrated an odds ratio of 16.9 (95% CI: 9.1-31.6) for developing PJI and 18.0 (95% CI: 11.3-28.7) for undergoing subsequent surgery.

Conclusion: Wound drainage after TJA is a major risk factor for subsequent PJI and therefore, proper management of these patients has paramount importance. Our results demonstrated that drainage ceased spontaneously in 65% of the patients with local wound care measures alone. Wounds with persistent drainage were at substantially higher risk for PJI than those that healed uneventfully.

Biography

Ali Oliashirazi is a Professor and Chair of the Department of Orthopedic Surgery at Joan C. Edwards School of Medicine at Marshall University. He is also the Vice Dean for Business Development and External Affairs at the School of Medicine. He has completed his Orthopedic Training at the prestigious Mayo Clinic in Rochester, Minnesota. He has passion and expertise in joint replacement surgery, in particular knee replacement surgeries. He lectures extensively, and his research has been presented both nationally and internationally. He is a board certified Orthopedic Surgeon, a Fellow of the American Academy of Orthopedic Surgery and a Member of the American Association of Hip and Knee Surgeons.

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Correlation of serum vitamin D levels with disease activity in ankylosing spondylitis

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Purpose: The purpose of this study was to assess the correlation of serum vitamin D levels with disease activity in ankylosing spondylitis patients.

Method: It was a hospital based cross-sectional study. 50 patients of ankylosing spondylitis and 50 apparently healthy controls were enrolled in study from October 2015 to May 2017. Bath AS Disease Activity Index (BASDAI), Erythrocyte Sedimentation Rate (ESR), C reactive protein, Ankylosing Spondylitis Disease Activity Score (ASDAS), serum 25-hydroxyvitamin D (25OHvitD) were assessed in ankylosing spondylitis patients. Categorical variables were presented in number and percentage and continuous variables were presented as mean±SD. Pearson's and Spearman's correlation coefficient were used to analyze relationship between vitamin D and disease activity.

Result: The patient population studied, had an average age of 31.23±6.34 (mean±SD) years (range 18-45 years). In our study, in group-1 (cases): 37 (74%) cases had Serum 25-OH vitamin D levels<30 nmol/L i.e. vitamin D deficiency. Mean serum levels were 23.04 nmol/L±14.9. In group-2 (controls): 11 (22%) controls had vitamin D deficiency. Mean serum levels were 48.6 nmol/L±24.69. Within group-1, patients with inactive disease (ASDAS<1.3) had vitamin D level were 46.8 nmol/L and moderately active disease (ASDAS 1.3-2.0) had vitamin D level of 25.98 ±8.86 nmol/L, high activity group (ASDAS 2.1-3.5) had 18.21±12.03 and very high activity group (ASDAS>3.5) had 11.18±4.3 nmol/L. Serum 25 OH vitamin D levels showed moderate inverse linear relationship with ASDAS (coefficient of correlation=-0.642) in our study.

Conclusion: Serum vitamin D levels were low in patients of AS compared to normal healthy controls and disease activity of AS inversely correlates with level of serum vitamin D levels.

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