

Atraumatic Multiple Osteoporotic Vertebral Fractures in an Adolescent with Suprasellar Germinoma

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ABSTRACT

Suprasellar germinoma is an intracranial neoplasm, and has variable clinical presentation, apart from its rarity. Despite appropriate treatment and good outcomes, tumour related morbidity is still a concern for patients with this affliction. This report presents a case of suprasellar germinoma complicated by panhypopituitarism in an 18 year old boy. Despite being treated with hormonal replacement therapy, he presented to us with a complaint of back pain of a 6-month duration. He was diagnosed with secondary osteoporosis with multiple vertebral fractures. This case report, in addition to a review of the literature, shows that the pathogenesis of osteoporosis is multifactorial. Clinicians need to be aware of the clinical symptoms and complications of suprasellar germinoma with panhypopituitarism. Hormonal replacement alone is insufficient to prevent osteoporosis. In this case, combination therapy was initiated and evaluation had shown improvement in the patient's condition.

Cervical Facet Dislocation Treated via Anterior Approach

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ABSTRACT

Background: Cervical uniface and bifacet dislocations are generally a posterior pathology. Some surgeons prefer using a posterior approach as it is a more direct route for reduction and stabilization. However, associated anterior injury, namely, intervertebral disc tear, which may be a threat to the spinal cord, is a possibility. This is the reason why some other surgeons prefer the anterior approach. We would like to present our experience with the anterior approach. **Objective:** The purpose of the study is to study postoperative residual vertebral body translation after anterior cervical discectomy and fusion. **Method:** Between January 2008 till December 2010 we had 22 cases of cervical facet dislocation. We excluded those cases having less than a 6 month follow up and those with poor visualization of the affected level on lateral cervical spine radiographs. Sixteen cases were then selected for analysis. Thirteen were males and 3 were females. All cases had been treated surgically with anterior reduction and cervical plate fixation (anterior cervical discectomy and fusion). **Results:** The ratio between uniface and bifacet dislocation was 1:1. Seven cases involved C6C7, 6 cases were at C4C5 and 3 cases at C5C6. Seventy-five per cent of cases with bifacet dislocation had associated neurological deficits as compared to 37.5% of uniface dislocations cases. Three cases were delayed in diagnosis due to improper initial assessment. At the latest follow up, 14 cases had less than 2 mm vertebral body translation and 2 cases had 2 mm residual translation (both were bifacet injuries). None had deterioration of neurological deficit. **Conclusion:** Anterior surgical approach to reduce cervical facet dislocation is an acceptable option with minimum postoperative residual vertebral body translation especially for uniface injuries.

Dystrophic Spine Kyphoscoliosis in Neurofibromatosis Type 1 Treated with Posterior Instrumentation and Avascular Fibular Strut Graft

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ABSTRACT

A fifteen-year-old girl presented at the orthopaedic clinic of our centre in 2005. She had a right thoracolumbar scoliosis involving mainly L1-3 levels with a peak at the L1 level. There is wedging of right lateral vertebra of L1 and L2. Cobbs angle measured 56 degrees. Her only complaint was mild back discomfort. She had multiple cafe-au-lait spots and neurofibromas on the right upper eyelid. A diagnosis of NF with spinal involvement was made. MRI showed left lateral meningocele seen at the L3 and L4 levels. The cord is situated at the right side of the spinal canal. No intraspinal lesion was seen. The spinal canal is enlarged with posterior scalloping seen mainly at the L1-3 levels. Scoliosis correction and posterior stabilization surgery was performed in November 2005. Two years after the operation, patient presented with implant failure with broken rods secondary to pseudoarthrosis. Repeat surgery was performed in April 2008 when the rods were exchanged, and a fibular strut graft was performed with an anterior approach. Good bony fusion was achieved. At 3 years post op, the patient was able to ambulate well without pain. This case illustrates the potential of pseudoarthrosis and implant failure in stabilization through posterior approach alone in dystrophic scoliosis of an NF patient. Avascular fibular strut graft is a good option and proven to provide good bony fusion. While some literature suggest both anterior and posterior procedures to be undertaken, posterior instrumentation and fibular graft without anterior stabilization showed good results in this case.

A Rare Presentation of Subacute Ipsilateral Neuropathic Arthropathy Involving Multiple Joints due to Syringomyelia and Type-1 Arnold-Chiari Malformation

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ABSTRACT

Neuropathic arthropathy (NA) is a chronic condition that ultimately leads to joint destruction as a result of loss of joint sensation. This condition is usually secondary to an underlying cause such as tabes dorsalis, diabetes mellitus and peripheral nerve disease. Syringomyelia can also result in NA involving a number of joints which commonly includes the shoulder, elbow, knee and ankle. This condition rarely involves the wrist or more than one joint. The disease is said to have a slow progression. In this article, we report a case of NA secondary to syringomyelia that was presented to us subacutely with symptoms described similar to the symptoms of carpal tunnel syndrome. Upon further investigation, it was found that there was multiple joint destruction including the wrist, which in turn resulted in compromise of the carpal tunnel space, thus causing median nerve compressive neuropathy.

A Case Report: Post Trauma Epidural Abscess of the Spine

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ABSTRACT

Epidural abscess of the spine is a rare condition which is difficult to diagnose. Trauma contributes 10% of causes and patients normally would have other predisposing factors such as immunodeficiency, diabetes mellitus and other foci of infection. This case highlights the diagnostic challenge and sequelae of epidural abscess. J, a 16 year old boy with no known medical illness presented at a second visit with complaints of dyspnoea, progressive weakness of lower and upper limbs, difficulty in micturition and loss of bowel sensation with intermittent fever after being kicked two weeks earlier in the lumbar region as a joke by his friends. Magnetic resonance imaging (MRI) of the whole spine revealed collection within paravertebral muscles at L2 and L3 levels extending into epidural space which extended up to C5 level. Emergency decompressive laminectomy, evacuation and debridement at L2 and L3 was performed and 100ml of frank pus was drained. Pus, tissue and blood cultures & sensitivities grew staphylococcus aureus with sensitivity to oxacillin and gentamicin. Histopathology sample returned a result compatible with abscess wall. He was commenced on IV cloxacillin 2g qid for 6 weeks. Preoperative neurological level was at C4 with sensory level at C7 and motor level at C4 (power grade 2 at C5). After one month postoperation, his neurological level had improved to C6 with sensory level at C7 and motor level at C6 (power grade 5 right C7 and power grade 3 left C7). Posterior epidural space in the spinal canal is a common route for extension of fluids. Epidural abscess should be included as differential diagnoses of acute back pain especially if erythrocyte sedimentation rate (ESR) and C-reactive protein (CRP) are high and occur in patients with predisposing factors. MRI is the mainstay diagnostic tool.

Epidemiological Studies of Spinal Infection Cases in Hospital Sultanah Bahiyah

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ABSTRACT

Background: Spinal infection is an inflammatory process around the vertebral body, extending to the epidural space, posterior elements and paravertebral soft tissues. Spinal infection occurs in 2% to 4% of bone infections and can be pyogenic (bacterial), granulomatous (tuberculous or fungal), or parasitic. The objective of this study was to analyse the presentation, aetiology and outcomes of spinal infection. **Method:** This is a retrospective study conducted from January 2011 to December 2011 at the Orthopaedic Department of Hospital Sultanah Bahiyah, Alor Setar, Kedah. A retrospective review was conducted of 27 patients who presented to us in 2011 who had been diagnosed with spinal infection. The information collected included age, gender, presentation, bacteriology and outcomes of management. All patients had undergone surgical intervention and antibiotic therapy. **Result:** The mean age was 57 years old. Fifteen were male and 12 were female. Twenty-one patients presented with back pain, 18 with limb weakness and only 3 had fever. Twenty-four patients had some pre-existing medical illness such as diabetes mellitus and a history of pulmonary tuberculosis. Specimens taken in our hospital showed growth of bacteria in 12 cases. The most common was staphylococcus aureus, followed by staphylococcus coagulase, multi-resistant staphylococcus aureus and the pseudomonas species. Only one specimen grew mycobacterium tuberculosis species. **Conclusion:** Spinal infection can be diagnosed by clinical examination and radiological imaging. Staphylococcus aureus is the most common species causing infections. A combination of surgical intervention and antibiotics helps to improve the condition of patients.

Cage Migration in Degenerative Lumbar Disease Treated with Transforaminal Lumbar Interbody Fusion: A Case Report

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ABSTRACT

Objective: Transforaminal lumbar interbody fusion (TLIF) is a commonly used procedure in treating degenerative lumbar spine disease. Fusion rates after the TLIF procedure using cages and bilateral pedicle screw instrumentation are reported to be 90% to 100%. However, there are few reports describing cage migration after the procedure. This study aims to review a case of posterior migration of fusion cage and report the ensuing clinical course. **Method:** Patient was diagnosed with degenerative lumbar scoliosis treated with TLIF L2/L3, L3/L4 and L4/L5. Posterior migration of the fusion cage at L4/L5 levels occurred 4 months after surgery. **Results:** This patient required revision surgery because the migrated cage caused nerve root irritation giving rise to symptoms of left sided lower back pain and left sciatica. The migrated cage was removed and cancellous allograft was impacted into disc space to achieve stability. Both the L5 pedicle screws were changed due to loosening and reinserted with larger diameter screws with cement augmentation. **Conclusion:** Revision surgery after TLIF is not needed if the migrated cage causes no damage to the neural tissues. Revision surgery after TLIF seems to be relatively safe because the migrated cage tends to be located more laterally. However early or late recurrence of symptoms post surgery should increase our awareness of the possibility of cage migration. Care must be taken during cage insertion in order to decrease the possibility of cage migration.

School Scoliosis Screening Program: A Report of the First Year Experience in Perak

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ABSTRACT

Background: In 2010, we started a pilot project called the School Scoliosis Screening Programme (SSSP) in a few schools in the Kinta District. Following this, in 2011, we established a well-trained school team to embark on a full screening programme for the whole Kinta District. We report our experience in 2011. **Methodology:** Our screened population were Standard 6 schoolchildren (boys and girls). They were assessed using a few selected screening tools. Those with positive screenings were referred to the Scoliosis Clinic of the Hospital Raja Permaisuri Bainun, Ipoh. We also compared our hospital scoliosis registry in 2010 and 2011 to look for the potential impact of SSSP. **Results:** A total of 2326 pupils were screened. Fourteen (0.6%) cases were referred. Of these, 4 children were confirmed with scoliosis based on spinal radiograph findings; Cobb's angle greater than 10 degrees. This gave a predictive value of 28.6%. Among the screening tools used, Adam Forward Bending Test detected the most number of positive screenings (9 cases) followed by abnormal spine alignment (3 cases) and shoulder and pelvis asymmetry (2 cases). There were 39 new scoliosis cases for the year 2010 and 37 for 2011. In 2010, the cases presented of the 10 to 15 years of age group were 12 (30.8%) and those presented who were over 15 years old comprise 21 cases (53.8%). In 2011, 23 cases (62.2%) presented between the ages 10 to 15 as compared to 12 cases (32.4%) presented of those over 15. **Conclusion:** Our prevalence for positive screening was 0.6% with a predictive value of 28.6%. The Adam Forward Bending Test was the most sensitive among the tests. The total number of new scoliosis cases had not increased after the screening programme but cases detected at the earlier age group had increased.

Patient Awareness of Osteoporosis and its Management in Central Taiwan

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ABSTRACT

Osteoporosis is a major health problem among the Taiwanese population aged 65 years or older. This cross sectional study is designed to identify factors leading to the diagnosis of osteoporosis in this population. **Method:** Patients attending the general orthopaedic clinic of Show Chwan Memorial Hospital, (Central Taiwan) who have been diagnosed with osteoporosis based on the BMD measurement (T score: below-2.5) were invited to participate in the survey. Data was collected by means of patient interviews based on a set of questions. Data collected was subsequently analysed using the Statistical Package for Social Sciences (SPSS) 17.0. **Result:** A total of 62 patients with osteoporosis participated in the study. The mean age of subjects was 76.02 years, ranging from 57 to 91 years, and the mean BMI was 22.84. About half of them (56.5%) presented with lower back pain, 17.8% with fractures (8.1% hip fracture, 3.2% fracture of the proximal femur, 6.5% fracture of other sites), 12.9% following falls, 3.2% with loss of height and another 3.2% with difficulties in walking. Only 17.7% of the subjects had been screened for osteoporosis before they presented with the symptoms. For the current treatment, 40.3% of the subjects were prescribed alendronate, 41.9% zolendronate, 16.1% teriparatide and 1.6% micalcalcic. Based on the Morisky and Green compliance evaluation test, only 50.0 % of patients were found to be compliant with the treatment given. **Conclusion:** For the central region of Taiwan, the most important factor leading to the diagnosis of osteoporosis is low back pain and fragility fractures. Screening for osteoporosis is still not common, and only 50% were compliant with the medication given.

P011

Assessment of the Level of Understanding of the Disease and Management of Osteoporosis among Nurses at University Malaya Medical Centre

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ABSTRACT

Background: Osteoporosis is a disease of bones that leads to an increased risk of fracture. In osteoporosis, the bone mineral density (BMD) is reduced; bone microarchitecture deteriorates, and the amount and variety of proteins in bone is altered. Osteoporosis is defined by the World Health Organization (WHO) as a bone mineral density that is 2.5 standard deviations or more below the mean peak bone mass (average of young, healthy adults of the population) as measured by bone scans. In this study, we evaluated the understanding of this prevalent disease among the support staff at our hospital. **Method:** A simple questionnaire was administered to staff nurses of the Obstetrics and Gynaecology ward, General Medical ward, General Surgical ward and the Orthopaedic ward. The questionnaire contained 3 segments. One concerned demographic data of the disease, the second, the pathology of the disease and the third, treatment and prevention options. The questionnaire was validated by the ward manager and the clinical specialist in charge at the respective wards. Data collection was carried out over a period of three weeks from 5 February 2011 to 28 February 2011. **Results:** There were a total of 198 participants. Evaluation was carried out based on years of experience of the staff, their age, their professional speciality, experience working with osteoporosis patients, exposure to training / courses regarding osteoporosis and their basic interest in learning up on this disease. **Conclusion:** The study showed that majority of participants did not fully understand the pathology of osteoporosis and the treatment options. Those who have attended courses and workshops on this topic and those who are exposed to such patients (nurses from the orthopaedics and medical wards) fared better. As such, we conclude that further exposure in terms of patient care and provision of medical courses would in the long term improve the knowledge of the support staff concerning the disease and enhance the treatment provided by this centre.

Acute Surgical Wound Infection Following Spinal Instrumentation

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ABSTRACT

Introduction: Surgical site infection is a serious postoperative complication. Age, uncontrolled diabetes mellitus and smoking are among potential risk factors. Preoperative identification of these risk factors is essential in planning strategies to prevent potentially devastating complications. **Objective:** The study aims to determine infection rate and risk factors in instrumented spinal surgery. **Methodology:** In this retrospective cohort study, we collected the list of patients who underwent instrumented spinal surgery at a state hospital from 1 January 2011 till 31 December 2011. Patients' medical records were traced and analysed. Cases reporting surgical wound infections within 3 months following surgery were identified. Potential risk factors such as age, smoking, hemoglobin level (preop and postop), diabetes mellitus and operative time were studied. Patients with follow ups of less than 3 months and those with untraceable medical records were excluded. The final sample of the study was 99 cases. **Result:** A total of 148 instrumented spine surgeries were performed in 2011. The overall infection rate for instrumented spinal surgery was 10.1% (10 out of 99 cases). All were successfully treated with early surgical debridement and antibiotics. None required removal of implant. We found that the postoperative infection rate was significantly higher in patients with low postoperative hemoglobin level (10.5g/dl; p value: 0.07). Diabetic patients had a higher risk of infection (with 20% infected cases in the diabetic group as compared to 7.8% in non-diabetics). However, this difference is not statistically significant. Other risk factors studied showed no significant difference. **Conclusion:** In this study, the infection rate in instrumented spine surgery was relatively high at 10.1%. Postoperative anemia was a risk factor in acute surgical wound infections following spinal instrumentation.

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Vacuum Assisted Dressing Using Gamgee

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ABSTRACT

Introduction: Managing difficult wounds is a dilemma among clinicians. The cost of treatment is compounded by prolonged hospitalization, antibiotic installation, frequent dressings and loss of man-hours. The usage of vacuum assisted dressing (VAC) is an option in the management of wound right from acute to chronic settings. However, due to the high cost involved in the procurement of the disposable materials, it is not readily available to general patients. As an alternative cost effective manoeuvre, sterilized gamgee was used in this VAC dressing and outcome efficacy was measured. **Materials And Method:** Wound was cleaned and a layer of urgatol was applied to the raw wound to prevent adhesion to the gamgee. Two layer of gamgee was applied and trimmed accordingly to the edges of the wound. Ryles tube with additional pores created was interposed between the gamgee. Opsite of an appropriate size enclosed the VAC apparatus and the wound. Ryles tube was connected to suction device creating a sub atm pressure of 200kpa. **Results:** The average duration of vacuum therapy in the treatment of the 8 patients with infected wounds was 16.7 days with an average of 3.1 dressing changes. This comprises wounds from diabetic foot ulcers (3), necrotizing fasciitis (2), chronic OM (2) and infected surgical wound (1). 4 wounds (50%) healed by spontaneous epithelialisation, 2 wounds (25%) required secondary suturing and 1 wound (12.5%) required skin grafting. Reinfection occurred in one patient (12.5%) and was managed using another antibiotic bead dressing. **Discussion:** The outcome from usage of gamgee in VAC dressing was effective. It promoted wound healing with good amount of granulation tissue. **Conclusion:** Sterile gamgee is a good alternative to sponge dressing due to the high cost involved and the unavailability of ethylene oxide sterilization technique in district hospitals.

Exercise induced Semitendinosus contracture: Getting a good workout is more than if you still fit your size six jeans

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ABSTRACT

Introduction: A muscle contracture is permanent shortening of muscle. This occurs essentially when muscles or tendons that have remained too tight for a long duration, thus becoming shorter. This can be overcome by either physiotherapy or massage techniques. Once contracture develops it is almost impossible to re-stretch or improve with physiotherapy; leading to the last resort i.e. surgical intervention. Muscular contracture is one of the clinical signs observed in myopathies but contractures can also be exercise induced. **Case report:** Here we present a case of purely exercise induced muscle contracture which best to our knowledge has never been promulgated in this manner. Muscles react in a similar fashion towards exercise i.e. myalgias, muscular weakness, stretching, hypertrophy and contractures. However differ to a certain degree owing to their histological fibers; certain muscles constitute more of tendinous tissue rather than muscle fibers. This opposes a problem as they are not able to cope with the stress and tend to develop into a contracture as was seen in this patient with a fixed flexion deformity of the knee. Postulated here is why contracture can develop in semitendinosus muscle and the possible preventive and curative techniques. **Conclusion:** Muscle contracture can be exercise induced.

A Five-Year Retrospective Review of Snakebite Patients Admitted to Kangar Hospital, Perlis

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ABSTRACT

Background: There is little literature and study regarding the epidemiology of snake bites in Malaysia and the highest prevalence of snake bites are in the northern region of Malaysia. This study was conducted to give a better understanding of snake bite epidemiology in the state of Perlis and the magnitude of its effect on the population. **Method:** We conducted a retrospective study of all snake bite patients admitted to Hospital Tuanku Fauziah, Kangar, Perlis from January 2004 to December 2009 in order to determine the demographic characteristics. **Results:** During that period, there were a total of 163 snake bite cases. The snakes were unidentified in 65 (39.9%) of the cases. They were positively identified in 55 (33.7%) of cases as due to the Malayan pit viper (*Agkistrodon rhodostoma*), 39 (23.9%) common cobras (*Naja naja*) and four (2.5%) were sea snakes. Of these cases, 7 proceeded to surgical debridement (4.3%). Of the seven, four (57.1%) cases were due to the common cobra, two (28.6%) were due to the Malayan pit viper and one (14.3%) was from an unknown species. Of the 7 cases, four (57.1%) were bitten on the hand and three (42.9%) on the foot. The commonest sites of snake bites were the foot 93 (57.1%), followed by the hand 42 (25.8%), calf 12 (7.4%), ankle 9 (5.5%) and others 7 (4.3%). All the snake bite cases were treated with intravenous cloxacillin empirically. From this study, majority of the snake bites were caused by the Malayan pit viper. However, the commonest bites leading to surgical debridement was due to the cobra. This is rather strange as we would expect that the viper bites would need more debridement due to the nature of their toxin which contains local protein degrading enzymes compared to the cobra toxin which is neurotoxic. This may be explained by secondary bacterial contamination introduced during the bite. **Conclusion:** From the study, we can conclude that snake bites by common cobras tended to need surgical debridement compared to other snake bites and the most common site for debridement is over the hand than any other part of the body. Empirical antibiotics such as cloxacillin administration may reduce the incidence of further complications from the snake bite wound. However, further study is needed in terms of identifying bacterial infection secondary to snake bites.

Viscosity and Viscoelasticity of Osteoarthritic Synovial Fluids in Comparison to Intraarticular Injection of Hyaluronic Acid (Synvisc and Suplasyn)

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ABSTRACT

Background: Osteoarthritis is a debilitating degenerative disease of old age. One pathophysiology is that the synovial fluids (SF) are reduced and, due to the lowered concentration, and reduced molecular weight of hyaluronic acid, the viscoelasticity of the SF is reduced. Apart from the pharmacological treatments, intraarticular injection of hyaluronic acid (IAHA) was introduced as a viscosupplement in osteoarthritic patients to restore the viscoelasticity of the synovial fluids, give symptomatic relief of joint pain and delay total joint arthroplasty. **Objective:** We aim to evaluate the viscosity and viscoelasticity of osteoarthritic SF with a view of comparing with IAHA; Synvisc (high molecular weight IAHA) and Suplasyn (low molecular weight IAHA). **Materials and Method:** The osteoarthritic SF was obtained from consented patients undergoing total knee arthroplasty. The viscosity and the viscoelasticity of IAHA and osteoarthritic SF were analyzed at different temperatures (25, 37 and 40°C) using a ThermoHaake rheometer. **Results:** The flow curves constructed showed that both osteoarthritic SF and IAHA exhibited non-Newtonian shear thinning (pseudoplastic) fluid behaviour. The osteoarthritic SF had the lowest viscosity compared to IAHA. By increasing the temperature, the viscosity of the IAHA and osteoarthritic SF were reduced. In the viscoelasticity test, the storage/elastic modulus of osteoarthritic SF and Synvisc were more dominant than the loss/viscous modulus. Unlike Suplasyn, the viscous modulus was more pronounced than the elastic modulus at all temperatures. **Conclusion:** At human body temperature, 37°C, both viscosupplements and osteoarthritic synovial fluids shared the same pseudoplastic type of non-Newtonian fluid. Synvisc and osteoarthritic SF showed elastic like behaviour more prominent than the viscous like behaviour opposite of Suplasyn. The rheological behaviour of Suplasyn and Synvisc with osteoarthritic SF were different because of the differences between the molecular weight of the hyaluronic acid and the network forming ability.

Fracture Neck of Femur in Elderly Patients in a Tertiary Hospital from January 2005 till January 2010: A Retrospective Study of Clinical Outcomes

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ABSTRACT

Purpose of Study: Neck of femur fracture is a common fracture and is often a major cause of morbidity and mortality in elderly patients. This retrospective study reviews the clinical outcomes of this condition in elderly patients in a Malaysian community. **Materials and Method:** Period of study was 5 years. Subjects were 65 years and above. Included were patients who had had at least 6 months of follow up care. Patients not included were those who defaulted follow up, or had had a previous hip injury or fracture on either side or those with pathological fracture secondary to metastasis or infection. Data collected were demographic data, length of stay, site of fracture, type of implant, preoperative mobilization and comorbidities. Postoperative ambulation was assessed at 5 days post operation, upon discharge, at 1 month, 3 months and 6 months. The data was analysed using SPSS software with significance level set by P value < 0.05. **Results:** One hundred and two patients were enrolled in this study; 74 (72.5%) were females and 28 (27.5%) were male. Findings show that unipolar hemiarthroplasty was the most commonly used prosthesis and is used in 65 (66.3%) patients. Bipolar hemiarthroplasty was used in 28 (27%) patients. Findings also show that average length of stay was shorter for subjects in the unipolar hemiarthroplasty group and this was statistically significant. There was no significant difference between the groups in terms of postoperative ambulation. Complications occurred in three cases and these were erosion of the acetabulum wall, hip dislocation and pneumonia. **Conclusions:** Neck of femur fracture is a common fracture and is often a major cause of morbidity and mortality in elderly patients. This article will review results that show that unipolar hemiarthroplasty is more suitable for elderly patients.

Demographic Profile of Hip Fractures in Malaysia

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ABSTRACT

Hip fractures among the elderly have become a major health issue worldwide as improvement in health services led to increase in life expectancy and in numbers of the elderly who are most at risk of incurring hip fractures, thus placing an economic burden on the health care system. In this study, data was extracted from the ongoing National Orthopaedic Registry of Malaysia (NORM), to look into the current trend of hip fractures in Malaysia from June 2008 till December 2009. NORM collects data from 18 government hospitals under the Ministry of Health of Malaysia. Patients aged above 50 years of age without a previous history of pathological hip fracture were included in the cohort. Patients's data are to be compiled via a Case Report Form (CRF) and includes demographic data, pre-fracture status, type of fracture, type of treatment, length of hospital stay and discharge disposition. Results show that the dominant age group of hip fracture patients was 70 years and above (69.5%) with a mean age of 73.8 years old. Females (68.4%) are in the majority. Low energy trauma i.e. a trivial fall, is the main mechanism of injury (81.3%). A small fraction is the result of road traffic accidents (7.2%) and there are also spontaneous fractures (7.8%). This study establishes that the incidence of hip fracture rises exponentially with age and is likely to remain an important public health problem. We therefore believe that aging persons should have access to timely preventive strategies, including osteoporosis prevention. They are to be encouraged to maintain physically active lifestyles and practise fall prevention measures.

Biomechanical Comparison of Condylar Locking Plate to Angle Blade Plate and Dynamic Condylar Screw Insultrochanteric Femur Fracture

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ABSTRACT

Background: Treatment of sub-trochanteric femur fractures (SFF) pose a great challenge for orthopaedic surgeons due to the high likelihood of these fractures developing malunion, non union and implant failure. The reasons for these problems have been attributed to the inability of current implant designs to withstand the compressive loads applied during normal human activities. The use of reverse locking plate (RLP) in SFF has been shown to produce good clinical outcomes. A study was initiated to establish if RLP is biomechanically suitable for treating SFF as compared to conventional methods i.e. 950 angle blade plate (ABP) and dynamic condylar screw (DCS). **Method:** Sub-trochanteric femur fractures with a 20 mm longitudinal gap were created in nine (n=9) composite femur sawbones and divided equally between 3 groups fixed with one of the implants: Group 1: RLP, Group 2: DCS, Group 3: ABP. Using a universal tensile testing machine, bone-implant constructs were subjected to axial compression and cyclical compressive loading until failure of implant/bone was achieved in order to determine implant stiffness and peak load to failure. **Results:** RLP had a significantly higher axial stiffness than ABP (mean=158% higher: $p<0.025$) but was only marginally higher than DCS (mean=3% higher: $p>0.05$). Cyclical loading to failure revealed that RLP had the highest peak load to failure of 1600N. This value was 145% ($p=0.034$) and 137% ($p=0.025$) higher than ABP and DCS respectively. RLP underwent the least amount of plastic deformation (5.34mm) as compared to ABP (12.5mm: $p<0.05$) and DCS (12.8mm: $p<0.05$). Variations of stresses along the implants were also recorded but not analyzed in the present study (but planned for in future studies). **Conclusion:** RLP demonstrated higher stiffness, higher peak load to failure and the least amount of irreversible plastic deformation when subjected to maximal compressive loading. These features suggest that RLP is less likely to fail than ABP and DCS when used clinically in treating SFF.

Radial Head Replacement for Traumatic Comminuted Fracture of Radial Head: A Case Report

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ABSTRACT

Background: Radial head fracture type Mason III & IV comprises 10% of all radial head fractures. Here, we present a case of radial head replacement as the therapeutic choice for Mason III radial head fracture. **Case Report:** The case is a 61 year-old man, a farmer with right hand dominance. He was walking when he became involved in a motor vehicle accident and sustained the following injuries: i. open fracture grade 1 distal 3rd left humerus, ii. closed comminuted fracture of the left radial head and proximal 3rd ulna, and iii. closed fracture midshaft of left 4th metacarpal bone. There was no neuro-vascular deficit. Wound debridement was performed initially for the left arm and mini-plate for the left 4th metacarpal bone. The left upper limb was put on skin traction for a week for wound management. A course of definitive management was employed. The left humerus was fixed, followed by ulna and then radial head. A lateral approach for humerus and direct posterior approach with 'lazy S' incision over olecranon for ulna was carried out. Recon locking plate and lag screws were used for both humerus and ulna fixation. Kocher's approach with extension from left arm lateral incision was performed for radial head approach. The implant used was Acumed® Anatomic Radial Head System. Annular ligament was reconstructed with anchor-suture as it was avulsed. All implant stability was tested under an image intensifier. Range of motion (ROM) of left elbow extension-flexion achieved 0 to 120° and supination-pronation of left forearm 0° to 90° under anaesthesia. Full length backslab was applied. Post operatively, there was no neurological deficit. Indomethacin was started and the patient was discharged on day 3. **Conclusion:** Radial head replacement is a viable choice of treatment for Mason III radial head fracture although the cost of the implant can be prohibitive. The added advantages of radial head replacement are early mobilisation of left elbow and the prevention of proximal migration of radius.

Compartment Syndrome Associated with Crush Syndrome due to Upper Limb Compression During Normal Sleep – Case Report

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ABSTRACT

Background: This is a case presentation of a 55 year old policeman with a 2-day old complaint of pain and swelling of the left upper limb following the accidental compression of his his left upper limb by his trunk during sleep. At presentation there was a diffuse swelling in the left upper limb. Urgent fasciotomy performed showed a diffuse dead muscle in forearm and arm. Following this, a multiple level amputation was undertaken and the last surgery was for shoulder disarticulation. He developed multiorgan failure and succumbed to death. **Discussion:** Compartment syndrome with crush syndrome following external compression are common in earthquake victims and the unconscious following drug-induced coma or alcohol blackout. A study of healthy volunteers showed that compression of the forearm or leg by the subject's own torso will increase intramuscular pressure. A pressure of 100-225 mmHg was recorded in forearm compressed by the rib cage while pressure of 29-160 mmHg was recorded when a leg is compressed by the corresponding leg. The pressure readings recorded were sufficient to cause muscle ischemia and necrosis. Fasciotomy is considered the standard approach. Diagnosis should be made on the basis of history of prolonged immobilization and findings related to the swollen extremity. Because information on pain, swelling and neurological abnormalities are often misinterpreted, care needs to be taken so as not to reach an incorrect conclusion.

Traumatic Floating Clavicle

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ABSTRACT

Shoulder girdle injuries after high energy traumatic impacts to the shoulder have been well documented in the literature. Based on the series of 1603 injuries of the shoulder girdle reported by Cave and colleagues, 85% of dislocations were diagnosed as glenohumeral, 12 % acromioclavicular, and 3% sternoclavicular. Each of these entities have been discussed in published literature, however less frequently described are injuries involving both the sternoclavicular and acromioclavicular joints simultaneously in one extremity. This present report discusses a case of traumatic floating clavicle associated with ipsilateral forearm and wrist injury, which was treated surgically and the outcomes of this are discussed.

P027

Development of Computerized Database for the Evaluation of Fractures Using AO Classification

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ABSTRACT

Background: The Orthopaedic Department of Hospital Sultanah Bahiyah started a fracture database in January 2011. This database allows for epidemiologic analysis and evaluation of fracture patterns as well as provide data for future research in orthopaedic trauma. **Method:** This study involved orthopaedic patients with fractures who presented at the Emergency Department of Hospital Sultanah Bahiyah for the year 2011. The information collected included age, sex, registration number, contact information and type of fracture. All the fractures were classified according to the Müller AO Classification of Fractures - Long Bones. Data was collected daily and analysed. **Results:** This database collected information on 3384 patients between January and December 2011. Some of the analyses executed on the database are described. **Conclusion:** This computerized fracture database using the AO Classification provides a quick and systematic method of obtaining and retrieving information on a certain fracture. This will be helpful in planning resources for managing trauma cases as well as for research purposes. It also helps to capture all subjects for the National Orthopaedic Hip Fracture Registry.

A Rare Complication of the Distal End Radius Fracture: Entrapment of Bone in Both Nerve and Tendon

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ABSTRACT

This case discusses the entrapment of the flexor digitorum in the right ring finger. Subject was a 19 year-old boy, presenting profundus tendon and median nerve in a radius fracture fragment after fracture of both forearm bones. Three months after the fracture, surgical release of the FDP tendon of the right ring finger and median nerve, had resulted in normal range of motion of the right hand and recovery of numbness over the right thumb, index and middle fingers. Complications in cases such as this are best avoided by careful assessment or examination either pre-operatively or post-operatively. In this case, pieces of radial bone had become entrapped in the median nerve and flexor tendon, causing symptoms to the patient. Should it become necessary, we will proceed with a specific operation, that of adhesiolysis and removal of bone pieces to be followed by active hand physiotherapy.

An Anterolateral Approach in The Fixation of Coronal Shear Fracture of the Distal End of Humerus: A Case Report

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ABSTRACT

Coronal shear fractures of the distal end of the humerus are rare. This fracture was first described in 1996 by McKee et al as an isolated injury. It involves anterior and proximal displacement of the capitellum and a portion of the trochlea. Accurate diagnosis is difficult with an ordinary radiography. "Double arch sign" may be seen in lateral elbow radiographs. Open reduction and internal fixation is recommended to achieve the desired range of motion, as well as maintain intrinsic stability of the elbow provided by the trochlea-olecranon articulation. Surgery is challenging as the amount of subchondral bone fragment for fixation is limited. Extensive exposure is needed to ensure an anatomical reduction. This case report describes a young healthy adult with a coronal shear fracture of the distal end of the humerus. Elbow antero-lateral approach was used for fracture fixation. This is an excellent surgical view for anatomical reduction and fixation.

Clinical Short-Term Outcome Humerus Fracture Fixation with Proximal Humerus Interlocking Osteosynthesis (PHILOS)

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ABSTRACT

Introduction: Locking plates have emerged as the implant of choice for stabilizing proximal humeral fractures. Literature lacks results on functional outcomes in the use of PHILOS in Malaysia. The aim of this study to investigate subjective & objective short-term outcomes after fracture fixation with the Proximal Humerus Interlocking Osteosynthesis (PHILOS) Plate. **Materials and Method:** This is retrospective & ongoing study. Ten patients fulfilled the study criteria in the study period of September 2010 to January 2012. The fractures were classified using the Neer's classification system. Postoperative complications, time to fracture and functional healing of patients were assessed in the cohort and in individual groups of patients. Patients' functional outcomes were assessed postoperatively using the Constant Murley Scoring system. The follow up period varied from 3–18 months (average 10 months). **Results:** There were 3 patients with Neer's 2-part (33%), 4 with Neer's 3-part (44%) and 2 with Neer's 4-part (22%) fracture. One patient developed cerebrovascular accident postoperatively and was excluded from the study. The average age of the patients was 44 years (range: 19 - 80 years). The postoperative infection rate, fracture healing time and time to functional healing were assessed in these patients. We had encouraging early results as proven by the Constant Murley scoring system in which both subjective as well as objective criteria were considered when classifying the results.

P031

A Rare Case of Elbow Joint Ankylosis Secondary to Traumatic Chondrolysis: A Case Report

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ABSTRACT

Joint chondrolysis is a rare and devastating complication, with rapidly progressive diffuse articular cartilage loss affecting mainly young patients following traumatic joint injury or surgery. Despite increasing interest over recent years to better understand the causative agents and risk factors involved, the mechanism behind this phenomenon remains unknown. While there has been several papers reporting cases affecting the glenohumeral, hip and knee joints, few have mentioned the involvement of the elbow joint. To our knowledge, there has been no published case of elbow joint chondrolysis with eventual bony ankylosis following an elbow surgery. We present a rare case of bony ankylosis secondary to joint chondrolysis in a 21 year old male who underwent elbow joint surgery after a traumatic elbow injury. Initial post operative period noted range of motion of 30-80 degrees. However, there was progressive reduction of motion at the 6-week review with eventual stiffness at 90 degrees flexion at the 10-week follow up despite aggressive physiotherapy, with ulna-humeral fusion evident on the CT scan.

Heterotrophic Ossification Following Interlocking Nail Causing Significant Morbidity

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ABSTRACT

Heterotopic ossification (HO) is the process by which bone tissue forms outside the skeleton. Heterotopic ossification will develop in 10% to 80% of cases with varying severity after surgery or trauma to the hip and lower legs. Heterotopic ossification jeopardizes functional outcomes, impairs rehabilitation and is costly because of secondary surgical procedures. Pain first arises a few days after surgery with calcified structures appearing as blurred contours on x-rays at 3 to 6 weeks postoperatively. Patients with heterotopic ossification after a previous hip arthroplasty are at greatest risk of developing additional heterotopic ossification, with an incidence of between 50% and 90%. We report a case of heterotrophic ossification formation around the hip in a 25 year old man following interlocking nail. Patient sustained significant morbidity following this and subsequently, the nail was removed and symptoms resolved.

Minimal Invasive DCS Insertion for Comminuted Subtrochanteric Hip Fracture

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ABSTRACT

Objective: The study seeks to review the outcomes of minimal invasive DCS insertion over comminuted subtrochanteric fracture on patients. **Method:** A total of ten patients with a mean age of 60 underwent minimal invasive DCS insertion. Fractures classified were based on the Evans classification. Criteria involved were duration of surgery, length of incision, early mobilization, postoperative complications, fracture healing and functional outcomes based on the Harris Hip score. **Results:** The mean duration for surgery was 45 minutes (30 - 100 min). The mean for length of incision was 60 mm (50 - 90 mm). Mobilization occurred as early as day 2 post op (wheel chair or NWBC). One patient developed an infected surgical wound but it was resolved with antibiotics and vacuum assisted dressing. The mean duration for fracture union was 14 weeks (12 - 18 weeks). Harris hip score revealed excellence in 6 patients and good in 4 patients. There was no incidence of AVN of the head of the femur. **Conclusion:** The results of minimally invasive DCS insertion were positive and favourable. All age groups benefitted from early mobilization. Proper reduction with the assistance of traction table and proper planning helped in achieving favourable outcomes. This is advantageous in low socioeconomic and cost effective situations.

Irreducible Elbow Dislocation with Nonsalvageable Radial Head: A Case Report

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ABSTRACT

Traumatic elbow dislocations in acute settings are usually reduced by manual manipulation with sedation. Factors causing impediments to proper reduction of an elbow dislocation are described. We present a case of a 29-year-old female with an associated radial head fracture entrapped in the joint, preventing closed reduction. A posterolateral approach to the radial head was performed. The comminuted radial head fracture was excised and a radial head replacement was performed. Radial head replacement has been stressed in maintaining elbow stability, however the integrity of the ulnohumeral ligament (UHL) is of paramount importance. Valgus stress test aids in the assessment of the ulnar collateral ligament, and only when it is intact can a radial head excision be performed. Elbow instability may be a result of failure to recognize or treat a UHL rupture.

Reversed Tibial Locking Plates In Management of Traumatic Ipsilateral Periprosthetic Fractures of the Distal Femur and Proximal Tibia After Total Knee Arthroplasty

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ABSTRACT

Ipsilateral distal femoral and proximal tibial periprosthetic fracture following total knee arthroplasty is a rare complication and not often presented to the Emergency Department. We report a case of a 50-year-old man who had undergone a right total knee arthroplasty one year earlier and presented with periprosthetic fractures following a motor vehicle accident. He sustained comminuted fracture of lower third of right femur and proximal tibia, producing "Floating Total Knee" but the knee implants remained intact. He was subsequently treated with two reversed tibial locking plates for the femur and a single locking plate for the tibia. At the 6-month follow up, he was able to bear full weight and his range of motion of the knee was 10° to 90°. At the 8-month follow up, he was able to walk without any walking aid and the active range of movement of his knee was 10°-110°. Early and prompt management of this condition warrants a comprehensive orthopaedic management which can ensure a good clinical outcome.

Fracture Dislocation Of Talo-Navicular Joint With Medial Arch Disruption: A Case Report

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ABSTRACT

We report a case of navicular, cuboid, lateral and intermediate cuneiform bone fracture with talo-navicular joint dislocation and disruption of medial arch of the right foot in a 20 year old man following traumatic dorsiflexion and longitudinal compression when his foot was wedged in a drain. The entire pathologic abnormality was treated by open reduction and fixation with a locking plate across the medial cuneiform and talus to restore the medial plantar arch. Promising outcomes were seen early, with a 45 degree range of motion at the 6-week follow up and full weight bearing commencing 10 weeks after surgery.

Heterotrophic Ossification Following a Elbow Dislocation and Coronoid Process Fracture Causing Significant Morbidity

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ABSTRACT

Heterotopic ossification (HO) is the presence of bone in soft tissue where bone normally does not exist. The acquired form of HO is most frequently seen with either musculoskeletal trauma, surgery near the joints or in patients with neurological injuries. As treatment or prophylaxis for HO, a nonsteroidal anti-inflammatory drug (indomethacin), or local radiation therapy is recommended. In addition, surgical resection of HO is used to preserve joint mobility; however, HO is likely to recur and possibly progress if resection is undertaken before the lesion has become mature. Previous studies recommended a waiting period of around 12 to 18 months before excision during which time the function of the elbow would have been considerably impaired. We report a case of heterotrophic ossification formation over the elbow of a 46 year old man following elbow dislocation and coronoid process fracture. Patient sustained significant morbidity, in which his proximal radio ulnar joint was fixed at mid prone; he had total loss of supination and pronation, and flexion was only 100 degrees. All this happened within the 6 weeks of trauma. The patient was started on indomethacin and that was followed with an excision of HO within 3 months of trauma. Due to logistical reasons, we could not start radiation therapy immediately. At the time of writing there was no recurrence of ossification either radiographically or functionally and patient has a full range of motion over his elbow. On the basis of this experience, it would seem that the generally recommended delay period of twelve to eighteen-months between injury and excision, to allow for maturation of heterotopic bone and thus lessen the likelihood of recurrence, may be invalidated. Additional studies are needed to define the relative risk of recurrence in the various clinical settings in which heterotopic ossification is seen and to determine whether radiation therapy is necessary to prevent recurrence after early excision in each of these instances. Heterotopic ossification (HO) is the process by which bone tissue forms outside of the skeleton. Heterotopic ossifications will develop in 10% to 80% of cases with varying severity after surgery or trauma to the hip and lower legs. . Heterotopic ossification jeopardizes functional outcome, impairs rehabilitation and is costly because of secondary surgical procedures. Pain first arises a few days after surgery with calcified structures appearing as blurred contours on x-rays at 3 to 6 weeks postoperatively. Patients with heterotopic ossification after a previous hip arthroplasty are at greatest risk of developing additional heterotopic ossification, with incidence between 50% and 90%. We report a case of heterotrophic ossification formation over the hip in a 25 year old gentleman following interlocking nail. Patient sustained significant morbidity following this and subsequently it was removed and symptoms resolved.

Antibiotic Cement Coated Nails in the Treatment of Septic Non Union of Long Bone Fractures

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ABSTRACT

Antibiotic coated nails have been used in the treatment of septic non union of fractures since the early 1990s. This technique was introduced to eliminate the earlier 2-step method of debridement and antibiotic treatment before definitive fixation. The studied method makes use of standard nails coated with antibiotic impregnated bone cement. In this study, data was collected retrospectively from surgeries performed in 2010 & 2011 in Hospital Sultanah Aminah, Johor Bahru. All patients had septic non union of long bone fractures and had exchange nailing with antibiotic coated cement nails. The presence of discharge from wound site and laboratory parameters were used to monitor progress of patients. Results were mixed and time to recovery varied widely. In conclusion, antibiotic coated nails serve as a viable option for the treatment of septic non union of long bone fractures. However, current techniques can be further enhanced to provide more consistent results.

P039

Low-Intensity Pulsed Ultrasound (LIPUS) Treatment For Non Union Subtrochanteric Fracture of Femur: A Case Report

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ABSTRACT

Non-invasive, low-intensity, pulsed ultrasound (LIPUS) has been used to provide bone stimulation for fracture healing. Studies showed that low-intensity ultrasound demonstrated acceleration of bone healing and profound callus formation. Here, we report a case of LIPUS treatment applied for non union subtrochanteric fracture of femur in a 60 year old obese lady after a fall. The fracture had been initially fixed with dynamic hip screw. However, the patient developed surgical wound infection post operatively, which subsequently led to implant failure. A 2-stage revision surgery was performed in which an intramedullary nail was inserted. Despite absence of infection and stable fixation, there was no sign of callus formation after 6 months. A trial of LIPUS treatment was performed and within 6 weeks of treatment, callus formation was seen at fracture site. Thus, in conclusion, non-invasive ultrasound therapy can be useful in treating non-union long bone fractures in patients with risk factors like obesity and advanced age.

Implant Overlap in Management of Segmental Femur Fracture- Proximal Extracapsular and Distal Femur: A Case Report

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ABSTRACT

Background: Ipsilateral concomitant fractures of proximal extracapsular and distal femur are rare injuries. It is impossible to utilise a single implant to fix and stabilize this type of fracture as the distance between fractures is too wide. Thus, a combination of two implants are frequently chosen as the best option to treat these fractures. However, the gap between the implants are sites of stress risers and are prone to fractures. A more biomechanically stable fixation of these fractures in a femur is by choosing a combination of two implants and overlapping them. **Summary:** We present a case report of a patient who sustained closed segmental fracture of right femur - proximal extracapsular and distal femur. We fixed the fractures with double implants and overlapped them to achieve a biomechanically stable fixation. Proximal femoral nail (PFN) was inserted for the proximal third right femur fracture and a locked plate was inserted for the supracondylar right femur fracture. A good functional outcome was obtained. **Conclusion:** There are no proper evidence-based guidelines regarding the management of ipsilateral concomitant fractures of proximal extracapsular and distal femur. We suggest that these fractures should be treated with an intramedullary implant (nail) overlapped with an extramedullary implant (plate) with or without linking them to achieve a biomechanically stable construction.

P041

Chronic Posterior Dislocation of the Shoulder: A Case Report

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ABSTRACT

Background: Posterior dislocation of the glenohumeral joint is a rare condition accounting for 2-5% of all traumatic shoulder dislocations. Hence, this condition is missed in approximately 60-79% of cases. Early diagnosis is important as delay in diagnosis and treatment frequently results in significant morbidity. **Summary:** We present a case report of a patient with chronic posterior dislocation of the left shoulder, which was missed during initial presentation. After thorough clinical and radiographical assessment of the patiently, surgery was undertaken. We performed the Neer modified McLaughlin procedure in which we osteotomized the left lesser tuberosity and transferred it together with the attached left subscapularis tendon into the impression defect on the left humeral head. The outcome of treatment was assessed clinically and radiographically. **Conclusion:** A high index of suspicion with a good clinical evaluation and proper radiographs are essential in diagnosing posterior dislocation of the shoulder. We conclude that the Neer modified McLaughlin procedure is a good alternative treatment in young, healthy patients who require good functional status, in cases where the condition had been chronic for more than six months and the size of the humeral head defect is 20-40%.

Hoffa Fractures: A Case Series, the UMMC Experience

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ABSTRACT

Hoffa fracture is a rare unicondylar fracture of the distal femur in the coronal plane. "Hoffa" fractures were first identified by Albert Hoffa in 1904. We report our experience with four cases of 'Hoffa fracture' at UMMC from 2010 till 2012 in which open reduction and internal fixation were performed. In our experience, these fractures are commonly not identified because of its unusual configuration. With intraarticular fractures, it is important that open reduction and internal fixation be performed as soon as possible. There are different ways of treating these fractures. We discuss the methods that we employ and postulate that a constant fragment is commonly found in each of them.

Complex Distal Humerus Fracture, an Alternative Technique in Internal Fixation: A Case Report

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ABSTRACT

Complex distal humerus fractures are a difficult but challenging entity to treat. Open reduction and internal fixation with restoration of the articular surface is the acceptable method of fixation. This is because a stable internal fixation allows early mobilization, prevents joint stiffness and allows the bone stock to be maintained, which is of paramount importance. As in all cases of comminuted distal humerus fractures, it may be difficult to maintain reduction. We report a case of OTA type C distal humerus fracture in which we introduce a new technique to hold the fragments together when k-wires are inadequate. This alternative technique describes the use of minifragment plates to reduce and stabilize the condyles to the metaphysis prior to definitive fixation. We also believe that the minifragment plates may enhance the stability of the fixation to allow effective healing due to the addition the plates to the pre-existing dual plate technique.

Traction Table–related Complications in Orthopaedic Surgery

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ABSTRACT

This is a case report on a 56 year old Chinese man with hepatitis C admitted to hospital following a motor vehicle accident. He sustained a close midshaft fracture of the right femur with abrasion wounds over the right leg. Under spinal anaesthesia, the fracture was reduced and fixed with an intramedullary nail (interlocking nail). The procedure lasted for an hour and a half with no intraoperative complications. The patient was positioned supine on the traction table for the duration of the surgery. Post operatively, the patient complained of loss of sensation over the penile area with erectile dysfunction and loss of sense of micturition. Aside from this, the patient was discharged well. It is noted that the use of a traction table is not without risks. Significant complications have been described, including injury to the perineal area and soft tissues and neurologic impairment. Skeletal traction with adequate weight prior to the operation would be helpful to reduce pre-operative shortening while awaiting surgery. Complete muscle relaxation of the patient during surgery will be helpful in reducing the force required for traction. Surgeons must be aware of the complications of traction and undertake strategies to avoid perineal traction injuries. These include the use of a well-padded wide perineal post to distribute traction on the perineum and the provision of stabilization and support of the patient's body on the fracture table.

A Retrospective Study of Functional Outcomes and Mortality Rate of Traumatic Hip Fracture among the Elderly in Hospital Sungai Buloh

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ABSTRACT

Hip fractures in elderly are frequently associated with reduced functional status and increased mortality rate. A two-year retrospective study of traumatic hip fractures among patients more than 60 years old, treated operatively, was conducted at Hospital Sungai Buloh from year 2010 to 2011. The Oxford Hip Score (OHS) was used to gauge the functional outcome of the hip surgery 1-2 years postoperatively. Sixty-two patients were included in the study. The mean age in this study was 79 years old (range: 60–95 years). Mortality rate was shown to be 19.5% (12 patients) 1 year post operatively. The mean score using OHS for all surviving patients was 31, indicating a moderate-to-good functional outcome postoperatively. Thus, results showed a high mortality rate among the elderly diagnosed with hip fractures, and the surviving patients who received operative treatment, had an acceptable functional outcome, albeit invariably reduced due to the fracture itself.

A Comparative Study Between Coaptive Film versus Suture for Wound Closure after Long Bone Fracture Fixation

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ABSTRACT

Background: This prospective, randomized controlled trial compares coaptive film and sutures for wound closure after long bone fracture fixation. **Objective:** The study aimed to prospectively compare skin closure time, incidence of wound complication and scar width produced between coaptive film and suture after femur fracture fixation. **Methods:** Forty-five patients underwent femur fracture fixation in which twenty-two patients were given sutures and twenty-three patients given coaptive film for skin closure. The method of skin closure was randomized and the surgeon was briefed before the operation. Closure time was recorded. Incidence of wound complications was documented during the follow up. Scar width was measured at the 12-week follow up. **Results:** Coaptive film closed the wound faster than sutures. The mean time for skin closure using coaptive film was 171.13 seconds compared to mean time of 437.27 seconds using sutures ($P < 0.001$). The mean wound length in the coaptive film group and suture group were 187.65 mm and 196.73 mm, respectively ($P = 0.36$). Wound dehiscence occurred in one patient in the coaptive film group (4.3%); one patient in the suture group (4.5%) ($P = 0.74$) developed wound necrosis. There were no significant differences in scar width between the two groups. **Conclusion:** Coaptive film is a time-saving option for skin closure following long bone fracture fixation showing no differences in the incidence of wound complications and with comparable scar widths.

A Vulgus Knee Injury in Disguise as a Varus Knee Injury

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ABSTRACT

We are reporting a case in which a motorcyclist involved in a motor vehicular accident with a complaint of pain and swelling over the left knee. On examination, minimal swelling was noted on the lateral side of the knee with both medial and lateral joint line tenderness. The radiograph taken deceptively showed an avulsion fracture or a Segonds fracture. It was only after a CT scan that the true nature of injury and its mechanism was revealed. The patient actually had a depressed fracture of the lateral condyle via a vulgus stress mechanism. As a result, the condition required a completely differently operative treatment. The emphasis of this article is on the importance of getting a CT scan in the diagnosis of knee injuries.

Outcomes of Distal Femoral Fractures: Minimal Invasive Plating Osteosynthesis (MIPO) versus Open Reduction (ORIF) Using Distal Femur Locking Compression Plate (LCP)

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ABSTRACT

Background: Distal femur fractures usually occur as a result of low energy trauma in osteoporotic bones in elderly patients and as a result of high energy trauma in young patients. They require anatomical reduction and stable internal fixation. **Objectives:** The study seeks to compare: i. intra-operative complications, and, ii. outcomes of fixation via the MIPO technique & open reduction for distal femoral fractures (AO 33). **Method:** A retrospective study was conducted on patients (n=34) treated with the distal femoral locking compression plate for distal femoral fractures who were admitted to Hospital Seberang Jaya between 1 January 2011 and 31 December 2011. The patients were followed up to an average of 9.7 months (range: 3.2 to 14.5). **Results:** Out of the 34 patients, 23 (67.6%) were treated via MIPO and 11 (32.4%) via ORIF. Thirty patients (22 MIPO, 8 ORIF) achieved radiological union (mean union for MIPO=17.9 weeks; ORIF=18.5 weeks, $p>0.05$) while 4 patients are still under follow up. MIPO patients achieved wound healing in an average of 4.8 weeks; ORIF patients in an average of 8 weeks (mean difference =-3.48, $p>0.05$). Mean operation time was 99 and 94 minutes respectively ($p>0.05$). Post fixation distal femoral valgus angle was 86.0 in MIPO and 85.9 in ORIF ($p>0.05$). MIPO patients were able to achieve a mean flexion of 92 degrees and an extension lag of 1.1 degrees, while ORIF patients achieved 93.6 degrees of mean flexion and 2.73 degrees of mean extension lag ($p>0.05$). One of the ORIF patients needed blood transfusion postoperatively and his condition was complicated by infection and loss of fixation. **Conclusion:** Patients who underwent distal femoral fracture fixation via MIPO achieved wound healing and radiological union earlier than ORIF patients; however, the difference is not statistically significant. There was also no significant difference in range of movement for both groups.

P050

Functional Outcomes after Retrograde Femoral Nailing in Patients with Midshaft and Distal Femoral Fractures

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ABSTRACT

Background: Retrograde femoral nailing (RFN) is an established method of fixation for fractures of the distal femur and is an alternative to antegrade nailing in the fixation of femoral shaft fractures. This study was undertaken to look at functional outcomes in patients treated with retrograde femoral nailing in a district hospital. **Materials and Method:** Patients with fractures of the femoral shaft and distal femoral fractures who presented to the Emergency Room in the study period between 2010 to 2011, underwent fixation of fractures using retrograde femoral nails. Patients with midshaft fractures associated with ipsilateral tibial or patella fractures requiring fixation, and situations where antegrade nailing posed a problem were considered for retrograde nailing. Functional outcomes were measured using the WOMAC scoring system. **Results:** Thirty-eight patients had RFN. Seven of them were lost in follow up. The average age of the other 31 patients was 39.10 years (range:16 - 81). The commonest mechanism of injury was motor vehicle accidents (24, 77.41%) and falls (6, 19.35%). Most of the fractures belonged to AO 33-A1 type (9, 29.03%). The average diameter of nail used was 9.81 mm (range: 9 - 12 mm). Patients were followed up for a minimum period of 6 months. The average duration of healing was 15.44 weeks. Nineteen patients (61.29%) had good flexion of the knee (>100 degrees) as measured by the WOMAC scoring system. **Conclusion:** Fractures of the distal femur in adults treated with retrograde femoral nailing yields satisfactory results. RFN also presents a good alternative for fixation of midshaft fractures in situations where is difficult to perform antegrade nailing.

Outcomes of Surgical Treatment of Distal Humeral Fractures via Trans Olecranon and Medial Approaches

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ABSTRACT

Background: The management of distal humeral fractures in adults remains a challenge today. Surgical intervention is usually indicated for distal humeral fractures especially in those with displaced intra-articular involvement. **Objectives:** The study seeks: i. to compare intra- and postoperative complications using trans-olecranon & medial approaches, and, ii. to compare functional and radiological outcomes of fixation via trans-olecranon & medial approaches. **Method:** A retrospective study was carried out on patients (n=13) admitted to Hospital Seberang Jaya, Pulau Pinang with distal humeral fractures (AO 13) from 1 January 2011 to 31 December 2011 and treated with open reduction and internal fixation. Patients were followed up to a mean duration of 9.0 months (range: 3.6 to 14.1). **Results:** Results reveal that 69.2% (n=9) of total patients were treated via the medial approach while 30.8% (n=4) via the trans-olecranon approach. The mean operation time for the trans-olecranon procedure was 108 minutes and for the medial approach, 101 minutes. Wound healing was achieved in an average of 4.6 and 2.5 weeks respectively (mean difference 2.1, $p>0.05$); and fracture healing in an average of 9.3 and 13.4 weeks (mean difference -4.1, $p>0.05$); Both methods achieved acceptable AP carrying angle and capitulum-trochlear angle. Patients treated via the trans-olecranon method obtained a mean elbow flexion of 86.3 degrees and a mean extension lag of 8.8 degrees, while those who underwent the medial approach obtained 106.1 degrees and 8.9 degrees of flexion and extension lag, respectively. **Conclusion:** There were no significant differences with regard to intra-operative complications, and functional and radiological outcomes between the trans-olecranon and the medial approaches.

The Development of a Simple and Cost Effective Torque Tester for the Ilizarov Frame

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ABSTRACT

With regard to orthopaedic implant and fixator research, testing materials and devices to determine their safety margins and hence, their usability, is important. Load to failure is a commonly employed testing method. This test is usually performed using a material testing machine. However, these machines are expensive and most institutions would instead purchase a device that applies linear loads since it is the most commonly applied load. Machines that can measure and apply torque on the other hand, are usually much more expensive and more specific in terms of their use. Nevertheless, torque is an important load to study. We developed a simple device using a luggage scale to measure and apply torque to Ilizarov frames and which can be easily modified to be used on other implants and material. The idea was first materialized on CAD software (Solidworks 2012, Dassault Systemes, Solidworks Corp.) and simulated using the same software. The final design was then fabricated out of steel using conventional tooling methods. This design was then optimized using a commercial material testing machine (Instron, Norwood, USA.) and standard weights attached to a moment arm to apply a precise amount of torque. Subsequently, the load applied using the luggage scale was measured and compared with the optimisation data. Results showed a good correlation between the known load and the load applied using the luggage scale. In conclusion, this device offers a reliable measurement of torque which would normally be acting on orthopaedic implants and devices. It is also relatively cheap and easy to manufacture. However it may not be suitable to measure very small amounts of torque in the mNm range.

Combination of Ilizarov Principles with Vacuum Dressing in the Treatment of Large Bony and Soft Tissue Defect of Tibia: Giving Hope for the Hopeless Limb: A Case Report

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ABSTRACT

Introduction: The treatment of tibia fractures with a critical sized wound is complicated. When primary closure is not possible, the classic options are rotational coverage or free flap. Soft-tissue coverage is critical to avoid infection. There are instances when flap coverage is not an option. Having a large skin defect with an underlying necrotic bone poses a great challenge to any surgeon. Without plastic and microsurgery expertise, one of the options would be amputation. We present an alternative technique for simultaneous bone healing and soft tissue closure in which a combination of bifocal bone transport and vacuum dressing was used. **Conclusion:** Ilizarov external fixation proved to be a valuable salvage method for treating large tibia defects. The ability of the frame to stabilize a fracture, provide compression at the fracture site, and allow access to the soft tissues makes it an integral tool in the management of complicated tibia fractures. Use of bone grafts is not feasible in cases of large bony defects. When presented with a case of large bony and soft tissue defect, limb salvage is always an option if the principles of Ilizarov are well applied. Use of knowledge of bifocal transport accelerates the rate of bone healing and shortens the treatment duration. Combined with the use of vacuum dressing, it can prevent further necrosis of the advancing bone ends during transport mainly by preserving a moist environment, promoting rapid granulation over the defect area and controlling infection.

Outcome of Calcaneoplasty in Insertional Achilles Tendinopathy

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ABSTRACT

Background: Insertional Achilles tendinopathy is a chronic inflammatory condition of the Achilles tendon at its point of insertion and is characterized by pain at the site. It is associated with Haglund's deformity and retrocalcaneal bursitis. Modes of treatment is either conservative or operative. **Objective:** The study aims to assess the outcomes of calcaneoplasty performed on 8 patients with insertional Achilles tendinopathy at the Tuanku Fauziah Hospital, Kangar. **Method:** The procedure entails a complete detachment of the Achilles tendon from its point of insertion into the calcaneum, debridement and reattachment using suture anchors. The subjects were evaluated pre- and postoperatively with the American Orthopaedic Foot and Ankle Society (AOFAS) Hindfoot Score, Visual Analogue Scale (VAS) and Short Form (SF) 36 Health Survey, as well as patients' satisfaction rate. Duration of follow up ranged from a minimum of 3 months to a maximum of 2 years. Average follow up duration was 12.4 months. **Results:** The mean pre and post operative AOFAS scores were compared using the Wilcoxon signed-rank test which gave a significant p value of 0.012. There was significant improvement in most of the parameters assessed in the SF 36. The post op VAS pain score improved significantly, except for 1 patient who had developed complications. The procedure was rated as good to excellent by 7 of the subjects, with 1 giving a poor rating. The complications encountered include wound breakdown, osteomyelitis, stitch granuloma and painful scar formation. **Conclusion:** Calcaneoplasty has been shown to be an effective mode of treatment for insertional Achilles tendinopathy.

Case report on closed fracture dislocation body of talus with concurrent medial malleolar fracture

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ABSTRACT

We describe an unusual case of talar body fracture with medial malleolar fracture and subtalar dislocation. The mechanism of injury was through a motor vehicle accident. It was a closed fracture with intact neurovascular status. There was no evidence of compartment syndrome. We operated on the patient within 24 hours using the combined anterolateral and anteromedial approach. The talus fracture was reduced and fixed with 2 cross 4.0mm cancellous screws followed by fixation of the medial malleolar fracture. We have obtained good results on this patient both functionally and radiographically

Correction of Bilateral Foot Deformity with Hallux Valgus in Rheumatoid Arthritis: A Case Report

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ABSTRACT

We present a case of bilateral foot deformity with hallux valgus in a 41 year old Malay woman with underlying rheumatoid arthritis present for the past 13 years. She complained of bilateral foot pain mainly over her great toes and the condition was making it difficult for her to ambulate. There was subluxation over the right foot of the first, second and third metatarsophalangeal joints. The angle of the long axis of the first metatarsal bone and proximal phalanx of the right foot was 110° with a 16° angle between the long axis of the first and second metatarsal bones. As for the left foot, there was subluxation of the first, second, third and fifth metatarsophalangeal joints where the angle of the long axis of the first metatarsal bone and proximal phalanx was 128° with the angle between long axis of the first and second metatarsal bones at 18° . Patient was treated surgically on two different occasions. The first surgery dealt with the right foot where correction of the hallux valgus with arthrodesis of the metatarsophalangeal joint and arthrodesis of 1st, 2nd, 3rd toes was performed. Eleven months later the hallux valgus with arthrodesis of the metatarsophalangeal joint and arthrodesis of 2nd, 3rd, 5th toes of the left foot was corrected. The intraoperative period was uneventful. Patient was satisfied with the correction of the deformities and is currently ambulating well with no difficulty and restriction of movement.

An Unusual Cause Of Pes Cavus

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ABSTRACT

A 13 year old boy presented with pain and swelling over the left sole of over a year's duration causing him to be unable to walk properly. Examination revealed loss of foot arch with a tender bony mass over the midfoot plantar region. The midfoot was more prominent medially, causing distortion of foot pressure distribution. Radiological examination showed a radio-opaque mass over the midfoot region. MRI of left foot revealed myositis ossificans over the left quadratus plantae muscle area. Surgical excision of the mass was performed. Results showed that the calcaneum pitch angle was reduced from 32 degrees to 28 degrees and the AOFAS scoring showed significant improvement from 82 to 100 within a year of follow up. Histopathological examination of mass confirmed the diagnosis of myositis ossificans. There was no recurrence up to date. This case report shows that myositis ossificans over the weight bearing area of the foot can significantly impair quality of life but safe treatment by excision of the mass is available.

Predictive Factors for Below Knee Amputations in Patients with Diabetic Foot Problems

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ABSTRACT

Introduction: Diabetic Foot Problems (DFPs) account for about 10 – 20 % of emergency admissions in the Department of Orthopaedics, NUH. **Objectives:** To evaluate Predictive Factors determining below knee amputations (BKA) in patients with DFPs. **Methodology:** A prospective study involving 350 patients with DFPs treated at the National University Hospital of Singapore was carried out during the period of January 2011 to March 2012. A protocol was designed to document the various predictive factors.

Predictive Factors studied include:

1. Type of Diabetic Foot Problem.
2. Presence of Neuropathy and/or Vasculopathy
3. Co-morbidities
4. Duration of Diabetes
5. Control of Diabetes (HbA1C)
6. Risk Factors
7. Complications of Diabetes
8. Pathogens
9. Final Outcome

The data was statistically analysed using univariate and stepwise logistic regression analysis.

Results and Conclusion: The ratio of male to female is close to 1. The Malays and Indians are more commonly affected, as compared to the racial composition. In contrast, the Chinese are less affected. All patients had type 2 diabetes mellitus. 60 % of patients have poor control of diabetes (HbA1C). Common DFPs included abscess, wet gangrene, infected ulcers, osteomyelitis, necrotizing fasciitis and cellulitis. The most common pathogens found in all infections (both monomicrobial and polymicrobial) were *Staphylococcus aureus*, *Bacteroides fragilis*, *Pseudomonas aeruginosa* and *Streptococcus agalactiae*. The predictive factors for BKAs will be discussed.

The use of pulse oximetry as a measure of tissue perfusion in the diabetic foot

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ABSTRACT

Background: SpO₂ of the fingers has been universally used as an index of peripheral perfusion. It has been clinically applied for the monitoring of critically ill patients. SpO₂ of the toes can also be used as a measure of tissue perfusion in the diabetic foot. **Objectives:** This study aims to determine whether the pulse oximeter is effective for measuring oxygen saturation in toes as an index of tissue perfusion in the diabetic foot. **Methods:** This is a prospective study of 20 patients with diabetic foot problems, treated by the National University Hospital Diabetic Foot team from March to May 2012.

Pulse oximeter readings of the index finger, big toe and the 2nd toe of the pathological side were taken.

The dorsalis pedis and posterior tibial pulses were palpated. ABI and TBI of the affected foot were also measured.

Pulse oximeter readings of the toes were compared with:

1. Palpability of one/two pulses

2. ABI/TBI measurements

The data were statistically analysed.

Results: There are limitations to the use of SpO₂ as a measure of perfusion. It is not suitable to read in subjects with painted nails and dystrophic nails. The effectiveness of SpO₂ of the toes as an index of tissue perfusion in the diabetic foot will be discussed.

The Value of Pirogoff Amputation in Diabetic Foot Surgery

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ABSTRACT

Syme's amputation has been known to cause poor results in patients with diabetic foot problems. One of the necessary requisites for a Syme's is to have at least a palpable Posterior Tibial pulse. It is felt that with a Syme's, the dissection of the calcaneum from the calcaneal flap does contribute to revascularization of the heel flap. A Pirogoff amputation, which osteotomise part of the calcaneum and avoids dissection of the flap, could potentially give better results. Also, the floppiness of the heel flap on the Syme's – a problem with prosthetic fitting – can be avoided. With the Pirogoff, a tibio-calcaneal arthrodesis can be achieved. The authors would like to present three cases of diabetic foot problems treated with a Pirogoff amputation in 2012. The technique of Pirogoff amputation used is different from the original Pirogoff, and uses a sixty-degree cut, instead of the traditional ninety-degree cut. For the tibio-calcaneal fusion, two cancellous lag screws (6.5mm) have been used. The technique of Pirogoff amputation will be described and discussed.

Bilateral Achilles Tendon Rupture

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ABSTRACT

The Achilles tendon has been one of the most commonly reported sports-related injuries ever since sports became more popular these past decades. This study will delve into the anatomy and mechanism of injury, current management and prevention of this condition. Here we describe a 24 year old woman presented with bilateral ankle pain after a 1.5-hour session of football followed by badminton with a 15 minute interval of rest. Examination showed swelling posterior to both ankle joints. Tenderness and gaps were felt on both Achilles tendons. Simmond's test was positive bilaterally. Radiographic study showed no fracture. Patient underwent bilateral Achilles tendon repair and intraoperative finding noted that both of the tendons had partial rupture, which was 5cm superior from the insertion site that were repaired with ethibond 5. She was discharged 3 days later. Subsequent follow up was with the Physiotherapy and Occupational Therapy team at the Orthopaedic clinic,. Gradual improvement was noted from a 25° ankle dorsiflexion to 40° after 2 months. She was on plantarflexion cast for 4 weeks before starting to ambulate on a 4 points walker . Seven months after post operation, she has made a good recovery from being unable to weight bear to getting on her feet again. We reiterate that, sports injuries is a major contributing factor to Achilles tendon rupture which is on the increase among the general population that are becoming more active in sports . Understanding the anatomy & risk factors of the occurrence of this condition can help medical professionals to give proper advice and management to prevent this injury. Surgical & non-surgical treatment with a good rehabilitation programme should aid individuals to get back to their daily routines.

P064

A New Method of Measuring Gastrocnemius Tightness: Intra- and Inter-Observer Reliability

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ABSTRACT

Background: Isolated Gastrocnemius tightness has been demonstrated to be associated with the development of a variety of chronic problems of the foot and ankle in neurologically normal people. The Silverskoid test allows the clinician to differentiate between calf tightness due to triceps surae and that due to isolated gastrocnemius. However, the severity of the tightness cannot be determined objectively. **Objective:** The study aims to develop a reliable procedure for measuring gastrocnemius tightness objectively in clinical settings. **Method and Results:** A new electronic patient self-operated inclination device is invented for this purpose. Thirty subjects with a mean age of 27 years were included in the study. Also recruited were, four observers from different orthopaedic experiences who were responsible for measuring the 30 subjects on three different occasions to determine intra- and inter-observer reliability using the intraclass correlation coefficient <ICC>. Results showed that the intrarater ICC ranged from 0.974 to 0.986 with a confidence interval of 95% and the overall ICC of the four observers was 0.946 with a confidence interval of 95%. **Conclusion:** This newly developed method is reliable in helping the clinician to measure gastrocnemius tightness objectively and subsequently helps in grading the level of severity. In addition, it also facilitates the monitoring of the progress of patients' treatment at the time of follow up at the clinic.

Case Report: A Case of Ellis-van Creveld Syndrome in an 8 year Old Malay Girl

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ABSTRACT

Ellis-van Creveld syndrome is a rare autosomal recessive disorder which was first described by Richard W. Ellis and Simon van Creveld in 1940. They suggested the name “chondroectodermal dysplasia” for this syndrome which is characterized by ectodermal dysplasia, polydactyly, chondrodysplasia, and congenital heart defect. Birth prevalence of Ellis-van Creveld syndrome has been estimated to be 7 per 1, 000, 000 population and a high prevalence was reported in Amish communities, the Arabs of the Gaza strip and Brazilians. We present one recently diagnosed rare case of Ellis-van Creveld syndrome in an 8 year old Malay girl with genu valgum of the knees and typical clinical features of the syndrome, which was only recognized after years of follow up.

P067

Anterior Hip Dislocation in a Child

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ABSTRACT

Traumatic hip dislocation in children is a relatively rare injury. It is twenty-five times less common in children than in adults. More frequently, it occurs as a posterior dislocation with a clear predominance in male individuals. Traumatic anterior dislocations are less common than posterior dislocations, with a reported incidence of 9 -12% of adult hip dislocations and 7.5-17.8% in the pediatric series. We report a case of a 3 year old boy who sustained an anterior hip dislocation. The treatment for traumatic dislocation of the hip was prompt reduction by closed manipulative reduction performed under general anaesthesia. Imaging procedures included plain radiographs and MRI.

Modified Dunn Technique through Open Surgical Hip Dislocation in Treating Severe Slipped Upper Femoral Epiphysis in Two Extreme Ages of Presentation

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ABSTRACT

Background: In-situ pinning of severe slipped upper femoral epiphysis posed a great challenge between attempting to achieve capital realignment and adequate stabilization and attempting not to cause future avascular necrosis of the femoral head from undesirable reduction. Accepting an in-situ severe slip may also result in morphological changes of femoral head and incur the risk of femoro-acetabular impingement later. **Objective:** To illustrate two cases of identical slipped upper femoral epiphysis (SUFE) diagnosis at two different spectrum age of presentation. **Description:** *Case 1:* A 42-year-old man on treatment for underlying endocrine disorder, i.e. panhypopituitarism, who had a fall and sustained acute right hip pain. *Case 2:* A 9 year old boy with a two week history of left hip pain who had a subsequent fall causing acute left hip pain and inability to walk. Hip x-rays of both cases revealed severe slipped upper femoral epiphysis and both cases underwent similar open reduction and slipped stabilization using the Modified Dunn subcapital realignment technique through open surgical dislocation of the hip. Post operatively, the slip angle had changed from 45 degrees to 10 degrees in Case 1 and 80 degrees to 0 degree in Case 2, respectively. **Conclusion:** The initial experience of using this approach may offer another option in treating severe slipped cases with a chance of reducing the risk of avascular necrosis of the femoral head and the risk of femoro-acetabular impingement.

A Rare Case of 'Floating Elbow' in a Child: A Case Report

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ABSTRACT

In the overall pattern of paediatric extremity fractures, the relatively high incidence of supracondylar humerus fractures is second only to fractures of the forearm. The simultaneous occurrence of these two injuries in the same extremity is considered an unusual event, and the incidence of this combination is not known. We report a traumatic case of floating elbow with supracondylar humerus fractures and ipsilateral fracture of distal third radius and ulna in a 4 year old child. We treated both the fractures of distal radius and supracondylar humerus by percutaneous K wiring and cast.

Atlantoaxial Rotatory Subluxation in Children - A Case Report

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ABSTRACT

Atlantoaxial rotatory subluxation should always be considered in children presented with torticollis after a traumatic event. A proper plain cervical radiograph is usually difficult to obtain, especially with children. Therefore, Computed Tomography (CT) scan is still the gold standard by which to diagnose this condition. We report a case of atlantoaxial rotatory subluxation in children which includes the patient's history, clinical features, diagnostic images, management, as well as literature review.

The Controversial Role of CT Angiogram in Paediatric Supracondylar Humeral Fracture with Pulseless, Perfused Limb

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ABSTRACT

Introduction: Almost 20% of displaced supracondylar humerus fractures in children are complicated by vascular compromise. At present, there is no clear consensus on the management of a persistent pulseless but well-perfused hand after a satisfactory closed reduction of the fracture. The role of angiography in such cases has been a source of controversy and debate. **Case Report:** An 18-month-old girl was referred to us with a closed, displaced, supracondylar fracture in her left humerus after a fall. She had an impalpable radial pulse but her hand looked pink with a capillary refilling time of less than 2 seconds. She underwent an emergency closed reduction and percutaneous pinning. Post-reduction, her hand remained persistently pulseless but well-perfused. A multi-disciplinary decision was made more than 24 hours after the initial surgery. The medical team decided to proceed with a computerized tomographic (CT) angiogram followed by surgical exploration and release of her left brachial artery, which was completely occluded by compression of the surrounding soft tissues. The procedure proceeded smoothly and the patient showed remarkable immediate and long term outcomes. There was no further complications observed as a result of the delay in surgical treatment. **Discussion/ Conclusion:** We believe that the decision to manage such cases should be made on based on appropriacy in each case. A CT angiogram is helpful in objectively determining the level of occlusion and the possible risk of proximal migration of thrombus which may eventually affect the available collaterals. A well-perfused limb may allow adequate time for a proper decision to be made for surgical intervention.

New Abduction Braces for Cases of Congenital Talipes Equinovarus

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ABSTRACT

Background: Cases of congenital talipes equinovarus (clubfoot) are often treated using Ponseti's method of manipulation and serial casting. This is followed by maintaining the corrected foot position using abduction braces with bars. In this article we are reporting the development and design of a new, more affordable, semi-custom abduction brace for our patients. **Method** The necessary equipment to produce this abduction brace were purchased. This consists of hard soled shoes held at 70 degrees abduction and 15 degrees of dorsiflexion with a bar. Thirty subjects were recruited for this study with the approval of Ethical Committee. The subjects were initially treated using Ponseti's method of manipulation and serial casting. The Pirani scoring system was used to evaluate patients' progress at regular intervals throughout the length of the study. Once the deformity was corrected, patients were required to use the abduction braces for 23 hours a day for three months, followed by 16 hours a day for 3 months and thereafter every night until the age of 5. Relapse rate will be used as an indicator of the effectiveness of the brace. Further follow up will include a clinical and functional assessment as well as a questionnaire to check for compliance of usage. **Results:** As of the first year of this study, we have a total of 13 patients currently on the abduction braces, at various stages based on their current age and period of treatment. **Conclusion:** Early results on the use of this new abduction brace for clubfoot patients have been encouraging. We have yet to see a recurrence of the deformity in the 13 patients within this study group at this time. Further evaluation will be required to reinforce the effectiveness of the brace and the compliance of the patient to the treatment.

P073

Infected Haematoma: A Mimicry of Sarcoma (Case Report)

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ABSTRACT

Case report: A 9-year old Malay boy, presented at our centre with a right leg swelling following an alleged MVA when his right leg was hit by a stone. Preceding this injury, about 2 weeks earlier, he had sustained a fall in which the ankle of the same limb swelled up and subsided few days later. The patient presented with symptoms of pain and swelling over the right limb and examination revealed tender and erythematous right leg. Radiograph of the leg revealed osteolytic lesions of the distal tibia and arised suspicion of malignancy. Patient's TWC was 10.5. USG for the right lower limb, suggestive of cellulitic changes. The patient was referred to the Oncology Unit GHKL for further review. Upon review, the child was diagnosed as having OM secondary to infected haematoma. The condition was treated as acute OM and subsequently started with IV C-Pen and IV Cloxacillin and underwent wound debridement. The patient underwent 1 week post operatively stay and treated with antibiotics and daily dressing. Bone HPE reported features in keeping with OM. During subesquent follow-up the patient's wound had healed well, and the course of antibiotics was completed properly. **Conclusion:** Clinical presentation and radiographical features of OM can mimic a sarcomatous appearance. This is rare and a high index of suspicion is needed to identify the exact pathology to facilitate an ideal management.

A Case of Anterior Cruciate Ligament Injury in a Child Treated Successfully with Transphyseal Reconstruction

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ABSTRACT

Anterior cruciate ligament (ACL) injury with open physis is an uncommon injury in children. A midsubstance ACL tear in an adult is equivalent to an anterior tibial spine avulsion fracture in children. We report a 9 year old boy who sustained a closed avulsion injury of his left anterior cruciate ligament when a motorcycle fell over his left anterior knee. He was treated with arthrotomy reduction and screw fixation. After 6 weeks, the screw was removed arthroscopically and the knee had regained its full range of movement.

 P075

A Limping Child: First Look It's Hip Or Knee In Origin! No! It's the Talus Osteomyelitis

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ABSTRACT

Isolated osteomyelitis of the talus in a child is very rare incidence. Children presenting to the emergency department with pain and a limp are predominantly investigated for pathologies of hip or knee, hence a condition originating from talus is frequently missed. A delay in diagnosis of talus is a precursor to gait and bony deformity in later years when the cost of disability can present a huge burden to the patient. We present a case of osteomyelitis of talus whereby a missed diagnosis was initially given, however, a correct diagnosis was later made and the patient was able to receive early treatment.

A Case of Left Femur Fracture in Adult Osteogenesis Imperfecta

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ABSTRACT

Case Report: We present a case of closed fracture midshaft left femur of an adult patient with osteogenesis imperfecta. The patient had a history of multiple fractures since childhood mostly in the left femur, which had resulted in stepping malunion. Inadequate pre-operative planning had led to poor fixation of the fracture. Intraoperative radiographs showed that interlocking nail fixation was unacceptable and was abandoned. Locking plate was subsequently performed and fixation was satisfactory.

Syringohydromyelia: An Uncommon Cause of Post Traumatic Low Back Pain in Children

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ABSTRACT

A healthy 9 year old boy presented with a 2-month history of backache and progressive hunching of the back following a minor trauma. Examination revealed subtle right lower limb numbness. MRI of the spine revealed syringohydromyelia; subsequently T5-L4 laminoplasty and excision of cyst was performed. The patient recovered fully with no back pain and residual neurology had been reversed to normal.

A Rare Case of Heterotopic Ossification in a Newborn

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ABSTRACT

Heterotopic ossification (HO) is the growth of bone in soft tissue where it usually does not exist. The causes for this can be broadly classified into neurogenic, genetic and traumatic causes. The pathophysiology of HO remains unknown. This disorder is extremely rare in infants and can mimic or coexist with thrombophlebitis, cellulitis or osteomyelitis. Most importantly, HO has to be differentiated from bone-forming tumours such as osteosarcoma and osteochondroma. In this article, we report a case of traumatic HO in a five day old newborn, following intravenous cannulation of the right wrist and left ankle, with the latter complicated by osteomyelitis. The patient's right wrist showed complete resolution to conservative therapy; similarly with the left ankle, following drainage and six weeks of antibiotics. We aim to highlight the clinical and radiological features of HO as well as the differential diagnosis of soft tissue ossification in early childhood.

P079

Management of Adolescent Blounts with Proximal Tibial Locking Plate - Case Series

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ABSTRACT

Blount's disease is a growth disorder involving the medial portion of the proximal tibial growth plate and causes localised varus deformity. Treatment is based on the stage of the disease and age of the child. If the disease progresses or is first seen in stages 3 and 4, osteotomy is indicated. Deformities of stages 5 and 6 are more complex and may require a double level osteotomy to correct both genu varum and articular incongruity. We report our experience with three cases of Adolescent Blount's by using proximal tibial locking plate. Three children, ages 10, 13 and 15 respectively, presented to us with Adolescent Blount's. Two of them presented with bilateral deformity with Langenskiold stage 5 and one presented with stage 3 on the left side only. We performed a proximal tibial osteotomy for all three cases with resection of physeal bar for both the bilateral presentation. The osteotomy was fixed with a proximal tibial locking plate. On subsequent follow up all three patients have good union at the osteotomy site, with deformity corrected and with good functional outcomes. The literature regarding management of the disease is reviewed.

A Prospective Study of Paediatric Fractures In Hospital Tengku Ampuan Afzan, Kuantan

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ABSTRACT

Paediatric fractures are related with serious morbidity if not treated well especially when it involves physes injury. Deformity, limited function and limb length discrepancy are among the commonest complications that could derive from the fracture in paediatrics. A surveillance to identify fracture patterns and the epidemiology will help in identifying modifiable risks factors and devised a prevention strategy. This a prospective study on paediatric fracture that required admission to the hospital from January 2009 until June 2010. Patients age seven to twelve were the highest age group admitted followed by age between three to six years old. Injury at playground or school and domestic injuries contribute to 39% and 29% of each, followed by road traffic accident in 21% of the cases. There was no association of peak period of admissions to the school holiday or festive seasons. Upper limbs fractures were the dominant fracture in this study and supracondylar humeral fractures was the commonest injuries. Operative treatment involving the use of K-wire was the mode of treatment in majority of the patients.

Through Knee Amputation for Patient with Proximal Femur Focal Deficiency with Tibia Hemimelia: Anatomical and Surgical Considerations

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ABSTRACT

Tibial hemimelia, first reported by Otto in 1941, is a rare anomaly. Tibial hemimelia may be unilateral or bilateral. The etiology still remains uncertain. We report the case of a 2 year old girl who had had a right lower limb deformity since birth. The patient was diagnosed as having proximal femur focal deficiency with the absence of contralateral tibia. The patient's condition was revealed from a detailed scan executed before the mother underwent elective lower cesarean section. The patient presented a shorter right lower limb with abduction and an externally rotated foot which was supinated and in an equinovarus position. The distal phalanx of the great toe was flattened and resembled a hallux with 3 components. The medical team performed knee amputation on the patient. Following the amputation, we proceeded with an anatomical dissection of the amputated limb. Both the tibia hemimelia with proximal femur focal deficiency and the absence of quadriceps mechanism with dysfunctional knee were surgically treated. This paper represents our humble attempt to highlight the anatomy and appearance of a deformed right lower limb.

Early Outcome of Surgical Treatment of Patients over 5 Years of Age Presenting Developmental Dysplasia of the Hip: A Study Conducted by Hospital Kuala Lumpur

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ABSTRACT

Objective: The objective of this study was to evaluate the early outcome of surgical treatment of developmental dysplasia of the hip in children older than 5 years. **Method:** Fifteen hip operations were performed on 13 child patients, 11 of whom were females and 2 were males. This was conducted using open reduction and various femoral and acetabular procedures. The average age at the time of operation was 7.2 years (age range: 5 to 11). The period of follow-up ranged from 1.5 years to 11 years. Pre- and post operative and follow-up radiographs were taken. **Results:** Clinical outcome according to the McKay criteria are as follows: 8 hips (61.2%) were excellent, 2 hips (15.4%) were good, 3 hips (23.1%) were fair, and none were rated poor. Radiographic outcome according to the Severin Classification are: 11 hips (73.3%) were excellent, 1 hip (7.7%) was good, and 3 hips (20%) were poor. Four hips (26.7%) later developed avascular necrosis (AVN). **Conclusion:** A one-stage operative procedure comprising open reduction, femoral shortening, and acetabular reconstruction in DDH for children presenting after the age of 5 years was shown to have yielded satisfactory clinical outcomes.

Paediatric Orthopaedic Admissions in Sungai Buloh Hospital in 2011

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ABSTRACT

This is a study which was conducted in Hospital Sg Buloh. **Objectives:** The objectives were: i. to review the types of orthopaedic cases, both trauma or non-trauma, which were admitted to the hospital, and ii. to determine whether such cases could be treated conservatively or that surgical intervention was needed. **Method:** A study was made of the census of ward 8C (paediatric ward) in Hospital Sg Buloh from January to December 2011, via entry book and computer registry. Subjects selected were those over 3 years old. Demographically, 86.5% of this group were Malays, 9.5% Indians, 3.5% Chinese and 0.5% were non-Malaysians. The average age was 10 years old. There were total of 169 admissions in which 142 involved trauma cases and 27 were non-traumatic. A total of 118 of the trauma cases (83.4 %) involved closed fractures while the remaining 24 cases (16.6%) involved open fractures. A total of 46 cases (27%) were treated conservatively, while 123 cases (73%) were treated operatively. Of the trauma cases, fractures that involved the upper limbs totalled 93 (65.3 %) and those involving the lower limbs totalled 49 (34.7%). The highest number of cases involved supracondylar humerus fracture in the upper limbs of which 98% were treated operatively; with the lower limbs it was fracture femur of which 77% were treated operatively. **Results:** Infection was the most common form of non-traumatic complaint with 21 cases (78%) needing incision and drainage. The average waiting time for operative management was less than 48 hours while the average duration of stay was 3 days; a longer stay was related to conservative management or required other treatments such as from the plastic team. **Conclusion:** Most of the cases that were admitted to the paediatric ward were trauma cases, of which the majority were treated with surgical intervention. This mode of treatment shortened the length of hospital stay and hastened the process of recovery.

Pulled Elbow/Nursemaid's Elbow

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ABSTRACT

Pulled elbow/nursemaid elbow is a dislocation of the elbow joint caused by a sudden pull on the extended and pronated arm, such as that caused by an adult tugging on an uncooperative child, or by swinging the child by the arms during play. This report describes a 2 year old boy with pain, swelling and reduced range of movement of the right elbow and wrist four days after a family gathering. The mother had denied any history of trauma of the upper limbs prior to presentation. The child was initially treated in a private clinic but after two days, the mother noticed that the patient was not using his right upper limb. There was tenderness over the right elbow causing pain upon touching, which prompted the mother to bring the child to the hospital. An x-ray of the right elbow showed subluxation of the elbow joint with no obvious fracture. A trial of maneuver reduction was unsuccessful because the patient was uncooperative. A right arm backslab was applied before admission into the ward for observation. Examination the next day showed tenderness in the lateral aspect of the right elbow and minimal swelling with normal skin and intact circulation. The patient also had a normal range of movement of the elbow and wrist though there was limited elbow extension due to pain. It was decided to treat the patient conservatively using a right elbow backslab with the right forearm in supine position. A follow-up examination after 2 weeks revealed absence of swelling or tenderness at the elbow and no neurological deficit. Repeated x-rays revealed normal findings, thus allowing the patient to be discharged from the orthopaedic clinic. In conclusion, pulled elbows are usually caused by a sudden pull or jerk to the arm. They are usually easy to diagnose and treat with reduction by flexion and supination or hyperpronation. Neglected nursemaid's elbow can cause a patient to permanently be unable to fully move his elbow. An important part of patient management involves educating parents as to the risk of recurrence.

 P085

Congenital Trigger Thumb and our Experience with Surgical and Conservative Treatment - Case Series

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ABSTRACT

Congenital Trigger Thumb is known to cause flexion or extension difficulty at the interphalangeal joint of the thumb. It is a stenosing tenosynovitis of the flexor pollicis longus tendon. The etiology of this condition is unclear and controversy persists as to whether it is congenital or an acquired condition. The outcome of treatment is also controversial. There is no consensus on whether surgical correction should be indicated first or reserved until conservative treatment proves ineffective. We report our experience with 8 cases of Congenital Trigger Thumb. Each of the children in the sample presented at different age groups ranging from 1 year 5 months to 7 years. We initially treated the patients conservatively by passive stretching and splinting for six months. Eventually, surgery was performed for 3 children of the older age group when conservative treatment failed. Surgery was performed under general anaesthesia where the A1 pulley was identified and transected. A good outcome was also observed for the others who came under a slightly prolonged conservative treatment. Our results may help in decision making with regard to the treatment of Congenital Trigger Thumb.

Intraarticular Ganglion of the Knee Mimicking a Meniscus Injury: A Case Report

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ABSTRACT

Ganglionic cysts occur more commonly in the tendon sheath and wrist. Intraarticular ganglion cysts of the knee are rare. They are mostly reported as incidental arthroscopy findings in MRI and are usually asymptomatic. This is the report of a case of symptomatic knee condition following sports injury having a clinical diagnosis of meniscal injury. It was later found to be an intraarticular ganglion of the knee.

A Similar Pattern of Proximal Tibia Fracture Associated with the Game of Futsal: A Report of Two Cases

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ABSTRACT

Futsal is a variant of football that is played on a smaller pitch indoors. The sport has become increasingly popular among teenagers in this country. However, musculoskeletal injuries associated with this sport is significantly high in the literature, especially those involving the ankle and knee joint^{1,2}. We present two cases of proximal tibia fractures associated with futsal injury which show similarities in their fracture pattern. Interestingly enough, both patients sustained the injury on the same futsal field. The medical team was able to identify some of the risk factors predisposing to getting the injury in the field. The two cases were surgically treated with open reduction and screw fixation and revealed similar intraoperative findings. It is hoped that incidents of futsal injury in this country can be reduced by identifying the risk factors. The amount of fracture hematoma and soft tissue interposition, together with fracture displacement led to the conclusion that this type of fracture must be treated with open surgery for perfect reduction and union. The patients were informed that data concerning their cases would be submitted for publication, and gave their consent.

Keywords: futsal game, musculoskeletal injury, proximal tibia, fracture

Pigmented Villonodular Synovitis of the Hip: A Case Report

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ABSTRACT

We present a case report of a 44 year old female who presented acute non-traumatic right hip pain and reduction in the range of motion of the affected hip. The imaging findings and the histology specimen obtained via arthroscopy were consistent with the diagnosis of pigmented villonodular synovitis (PVNS) of the right hip. We are presenting this case report in order to increase awareness of PVNS and current methods for diagnosis and management of this condition are discussed.

Outcome of Anterior Cruciate Ligament Reconstruction Surgery in a Non-Sports Subspecialty General Hospital

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ABSTRACT

Background: The anterior cruciate ligament (ACL) is the primary stabiliser of the knee against anterior transposition. ACL injuries are commonly seen in the young and active and are associated with considerable reduction in quality of life. However, recent advances in ACL reconstruction and rehabilitation have enabled sports surgeons to perform this surgery with good outcomes. **Objective:** To evaluate the outcome of anterior cruciate ligament (ACL) reconstructions done in a non-sports subspecialty general hospital **Method:** This is a single surgeon, single centre, retrospective study. A sample of 13 patients who underwent ACL reconstruction at the Tuanku Fauziah Hospital, Kangar were interviewed and scored based on the Lysholm and Tegner Activity Scale. These patients had also completed the rehabilitation protocol regime which comprised of only the basic rehabilitation modalities. They were assessed by personal interviews and also by telephone interviews. The average post op duration was 34 months. **Results:** The mean Tegner scores were 85.8 and Lysholm scores were 6.1. Most of the patients were satisfied with their current level of activity even if it was lower than it was before the injury. Despite having only basic rehabilitation facilities, results achieved are almost at par with those of similar cases treated at highly specialised centres. **Conclusion:** Good ACL reconstruction outcomes are obtainable in basic general hospitals and not only in sub-specialised centres.

Cryopreserved Versus Fresh Frozen Meniscal Allograft: A Pilot Project of A Biomechanical Study

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ABSTRACT

Background: Meniscal replacement is becoming increasingly popular among sports surgeons for treating meniscus-deficient knees. Fairbanks was the first to discuss the importance of meniscus in protecting the articular cartilage of the knee. Arnoczky was the first to replace a cryopreserved meniscal allograft in dogs in 1989 and Milachowski was the first to replace meniscus in humans in 1989. However, meniscal allograft transplantation outcomes are still being investigated. Fresh freezing and cryopreserving allografts, are the main preservation methods. This article describes our experience in conducting a small pilot study undertaken as preparation for a biomechanical study on cryopreserved meniscal allografts as compared to fresh, frozen meniscal allografts. **Method:** The meniscus was procured from young adult patients who underwent endoprosthesis of the femur with a healthy unaffected meniscus. After the procurement, all menisci were preserved by the two methods mentioned earlier and tested in an instron machine. Testing involved traction of young modulus after post preservation preparation. **Results:** The failure and success of testing the slippery, thick, prepared meniscus in an Instron machine is described and shared in this article. **Conclusion:** This pilot study discusses and shares experiences in handling meniscus as an initial preparation prior to a main biomechanical study.

A Retrospective Analysis Incident of Infection after Arthroscopic Anterior Cruciate Ligament Reconstruction: A Hospital Kuala Lumpur Experience

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ABSTRACT

The purpose of this report is to analyze the incidence of infection after arthroscopic anterior cruciate ligament (ACL) reconstruction and our experience in its diagnosis and management. Below is given a retrospective review of all the arthroscopic ACL reconstruction procedures performed in Hospital Kuala Lumpur between 2006 till Mac 2012. The incidence of infection after ACL reconstruction was 3.2 %. The most common symptoms suffered by the infected patients were fever, swelling, severe pain and restricted motion. Their erythrocyte sedimentation rate and C-reactive protein levels were markedly elevated. There were 8 Intra-articular infections of which 2 were extra-articular deep infection. Four cases presented acutely (<2 weeks) and another 6 cases presented after 2 weeks. Microbiology showed that coagulase-negative staphylococcus aureus (CONSA) was the most common bacterium isolated in intra-articular infection, and the staph aureus in extra-articular infection. Gentamicin is the most sensitive antibiotic for CONSA and Cloxacilin the most sensitive for staph aureus. All patients underwent arthroscopic debridement and 3 patients had their ACL graft removed. Infection after arthroscopic ACL reconstruction is a rare but potentially devastating complication. Correct diagnosis relies on clinical evaluation, laboratory tests and bacterial culture. With early diagnosis and prompt treatment, infection can be successfully eradicated. Our proposed treatment protocol is arthroscopic debridement and irrigation in the quickest time, with retention of the ACL graft when it is still functional.

Chronic Acromioclavicular Joint Disruption: The Medium Term Result of Coracoclavicular Ligament Reconstruction at Hospital Selayang, Selangor

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ABSTRACT

Introduction: The best treatment for chronic acromioclavicular joint disruption is still controversial especially in a Rockwood type III injury. **Objective:** The purpose of this retrospective study is to review the medium term outcome of patients with chronic acromioclavicular joint disruption treated with coracoclavicular ligament reconstruction with or without distal clavicle excision. **Methodology:** Patients were evaluated using the University of California, Los Angeles (UCLA) scoring system and the Constant score. The examinations also include radiographs of the shoulder. **Results:** The study involved four men, three of whom were diagnosed preoperatively with acromioclavicular joint disruption Rockwood type III, and one with Rockwood type IV. The patients had undergone the procedure mentioned above at Hospital Selayang at various times between 2009 till 2011. Three of the patients have been re-assessed clinically and radiographically for an average of 30 months while one patient could not be traced. According to their UCLA and Constant scores, these three patients have achieved fair to good results from the procedure. **Conclusions:** Operative intervention on patients with chronic acromioclavicular joint disruption Rockwood type III injury shows good potential of producing satisfactory functional outcomes.

Open Bone Augmentation for Large Osseous Defects in Chronic, Recurrent Glenohumeral Instability

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ABSTRACT

Introduction: The glenohumeral joint is one with the greatest mobility and intimate contact between the articular surfaces of the humeral head and glenoid labrum contributes to its stability. Patients with recurrent dislocations have bone deficits in one or both of these surfaces, due to the presence of a Bankart lesion or an engaging Hill-Sachs lesion. Although successful arthroscopic management of instability associated with osseous defects is an alternative, open reconstruction is often indicated. Large osseous defects can be challenging and preclude arthroscopic treatment. **Case Report:** A 30-year-old man with a history of chronic, recurrent left shoulder dislocation for more than 10 years was referred to us for further evaluation and treatment. Our assessment revealed a large Bankart lesion combined with a large Hill Sach lesion over the humeral head. Open reduction with bone augmentation of the glenoid osseous defect was performed using autogenous bone graft from the iliac crest. Intra-operative assessment showed adequate stability for the humeral head defect without the need for intervention. The technical aspect of the surgery is described together with the clinical outcomes of the patient. **Discussion/Conclusion:** An estimated osseous defect with a width of 20% of the glenoid length remains unstable and requires bone augmentation. Bone grafting was the stabilizing mechanism in the restoration of the glenoid concavity. Most patients with bone deficits on both articular surfaces can suitably be treated by reconstructing only one of the deficits, but occasionally both defects may require intervention. To date, there are no validated preoperative guidelines for cases when both procedures are required. An intra-operative assessment remains our best tool.

Complications Following Arthroscopic ACL Reconstruction – A 5-Year Follow-Up with Special Emphasis on Arthrofibrosis

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ABSTRACT

Background: We present a retrospective analysis of arthroscopic anterior cruciate ligament (ACL) reconstruction that was performed between 2007-2012 in Hospital Raja Permaisuri Bainun Ipoh, Perak, involving 142 patients. During the follow up period for 119 (83%) of the patients, an examination and identification of the risk factors for developing post-operative complications with special emphasis on arthrofibrosis were made. **Method:** Patient population comprised an average age of 26 years and were predominantly Malays (82%) and male (93%). Seventy-three percent of the patients had sustained trauma during a sports activity. Hamstring graft was used for 79 patients while bone-patella-bone-graft was used for 40 patients. **Results:** We found that six patients (5%) developed arthrofibrosis in the post operative period and had to undergo surgical intervention. Restricted knee movement for all patients was resolved after undergoing arthroscopic adhesiolysis procedure. One patient developed arthrofibrosis as he had a second surgery to his knee. Preoperative range of movement was important as two patients (1.6%) who had reduced flexion and extension with joint effusion prior to surgery, developed arthrofibrosis. Analysis of the time interval between time of injury and date of surgery found that early surgical intervention is a risk factor in developing arthrofibrosis as one patient (0.8%) developed arthrofibrosis as surgery was performed 2 weeks after trauma. Type of graft used did not show significant differences as 2 had the BPBT graft (5%) while 4 patients in the hamstring graft group (5%) developed arthrofibrosis. Meniscal procedures did not have an influence on the outcome related to the risk of arthrofibrosis. Other complications encountered were local infection, hypertrophic scar, and chronic regional pain syndrome. **Conclusion:** We believe that the mainstay of treatment for established arthrofibrosis is surgical intervention. As we continue to strive forward, we aim to reduce our arthrofibrosis incidence with an early and appropriate knee mobilization programme and an ideal ACL rehabilitation.

 P096

Bilateral Knee Osteochondritis Dissecans

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ABSTRACT

We describe the case of a sports-active 32 year old male, who presented to the Orthopedic Department of Penang General Hospital, with a complaint of bilateral knee pain and swelling after an episode of trauma to the knee. Upon examination, knee effusion in both knees and tenderness on the lateral femoral condyle of the right knee was noted. There was no knee joint line tenderness and no instability. X-rays subsequently revealed grossly normal findings. However, MRI revealed bilateral knee osteochondritis dissecans. Despite being one of the rarest orthopedic disorders, this case report is presented in this article with a view to generating discussion with regard to epidemiology, etiology, clinical presentations, diagnosis modalities, classifications of OCD, possible treatments & management modalities available.

Multiple Ligament Injury with Common Peroneal Nerve Palsy after Traumatic Dislocation of the Knee

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ABSTRACT

Introduction: Traumatic dislocation of the knee is uncommon, representing less than 0.2% of all orthopaedic injuries. It is usually caused by high-energy sports injuries or motor-vehicle accidents. It is always associated with considerable ligamentous disruption, but the pattern of injury varies considerably. The most common pattern of injury is a bicruciate disruption with associated disruption of the MCL or posterolateral corner depending on the direction of the deforming force. Complete disruption of all four major ligament stabilizers is less common. The risk of vascular damage in association with dislocation of the knee is well known. Damage to the common peroneal nerve is less well recognised than vascular injury; the incidence is higher in the presence of disruption of the PCL and posterolateral corner. **Case Report:** A 28 year old junior doctor was involved in a motor-vehicle accident in July 2011. He had left knee dislocation and was treated primarily in a local hospital. He was referred for the significant instability of his left knee which is associated with foot drop. Physical examination showed grade 3 laxity of ACL, PCL and PLC which was confirmed by MRI findings. NCS showed common peroneal nerve axonal neuropathy. Reconstruction of the cruciate ligaments and the posterolateral corner was performed using autogenous grafts. Exploration of the common peroneal nerve showed a neuroma-in-continuity. Therefore, neurolysis was carried out for the nerve and tibialis posterior tendon transfer performed to restore the dorsiflexion of the foot. The patient was assessed according to Tegner Activity Level Scale, Lysholm and IKDC scoring system pre- and post operatively. **Conclusion:** Dislocation of the knee usually results in severe soft tissue disruption. The common peroneal nerve is susceptible to injury because of its fixed attachment at the region of neck of fibula. It is usually associated with PCL and posterolateral corner injury during the hyperextension and varus stress of the knee which causes a traction on the nerve. In general, traction injuries to the common peroneal nerve have a poor outcome due to the extensive damage to the nerve. Lesions in continuity can be observed for signs of spontaneous recovery; nerve grafting is reserved for patients with short segment involvement while the transfer of the tendon of tibialis posterior may be a useful alternative to restore dorsiflexion of the foot.

P099

Arthroscopic Reduction and Internal Fixation with Cannulated Screw for Anterior Cruciate Ligament (ACL) Avulsion Fracture from the Tibial Eminence in Adolescents: A Case Report and Review of the Literature

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ABSTRACT

The literature review revealed that tibial eminence avulsion fracture accounts for approximately 1% of anterior cruciate ligament (ACL) injuries. As the numbers of children and adolescents participating in organised sports are increasing, so too are the number of sports related injuries, especially ACL injuries. However, in the younger population, the incidence of intrasubstance ACL injuries is uncommon, as in this age group the strength of the ligament is greater than the bone and the growth plate. Hence in children or adolescents, injuries that stress the ACL most often result in bony avulsion of the ligament from the tibial eminence. Tibial eminence avulsion fracture can lead to knee pain and instability due to the lengthening of the ACL if it is not reduced and fixed well. The methods used for surgical treatment of avulsion fractures of the tibial eminence include open and arthroscopic techniques. The open technique carries more complications due to extensive soft tissue dissection, hence arthroscopic reduction and internal fixation (ARIF) of tibial intercondylar eminence fractures is becoming the emerging option. There are various arthroscopic techniques used in the fixation of bony avulsion such as the use of Kirschner wires, staples, metal screws, or sutures. We are reporting a case of ACL avulsion fracture from the tibial eminence (Meyers and McKeever type II) in a 14-year old boy and describing the arthroscopic screw fixation procedure and outcome of such case.

Endoscopic Debridement of Snapping Scapula

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ABSTRACT

Snapping scapula is a largely unrecognized problem. Patients mainly present with audible and painful crepitus of scapula causing diminished quality of life. This is a case report on a 17 year old Malay girl who complained of painful crepitus of her right scapula region. She had noticed an audible grating sensation for 6 years prior to her presentation. She developed progressively worsening pain mainly upon heavy lifting. She had no other symptoms like fever, loss of weight or swelling. There was a history of trauma six years ago where she fell on her right side. She sought treatment then and was diagnosed with no fractures. Clinical examinations showed a grating/crepitus audible on the right scapula. There was tenderness at the superomedial angle of the right scapula which corresponded to the area where the crepitus arose. She had limitations upon abduction above 90 degrees. Neurovascular status was normal. No obvious source of the snapping could be identified with standard investigations. MRI of the right shoulder was normal. Endoscopic debridement was carried out showing fibrotic supraspinatus bursa with thick fibrotic tissue at the superomedial angle of scapula. Supraspinatus bursectomy and superomedial resection was conducted. Postoperatively, patient's symptoms resolved in the immediate postoperative period and she felt no abnormal movements or crepitus of the shoulder. She was discharged well and was sent for physiotherapy to improve the range of movements of her shoulder. At a subsequent follow up, her shoulder function was normal. Endoscopic debridement is a good technique to treat snapping scapula syndrome and obtain early functional recovery with a shorter hospital stay.

P101

Measurement of Patella Height Ratio

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ABSTRACT

Background: Patella height evaluation is important when planning for knee replacement surgery, tibial osteotomy and anterior cruciate ligament reconstruction. Insall and Salvati introduced a method of measuring patella height as a ratio, so as to eliminate factors such as radiographic magnification, physical size and knee flexion angle which may affect the true value. Currently, there are 3 preferred methods of measuring patella height ratio; Modified Insall-Salvati index, Blackburne-Peel index and Caton-Deschamps index. The purpose of this study is to measure patella height ratio using these 3 methods via digital radiographs and PACS tools and to evaluate the reliability of these techniques in inter-observers and intra-observers. **Method:** Thirty lateral knee radiographs of knee flexion angles of $30^{\circ} \pm 5^{\circ}$ were obtained from 26 patients. All radiographs were digitally captured on an electronic picture archiving and communication system (PACS). Three orthopaedics specialists as observers were asked to measure the patella height ratio using the 3 preferred methods. For each radiograph, intraclass correlation coefficients (ICC) were calculated for each of the 3 observers. Two weeks after the initial measurement, the 3 observers remeasured the patella height ratio in the same radiographs. Intra-observer ICC was calculated. **Results:** The inter-observer ICC for each method showed good reliability, ranging from 0.6 to 0.8. The intra-observer ICC ranged from 0.98-0.99. This indicates excellent intra-observer reliability. **Conclusion:** High ICC values show good inter-observer and excellent intra-observer reliability for all 3 methods of patella height ratio measurement. All 3 methods can be used for clinical purposes. The reliability of the 3 methods was good despite the use of digital radiographs using PACS tools to undertake the measurement. However, there was a large number of patella alta in groups measured via Modified Insall-Salvati index.

Differential Strain Patterns in the Achilles Tendon may be the Cause For Achilles Tendinopathy Observed In the "Critical Zone": An In vitro Study

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ABSTRACT

Background: Achilles Tendinopathy which is apparent following repetitive tendon microtrauma is a common but complex pathology. The most common site for it to occur, known as the critical zone, has been identified; but the reason for this remains debatable. It is our hypothesis it may be due to differences in strains experienced along the different sections of the tendon when biomechanical load is applied; The place where the highest strain occurs, the critical zone, is where tendinopathy develops. **Method:** A study was conducted using twelve caprine Achilles tendons (n=12) to determine the strains they were being subjected to in different parts of the tendon when loading is applied. Sections were identified by zones which were evenly distributed (approximately 10 mm) along the tendon. A segments were located nearest to the bony insertion i.e. the critical zone, B were at mid-tendon, and C, close to the muscular aponeurosis. Uni-axial unidirectional tensile strains of 0%, 3%, 7% and 10% were applied and its effects on the different segments recorded by means of a contactless measuring method using image analysis. **Results:** The highest strains were recorded at segment A for all loading conditions ($p < 0.05$). It was also apparent that strains were lowest in segments furthest from the critical zone ($p < 0.05$). Significant differences between the zones were observed regardless of the loading being applied; e.g. at 10% tensile strain, segments A, B and C were subjected to strains of 25.05 ± 0.03 , 3.41 ± 0.01 , 2.41 ± 0.01 respectively. When increasing amounts of mechanical strain were applied, significant correlations were observed between the different segments. **Conclusion:** Differential strain patterns between the different segments was noted. The segments closest to the tendon insertion were subjected to the highest amount of strain, which corresponds to the "critical zone" site. This finding suggests that the critical zone site was more likely to undergo tendinopathy because of the differences in strain distribution throughout the tendon substance.

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Hand & Upper Limb Infections in Patients with Diabetes Mellitus in Malaysia 2008 - 2009

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ABSTRACT

Background: Infections of the extremities in a diabetic most often affect the lower limbs and is associated with chronic complications of diabetes. This is well described in the literature. However, infections of the upper limbs are not as well described in the literature. We present an 18-month prospective study conducted by the National Orthopaedic Registry of Malaysia (NORM) to survey the incidence of limb infections in diabetics in Malaysia. **Objective:** The objective of this study was to survey hand & upper limb infections in patients with diabetes mellitus in Malaysia between 2008 and 2009. **Method:** In this study, data from about 1886 diabetic patients was collected from 18 hospitals in Malaysia between 2008 and 2009. Out of this population, 95 patients had infection affecting the upper extremities. Patients' data on demography, co morbidities, current medication and existing complications was collected. Outcomes of infections either resulting in healing or amputation was also looked into. The 95 patients above had an average age of 52.7 years with a slight preponderance of urbanites. About 80.6 % of the patients presented with a Type 2 diabetes and the average duration of diabetes for this group was 6 years. A majority of patients presented with abscess formation (28.4 %) and with cellulitis (26.7 %) as the next most common complaint. Swabs were taken from the infected areas and results obtained for 77 of the patients. **Results:** About 40.3 % had cultured a single growth and 19.4 % cultured a mixed growth. The most common organism cultured was Staphylococcus sp. (15.8 %) and followed by Klebsiella sp. (6.3 %). In managing these patients, 76.8 % chose to undertake one or multiple surgical procedures to hasten the healing process, with an amputation rate of 23.2 %. **Conclusion:** Management of diabetic ulcers of the upper extremity merits aggressive treatment and early surgical intervention should be undertaken in order to minimise morbidity.

Osteotomy, Bone Grafting and Internal Fixation, in Combination With a Sauvé-Kapandji Procedure for Late Presentation of Severe Malunion of Distal Radius with Chronic Dislocation of Distal Radioulnar Joint: A Case Report

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ABSTRACT

Malunion after fracture of the distal radius in young patients can cause significant disturbance in wrist function. The indications for surgery are usually pain and functional disability due to limited wrist movement. Corrective surgery should address the radial deformity in all planes (restoration of the radial length, palmar tilt and radial angle) and also restore distal radioulnar joint function (with stabilization, resection and arthrodesis). We report a case of a 22 year old female patient presented with severe malunion of distal radius with chronic distal radioulnar dislocation.

Palmaris Longus Sling Procedure for Anatomic Reconstruction of Chronic Post-Traumatic Distal Radioulnar Joint Instability: A Case Report

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ABSTRACT

This is a case report on chronic post traumatic distal radioulnar joint (DRUJ) instability with irreparable triangular fibrocartilage complex (TFCC) due to a previous Galeazzi fracture which was treated with plating of radius & Kirshner wiring of DRUJ. A palmaris longus sling procedure was performed to reconstruct the torn radioulnar ligaments and restore normal DRUJ primary constraints and kinematics. After a 3-month postoperative, patient regained the full range of motion in both supination & pronation with 52% improvement in grip strength.

Wrist Arthrodesis with Volar Bone Grafting and External Fixation: A Case Report and Review of the Literature

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ABSTRACT

Wrist arthrodesis is indicated in a painful or unstable wrist joint with advanced destruction due to osteoarthritis, rheumatoid arthritis, post traumatic arthritis, SLAC wrists, spastic flexion contracture and failure of wrist arthroplasty. It can relieve pain, obtain better appearance and ease daily hand function. Rigid fixation using a dorsal plate and screws has been accepted as a reliable technique although related problems are relatively common. We describe a volar technique for wrist arthrodesis in a patient with severe post traumatic wrist arthritis associated with skin adhesion on the dorsal aspect of the right wrist, due to previous open fracture distal end of the right radius and ulna (Gustilo & Anderson Classification Grade 3B). This technique can allow bony fusion and avoid a prominent hardware on the dorsum of the wrist.

Sternal Tubercular Osteomyelitis in Two Antipodean Continuums (Toddler versus Adult): Bacillus Calmette-Guërin Vaccination not always a Boon

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ABSTRACT

Primary sternal osteomyelitis among the pediatric age group is a rare condition in which patients present with a parasternal mass. The uncommon Granulomatous osteomyelitis (Tubercular osteomyelitis) lesion is most frequently seen. It can result from direct extension from the hilar lymph nodes, haematogenous or lymphatic dissemination. However, in the paediatric population it can occur following BCG vaccination. We present a case report of an unusual case of primary osteomyelitis of the sternum that presented with an inflamed swelling over the manubrium sterni in a 13 month old boy. We compare this case with in an adult with pulmonary tuberculosis suffering secondary sternal osteomyelitis. Histopathology for the toddler demonstrated an epitheloid granulomatous lesion but was sterile on bacterial culture. Our diagnosis of the toddler's primary osteomyelitis was an intraoperative one where the stalk of the swelling originated from the sternum. Regardless of the age of the patient and being asymptomatic for tubercular infection, primary sternal osteomyelitis was still a plausible cause which was later confirmed via histopathological findings. As with any case of osteomyelitis, a combination of diagnostic culture and prolonged specific antibiotic therapy remains the main contour of treatment leading to successful resolution. Surgical debridement is almost always indicated for cases having poor response to antibiotic therapy. The patients in our study were successfully managed with excisions of the mass, debridement and prolonged antibiotic and anti-tubercular therapy. An extensive diagnostic work up did not elucidate any other focus suggestive of tuberculosis in the toddler. However, the adult patient was already on anti-tubercular therapy prior to his presentation. This paper deliberates two antipodean continuums of the same disease (tuberculosis).

Actinomycosis: The Great Pretender

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ABSTRACT

Actinomycosis is a granulomatous destructive infection caused by bacteria of the order Actinomycetales. In humans, the infection is commonly caused by *Actinomyces israelii*. The infection typically involves the cervicofacial, thoracic, abdomen and pelvic region. However, due occasionally to dissemination of the organism, the infection can produce atypical clinical manifestations which can be mistaken for other infections or even a tumour. We report a patient who presented with a soft tissue mass in his foot which was initially diagnosed as benign soft tissue tumour. However, histopathological examination revealed an actinomycosis infection.

An Epidemiology Study of Septic Arthritis in Hospital Sultanah Bahiyah

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ABSTRACT

Background: Septic arthritis is an acute joint infection that requires early detection and prompt management. The aim of this study is to determine the behaviour of septic arthritis and the associated risk factors in the population of Hospital Sultanah Bahiyah suffering from this condition. **Method:** A retrospective review was made of all patients diagnosed with septic arthritis in Hospital Sultanah Bahiyah from July 2010 to December 2011. The variables in the data collection include the patient's demography (age, gender), site of septic arthritis, culture and sensitivity result and the risk factors. **Result:** A total of 66 septic arthritis cases was admitted to the hospital between July 2010 and December 2011. The knee was the most commonly affected joint (69.7%) followed by hip (15.2%). Diabetes and intravenous drug abuse were the common risk factors. Positive joint fluid culture was found in 51.5% of patients. The commonest causative organism was *Staphylococcus aureus*, in which most were penicillin resistant but sensitive to cloxacillin. The second most common organism isolated was *Pseudomonas aeruginosa*, which was commonly found in intravenous drug abuse patients. **Conclusion:** Septic arthritis is a type of mono-articular infection, frequently involving the knee joint. Cloxacillin should be considered the first line antibiotics for all patients presented with septic arthritis and anti-pseudomonas antibiotics should be considered for intravenous drug abuse patients.

Surgical Skin Preparation: Is Povidone Sufficient?

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ABSTRACT

Surgical site skin preparation is a vital and intergral part in the management of patients planned for surgical intervention in order to avoid surgical related infection. An ideal preoperative skin preparation agent should be effective, efficient and yet economical for general usage in all government hospitals in Malaysia. We carried out a study which compared the outcomes of skin preparation utilising three groups: povidone as a single agent, povidone and then application of 70% alcohol, and the last group, povidone application with an application time of 5 minutes followed by application of 70%alcohol. We studied a total of 50 elective orthopaedic cases performed at the Hospital Raja Permaisuri Bainun, Ipoh. We analysed laboratory results which were culture and sensitivity results by taking skin swab samples prior to skin preparation and a second sample just prior to surgical incision. Each group had various organisms in the pre-skin preparation sample. Among organisms cultured were staphylococcus aureus, pseudomonas aeruginosa, escherichia coli, enterobacter agglomerans. However after skin preparation culture and sensitivity tests, all three groups showed no organism cultured. We concluded that povidone used as a single agent is enough to act as a potent and effective skin preparation agent. We do admit that our sample size is rather small to draw a conclusion from and hope to expand our sampling to get a better sample size. Other factors to consider are patient related contraindications, patient allergies, skin condition over surgical site and of course, the surgeon's preference.

Tuberculosis of the Hip Still Present in our Community

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ABSTRACT

Tuberculosis(TB), once a disease in remission, is currently in resurgence due to immigration from endemic areas and the pandemic of human immunodeficiency virus (HIV) infection. TB of the hip constitutes 15 % of all osteoarticular tuberculosis, and is most common after spine TB. We present a case of TB hip in an otherwise healthy 17year old Malay man. He initially presented with history of trauma in August 2011 when he fell on a slippery floor from a sitting position and landed on his buttocks. Post trauma he sustained pain over the right hip but was still able to walk. He did not seek any treatment at that time. Unfortunately, he had another fall from a staircase in November 2011 and landed on his right hip. Post trauma, he was able to ambulate but with pain. He was initially treated as soft tissue injury at a local clinic. He again presented to a tertiary hospital for right hip pain; further history taking revealed patient had loss of appetite and weight loss of about 30kg since August 2011. On examination; he had limited range of movement of right hip joint with palpable inguinal nodes. Erythrocyte sedimentation rate (ESR) of 102mm/hr and a C-reactive protein of 24.8mg/L were administered. A plain radiograph of the right hip was suggestive of TB hip supported by computed tomography (CT) images, and hence MRI of the hip joint was carried out revealing gross joint space involvement suggestive of TB. Patient was started on anti TB treatment. This case illustrates the importance of proper history taking with correlation with examination findings and the importance of considering diagnosis of TB hip which is still in existence in our local population. A high index of suspicion, prompt diagnosis, and early treatment is the key to avoid complications and allow for full recovery.

National Orthopaedic Registry Malaysia (NORM): Incidence of Diabetic Foot and Hand in Malaysia

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ABSTRACT

The objective of this study is to report the findings of the 1886 data collected through NORM. **Methodology:** Data was collected from 18 MOH hospitals from July 2008 to 31 December 2009 (18 months), using a web based case report form (CRF). **Results:** The lower limb has much higher and more frequent diabetic complications than the upper limb. The average age at presentation was 56.4 years, with female patients numbering slightly more than males. The average duration of diabetes prior to admission was 11.6 years and the average duration of hospital stay was 13.3 days. Only 44% of patients practised diet control. Even though the majority (94%) of patients were on treatment, the compliance rate was only 54%. Likewise, the majority was aware of the need for footcare, but only a small percentage of them practised it. Amputation rates, complications, bacteriology, common antibiotics used are reported in this report. **Conclusion:** Efforts in relation to diabetes health education, especially on footcare, and safeguard practices need to be strengthened and intensified. **Acknowledgements:** All NORM committee member, Hons and coordinators of the 18 centers, Clinical Research Center (CRC).

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Mortality in Diabetics

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ABSTRACT

Background: Diabetes mellitus is a serious chronic disorder because of its long term morbidity and mortality. Diabetes-related mortality occurs either early due to diabetic ketoacidosis or hypoglycaemia or late resulting from long-term micro- and macrovascular complications. Mortality in individuals with diabetic foot has been well documented and the disease is held responsible for it. **Method:** This was a retrospective study performed in 2011. All deaths in Hospital Sultanah Nur Zahirah (HSNZ) which were associated with diabetes were included in the study. All variables associated with diabetes were analysed. **Results:** A total of 29 patients died in HSNZ in 2011 due to diabetes. Sixty-two per cent were women and patients aged between 46 to 71 years old. Duration of diabetes varied from 1 year to more than 20 years. Fifty-two per cent of deaths were due to orthopaedic complications related to diabetes. Majority of patients were admitted with septicemic shock. **Conclusion:** Diabetes is a debilitating disease but the 'di' in diabetes need not mean that diabetics will die early.

Salmonella Knee Septic Arthritis in Infants: A Case Report

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ABSTRACT

We report a rare case of an infant with septic arthritis of the knee caused by salmonella sp. There was initial doubt with regard to the diagnosis of septic arthritis due to the lack of physical evidence although the history was typical. The child demonstrated no predisposing factors. Joint aspiration and synovial tissue isolated Salmonella sp. Patient responded to a six week course of antibiotic therapy.

Fibre Size Variation in Tibialis Anterior, Soleus and Gastrocnemius Muscle in Amputated Cases of Diabetes Mellitus

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ABSTRACT

Background: Tibialis anterior, soleus and gastrocnemius muscles play an important role in stump reconstruction in below knee amputation surgery. The Burgess technique (1960) was regarded as a gold standard in stump reconstruction surgery. However, the Bruckner modification which was introduced in 1983 in Germany, significantly improved the outcome of the surgery. The Bruckner technique was based on the histomorphometric and histochemical variation of the lower leg muscles. **Objective:** The aim of the study was to describe differences in fibre size diameter of Tibialis anterior, soleus and gastrocnemius muscles in the lower leg of diabetes mellitus subjects. **Method:** Muscle tissue specimens were collected from 11 subjects undergoing below knee amputation surgeries at Hospital Tengku Ampuan Afzan, Pahang. The tissue was harvested at 5 cm above the amputation level. The viability of the tissue was assessed by clinical evaluation based on colour, contractility and bleeding capacity. The tissue was stained with hematoxylin and eosin (H&E) and nicotinamide adenine dinucleotide reductase (NADH-TR), for general structure of the muscle fibre, muscle fibre typing and measurement of the muscle fibre diameter. Quantitative analysis was carried out for the muscle tissues among the three muscle groups. **Results:** The fibre type distribution in tibialis anterior muscle (Type 1: 71%, Type 2: 29%), soleus (Type 1:60%, Type 2: 40%) and gastrocnemius (Type 1:60%, Type 2: 40%) respectively. T-test showed significant differences in fibre size between Type 1 and Type 2 fibre ($p<0.001$). Two Way ANOVA test showed the three muscle groups and fibre type distribution had significant effect on the muscle fibre size ($p<0.001$). **Conclusion:** Lower leg muscle of diabetes mellitus displayed a significant variation in fibre size among the muscle groups.

Is Your Mobile Phone Clean?

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ABSTRACT

This study seeks to determine potential risks of cross contamination from mobile phone usage among surgery based medical personnel. **Method:** The authors designed a questionnaire to collect information on patterns of mobile phone hygiene involving all surgery based medical personnel from orthopaedics, O&G and surgical departments. Participants' phones with usage of at least 3 months were cultured for micro-organisms. **Results:** There were 183 surgery based personnel at the time of study. One hundred and twenty completed questionnaires (response rate = 65.6%). Sixty-four per cent of staff used touch screen and 36 % used keypad. Only 20% reported washing their hands before and after using the phone; 21% reported never cleaning their phone. Forty-one per cent of the samples were cultured positive. CONS accounted for the commonest micro-organism cultured (38%), followed by streptococcus (31%), klebsiella (14%), mixed growth (12%), and pseudomonas (5%). Fifty-three per cent of keypad phones were culture- positive, which was higher than touch screen phone (33%). About 51% of those who did not wash their hands after using the phone were cultured positive. **Conclusion:** Mobile phones are widely used by health care workers in the hospital for immediate communication. There are potential risks as mobile phones serve as mobile reservoirs of infection for cross contamination. Bacteria contamination is a significant risk likely associated with infrequent cleaning of phones and infrequent hand washing. The authors recommend that hospitals develop regulations concerning proper mobile phone hygiene.

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Tuberculosis Septic Arthritis of Hip Joint in an SLE Patient

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ABSTRACT

A 24 year old Chinese girl who was diagnosed with systemic lupus erythematosus (SLE) was put on chronic steroid therapy 6 years ago, initially presented with left hip pain of a 3-month duration. It progressively worsened 2 weeks prior to admission to the extent that she could not weight bear. Patient denied systemic symptoms such as fever, weight loss, and loss appetite, and had not had primary tuberculosis in the past. There was no history of trauma or fall. Clinically, the left hip was kept in a flexed position with limited range of movement. There was no swelling or skin changes. Neurovascular status was normal. ESR was 104 and CRP was 89.8 and other blood investigations were normal. Pelvic X-ray showed reduced joint space of the left hip with erosion at the articular surface. Ultrasound showed joint effusion at the left femoral joint space with bulging of the femur cap. An arthotomy and joint washout of the hip was performed and found minimal seropurulent discharge and slough tissue. Histological examination revealed granuloma formed by epithelial histiocytes and numerous multinucleated giant cells associated with confluent central caseous necrosis surrounded by palisading epitheloid cells. Ziehl Neelsen stain showed the presence of a few AFB. Fungal and tissue culture and sensitivity were normal. A diagnosis of tuberculosis of the left hip was made and she was started on antituberculous therapy and placed under a rehabilitation program. The evidence of extrapulmonary tuberculosis infection is making a comeback, partly due to immunocompromised patients such as patients with AIDS and prolonged extragenous steroids. Clinicians should therefore have an higher index of suspicion for patients who present in this way.

Significance of Knee Skin Swab Culture Prior to Total Knee Arthroplasty

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ABSTRACT

Total knee replacements surgery are being more accepted and popularized these days. The most feared complication is postoperative infection. The validity of knee swabs taken preoperatively for these patients has always been questionable. This study looks at 97 individuals who underwent single or bilateral knee replacements in our centre over a one year period. Samples of knee skin swabs were obtained 2 weeks preoperatively and sent for culture & sensitivity tests. On admission, each patient was given a chlorhexidine wash preoperatively. Prophylactic antibiotic (Cefazolin) was administered in 3 doses postoperatively. We analysed each patients' preoperative knee swabs for any evidence of superficial bacteria and followed up postoperatively for any evidence of wound infection. Over a 1 year period, 144 total knee replacements were performed on 92 patients. Of this number, 52 knee swabs returned positive cultures. The most common organism identified was methicillin sensitive coagulase negative staphylococcus aureus (MSCONS). Ten operated knees were complicated by superficial surgical site infections and were managed by regular dressing change and antibiotics. We will discuss the merits of a preoperative skin swab culture and sensitivities in the presentation.

The Role of a Single-Shot Femoral Nerve Block in Pain Management Following Total Knee Arthroplasty

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ABSTRACT

Joint replacement surgery is now becoming more common with the aging population, with the knee being the most commonly replaced joint. An integral part of total knee replacement surgery is pain management. Optimal pain control often means earlier ambulation leading to less immobility-related complications and a shorter hospital stay. Thirty patients undergoing simultaneous bilateral total knee replacements were randomized to receive either 20 ml of 0.25% chirocaine or placebo (20 ml of normal saline) single-dose femoral nerve block on either lower limb. Visual analogue score for pain of both knees was recorded by the intern preoperatively at 6, 24 and 48 hours postoperatively. All patients were given peri-articular cocktail of marcaine-adrenaline with steroid, morphine and vancomycin. Postoperatively, patients were given parecoxib 40mg IV, celecoxib 200mg PO BD, tramadol 50mg PO TID and paracetamol 1000mg PO QID for pain. The average preoperative pain score was 6.6. The average post-operative VAS at 6, 24 and 48 hours for the side that received femoral nerve block with chirocaine was 3, 5.1 and 4.5 respectively. The average post-operative VAS for the placebo side was 3.4, 5.7 and 5.2 respectively. Single-injection of femoral nerve block with chirocaine provided effective pain relief compared to a placebo in patients undergoing bilateral simultaneous total knee arthroplasty.

Avascular Necrosis with Acromegalic Arthropathy of Bilateral Hip

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ABSTRACT

Acromegaly is a very peculiar and interesting disease. It is well accepted that mortality is increased with the presence of cardiovascular and respiratory disease. Arthropathy is undoubtedly the most important cause of morbidity and functional disability in acromegaly patients. They involve all bones theoretically, particularly the appendicular and axial skeleton. At an early stage, cartilage hypertrophy predominates after which degenerative changes starts until osteoarthritic features occur. We report a case of a 46 year old man with underlying diabetes mellitus for 20 years, and acromegaly for 10 years secondary to pituitary macroadenoma. He was on levothyroxine, hydrocortisone and subcutaneous insulin medication. He presented to the orthopaedic clinic with a 1-year history of progressive bilateral hip pain. There was no history of trauma related to the hip. Radiology showed bilateral avascular necrosis of the femoral head with severe osteoarthritis of the hip joint. He was planned for bilateral total hip replacement. Surgery was performed on the left hip first with fully cementless implant and double mobility bearing. Right hip replacement will be carried out later and the neurosurgical team planned for excision of the pituitary macroadenoma after surgery had been performed on both right and left hip.

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Comparison of Presentation Age and Risk Factors of Lower Limb Osteoarthritis Between Malaysian and Taiwanese Patients

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ABSTRACT

Background: Degenerative disease of the major joints in the lower limb is becoming more common with gradual aging of population. This study is designed to compare the presentation age and risk factors for hip and knee osteoarthritis in patients from two geographical regions in Asia. **Method:** A cross sectional study was conducted in Kuala Lumpur, Malaysia and Changhua, Taiwan in locations where patients attended follow up clinics for joint replacement surgery clinic over a period of two months. Patients were interviewed using a pre-determined questionnaire. Information collected was subsequently counter-checked with recordings from the medical folders of the patients. **Results:** We interviewed 61 Malaysian patients (mean age 64.7 years) and 65 Taiwanese patients (mean age 67.6 years). Knee osteoarthritis was more common than hip osteoarthritis in both countries, and the mean age of onset of joint pain for Malaysian patients was 57 years (ranging from 25 to 78 years old) and was 60 years old (ranging from 35 to 78 years old) for Taiwanese patients. A higher percentage of Taiwanese patients were obese (41.8%) compared to Malaysian patients (19.1%). There were no significant differences between the two populations with regard to other risk factors such as family history, cigarette smoking and alcohol consumption. **Conclusion:** Age of onset for lower limb degenerative joint disease was similar in both populations. A higher percentage of Taiwanese patients were obese compared to Malaysian patients, but there were no significant differences with regard to other risk factors.

Osteoarthritis of the Knee with Double Patella

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ABSTRACT

Double patella is an uncommon clinical feature first described by A. Trillat following repetitive injuries of the extensor mechanism of the knee. The first injury is tendo-periosteal avulsion of the suprapatellar, or less frequently, infrapatellar tendon from the corresponding patellar pole. It is also reported in association with multiple epiphyseal dysplasia. However, most of the reported cases are cases afflicting the childhood or adolescent age group. We present the case of an elderly man, with no history of trauma, who complained of bilateral knee pain that he had had for 2 years. Clinically, there was a varus deformity of the bilateral knee, crepitus bilaterally and two palpable patella of the right knee. Right knee plain radiograph showed a double patella in vertical plane from the lateral view. There were also osteoarthritis features in the right knee. He was planned for total knee replacement of the right knee. Intraoperative findings confirmed a double patella with a second patella at superomedial aspect of the true patella which was attached to the patella tendon. The second patella was attached on the vastus medialis muscle and was removed. The medial paratellar approach was utilised; the patella bone was not resurfaced. Post knee replacement, there was no patellar maltracking.

Can I Walk with Osteonecrosis of the Hip? A Case Report

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ABSTRACT

Osteonecrosis of the hip is an uncommon condition, predominantly found in males in their fourth decade of life. We report a case of a 47 year old man who presented with pain in his right hip. He had underlying seborrhoeic dermatitis and Hepatitis B. He was diagnosed as having Stage 2 osteonecrosis of his right hip (Ficat and Arlet classification). Core decompression and bone grafting were done but these were complicated by surgical site infection. Wound debridement, sequestrectomy, removal of the bone graft and clearance of the bone tunnel were carried out three months after the primary procedure. Culture-directed antibiotic therapy was commenced. The pain became better after clearance and debridement immediate postoperative. The patient was allowed to ambulate with a walking stick. His pain worsened on Day 12 postoperative. Radiographs of his right hip showed a fracture of the neck of the right femur. His biochemical parameters demonstrated elevated white cells and inflammatory markers (erythrocyte sedimentation rate and C-reactive protein). A two-stage total hip arthroplasty was planned. Wound debridement and cement spacer insertion were performed in the first stage. Operative findings revealed near-total loss of articular cartilage from the acetabular and femoral head surfaces with slough found in the core canal; no pus was noted. Specimens sent for culture and sensitivity did not grow any microorganism. Empirical intravenous antibiotics was planned for four weeks followed by oral antibiotics for another four weeks. Weekly biochemical parameters showed downward trends. Uncemented total hip arthroplasty was planned upon completion of the antibiotic therapy. Should a patient with osteonecrosis of the hip be allowed to bear weight, with primary core decompression being rendered infected?

The Use of Antimicrobial Peptides to Prevent Implant Infections: Experimental Options and Review of Literature

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ABSTRACT

Background: Since their discovery it has been postulated that naturally occurring peptides may have a role in preventing implant associated infections. Antimicrobial peptides have been isolated in bone and cartilage and appear to be part of nature's immune system which has evolved to defend the body. **Method:** Literature search using online databases regarding the use of antimicrobial peptides for in-vitro and in-vivo studies was performed. In addition, work performed in the author's institution under the MyJoint Project on isolation of antimicrobial peptides and coating options on implants, is presented. **Results:** Antimicrobial peptides are present in bone and cartilage. These molecules which include human beta defensin 2 may be a promising method with which to prevent perioperative implant infection. Various approaches have been described in the literature with regard to coating implant surfaces. The risks and benefits of these approaches were examined and found to be difficult to apply in a uniform, scalable and reproducible fashion. **Conclusion:** The field of study in antimicrobial peptides is in its infancy, yet it is already clear that these molecules are of extraordinary importance as a first line of defense against infection. As a system, antimicrobial peptides are not only able to recognize and kill pathogens, but interact with other elements of the innate and adaptive immune system to both induce and limit inflammatory reactions. The expression of human defensins in bone, nasal and auricular cartilage suggests that these molecules may be essential in the antimicrobial defenses of these tissues. However, studies regarding the use of these molecules for clinical applications are still at the very early stage and more research is needed before clinical use can be envisaged.

A Case of Simultaneous Total Knee and Total Hip Arthroplasty in a Rheumatoid Arthritis Patient

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ABSTRACT

Rheumatoid arthritis which involves the big joints such as the knees and hips can have a very debilitating effect on a patient's activities in daily living. It is common for these patients to need to undergo arthroplasty surgery to improve their functional status. Total knee replacement is the commonest joint replacement in a rheumatoid arthritis patient. In this case, Madam L was diagnosed to have rheumatoid arthritis since 1996, and was under rheumatological follow up. She had very serious bilateral knee involvement and deformity secondary to rheumatoid arthritis, which warranted a total knee replacement which was scheduled for at the end of the year. Unfortunately, she had fallen down and broken her left neck of femur (Garden 3) in February and was admitted to our hospital. Functionally, she was able to walk with a walking frame prior to this recent trauma. We decided to perform a left total hip replacement for her neck of femur fracture in view of acetabular erosion due to the rheumatoid arthritis. Severe involvement of the bilateral knee with very limited passive range of movement of 0-20 degree prompted worries of anticipated difficulties in performing total hip arthroplasty surgery. Thus we decided to perform left knee total replacement before proceeding with left total hip replacement, at the same setting. Post operation, she was admitted to the ICU for observation for 1 day and on day 3 post operation she able to ambulate with a walking frame. She was discharged on day 5 post operation. A simultaneous total knee and total hip arthroplasty is a major surgery for an elderly patient with other comorbidities. However, when specific reasons are involved, this decision can be made, albeit with caution.

The Complications of 152 Total Knee Replacements Undertaken by a Junior Arthroplasty Surgeon

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ABSTRACT

Total knee replacement, a commonly performed orthopaedic surgery, has improved many patients' lifestyle. However, potential intraoperative, early and late surgical complications require further study for better surgical outcomes. A retrospective study on surgical experience of a junior arthroplasty surgeon was carried out to highlight the complications of total knee replacement surgery with the aim of having better preventive steps taken in future surgery. Intraoperative complications of a femoral condyle fracture was reported. Early and late complications include deep infection among others, and mortality was highlighted.

The Use of Unwashed Filtered Shed Blood Collected after Knee Arthroplasty: A Hospital Kuala Lumpur Experience

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ABSTRACT

Transfusion following knee arthroplasty is common. In a study conducted by Bierbaum et al. out of a total of 5,562 patient who underwent total knee arthroplasty, about thirty-nine percent of them required transfusion. The hazards associated with allogeneic transfusion are: haemolytic transfusion reaction, transfusion related lung injury and transmission of disease. Hence, autologous transfusion would have more advantages in terms of patient care. Furthermore, compared with preoperative autologous blood donation and intraoperative cell salvage, the use of autologous drain is more simple and cost effective. **Method:** A total of 10 patients who had undergone total knee arthroplasty including unilateral and simultaneous bilateral TKR at Hospital Kuala Lumpur were observed. The collection drain used in this study is one developed by Stryker ConstaVac CBC II. Blood collected was transferred to a transfusion bag through a close system and blood collected within 6 hours was transfused back to the patient. **Result:** Mean haemoglobin drop postoperatively was 2g/dl. Mean blood transfused back to patient was 500mls. Only 1 patient who underwent bilateral simultaneous TKR required allogeneic transfusion due to a haemoglobin count of 7.7g/dl. No complications arising from autologous transfusion were detected. **Conclusion:** From the observation of these cases it proves that autologous blood transfusion will reduce the need for allogeneic transfusion, thus reducing the risk of developing the complications of allogeneic transfusion.

Wound Dressing in Post Operative Primary Hip and Knee Arthroplasties: Hydrofibre Ag Dressing Versus Island Film Adhesive Dressing

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ABSTRACT

Background: Hip and knee arthroplasty is a common operation with an estimated 1 to 2 million performed worldwide annually. Hospital Tuanku Jaafar Seremban (HTJS) carried out an average of 150 arthroplasties in 2010 and about 180 arthroplasties in 2011. **Objective:** The objective of this study is to evaluate the effectiveness of Hydrofiber Ag dressing (HA) versus Island Film adhesive dressing (IF) in post-operative primary elective hip and knee arthroplasties. **Method:** This study is a randomized double blinded controlled trial consisting of 100 patients who had undergone elective arthroplasties in HTJS between 1 August 2011 and 15 March 2012. Patients were randomized into two groups using a random number table. The treatment group had HA and the placebo group received IF. The clinical outcomes assessed were: level of comfort, skin reaction to dressing and wound conditions on post-op day 3 and day 14 individually. Data was analysed using SPSS VERSION 20 and p value of <0.05 was significant. **Results:** The mean comfort level was significantly higher (8.28) in respondents who received HA as compared to the comfort level of 6.12 for those who received IF ($t=13.22$, $df=98$ and $p<0.001$). Skin reaction to dressing was significantly lower in respondents who received HA as compared to those who received IF ($\chi^2 = 6.08$, $df= 2$ and $p<0.05$). There were significantly better wound conditions in respondents who received HA as compared to those who received IF ($\chi^2 = 11.39$, $df = 2$ and $p =0.003$). However, on day 14, wound inspection revealed no significant difference in wound conditions between the two. ($\chi^2 = 1.15$, $df= 2$ and $p =0.56$). **Conclusion:** HA dressing is superior compared to IF. It gives better comfort; causes less skin reaction and gives healthier and improved wound conditions postoperatively following hip and knee arthroplasties.

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Aggressive Giant Cell Tumour of the Third Metacarpal Bone Involvement: A Case Report

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ABSTRACT

Giant cell tumours are benign aggressive tumours most commonly affecting middle-aged adults. The most common sites of involvement are the proximal tibia and the distal radius. Standard treatment is extended curettage for contained lesions but for extracompartmental lesions, wide resection with various methods of reconstruction has been proposed. Lesions affecting the metacarpals are rare although there are isolated case reports of such lesions existing in the literature. We would like to report a case of aggressive giant cell tumour involving the third metacarpal and the trapezoid, capitate and hamate which was managed by performing wide excision and reconstruction using autogenous fibula graft which resulted in good incorporation, non recurrence and a good functional outcome.

Recurrent Fibrous Dysplasia of the Radius-Ulna in the Skeletally Immature

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ABSTRACT

Fibrous dysplasia is a developmental disorder of the bone where normal lamellar bone is replaced with woven bone. It can occur in a polyostotic or monostotic form, in isolation or occurring as part of a syndrome. This is a disease which is common in the weight bearing lower limbs which can cause pain, deformity or pathological fracture. Fibrous dysplasia afflicting the radius and ulna are uncommon entities with controversial management options. We present two cases of fibrous dysplasia occurring in skeletally immature children affecting the radius ulna which, despite repeated curettage attempts, resulted in progression of the disease, deformity, as well as limitation in the function of the upper limb. We conclude that fibrous dysplasia occurring in the radius ulna in skeletally immature patients presents a management dilemma for the treating surgeon as recurrence is high and the functional prognosis for such patients.

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Gouty Tophi Parodying Synovial Sarcoma of the Knee Joint: A Case Report

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ABSTRACT

Deposition of tophi is a common complication of chronic gout, however, symptoms are not always well pronounced. We report an unusual case of intra articular gouty tophi of the knee joint, presented as a locked knee, and radiologically mimicked a synovial sarcoma. To the best of our knowledge, gouty tophi causing such a complication (fixed flexion deformity) has not been reported. This case report serves to bring about awareness with regard to the extraordinary presentation of gout. Gout, in its severe forms, can mimic intra-articular tumours and bring about the deformity mentioned above.

A Case Report of Mistaken Identity: Avascular Necrosis versus Osteosarcoma of the Scapular

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ABSTRACT

Avascular necrosis affecting the glenoid of the scapular is rather rare but theoretically possible and can mimic a chronic infection or malignancy. We report an extraordinary case of avascular necrosis of the right glenoid, portraying a malignant lesion (osteosarcoma) radiologically. To the best of our knowledge, avascular necrosis of the glenoid parodying as a malignant lesion (osteosarcoma) has not been reported in literature. The significance of this report is the revelation of a rather rare site for avascular necrosis. We correlate imaging studies with the final diagnosis and elaborate on the likely differentials based on the findings obtained and describe how we derived the current diagnosis despite a sinister radiological pattern.

Chronic Expanding Haematoma: A Colossal Gluteal Mass Mirroring an Aggressive Hemorrhagic Sarcoma

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ABSTRACT

Chronic expanding haematomas is a rather sporadic clinical condition where expansion of the mass occurs chronically. The haematoma is fenced by a pseudocapsule and fibrous tissue. Based only on clinical presentation and radiological findings, it becomes a challenge to differentiate a chronic expanding haematoma from haemorrhagic neoplasms; leaving histopathological examination as a foremost diagnostic option. Here we report an exceptional case of a colossal gluteal mass persistent for a duration of four months and progressively increasing in size. Our patient being claustrophobic, the initial diagnostic tool was a computed tomography (CT) scan. A trucut biopsy of the mass helped establish the possible diagnosis and along with the radiological findings aid the surgery. However, due to the chronicity and sheer size of the mass a sarcoma could only be ruled out after the histopathological findings of the excised mass. Here we discuss the likely postulations with regards to radiological findings. We conclude that whenever a chronic expanding haematoma is suspected, the main stay of treatment is early excision to preserve function and evade bone destruction. This conclusion is based on related reviews and research on cellular denouement of blood breakdown products.

An Unusual Case of Intra-articular Lipoma Arising from the Hoffa Fat Pad of the Knee Joint

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ABSTRACT

Lipoma is the most common soft tissue tumour. It can arise from several anatomical sites although intra-articular lipoma is uncommon. Lipomas of the joints can be classified into 2 entities. The first is a solitary neoplastic fatty mass, and the other is a villous lipomatous proliferation of the synovial membrane, commonly known as lipoma arborescens. These two entities should be differentiated from each other, as they are different pathologically, having different pathogenesis and clinical presentations. Solitary intra-articular lipomatous lesions are extraordinarily rare and not commonly mentioned in the literature. We describe a unique case of intra-articular lipoma arising from the Hoffa fat pad which, to the best of our knowledge, has not been reviewed in the literature.

A Rare Case Report of Intra-articular Hemangioma of the Knee in the Skeletally immature

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ABSTRACT

Intra-articular hemangiomas of the knee are very rare and uncommon. Due to the rarity of this condition, there is often a delay in confirming the diagnosis and the giving of treatment. We report a case of a 5 year old boy presented with a 2-year history of recurrent right knee swelling and pain in the absence of preceding trauma. Magnetic resonance imaging showed an enhancing lobulated soft tissue mass with high signal intensity over the infrapatella region suggestive of hemangioma. Open excisional biopsy was performed and confirmed the diagnosis. Intra-articular hemangioma should be considered in the skeletally immature who present with recurrent non-traumatic knee swelling and pain. Early diagnosis and treatment is necessary to prevent destruction of the joint and early degeneration. **Conclusions:** Intra-articular hemangioma should be considered in the skeletally immature who present with recurrent knee swelling and pain.

Case Report of Osteosarcoma Originating from a Preexisting Lesion of Polyostotic Fibrous Dysplasia of Proximal Left Femur

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ABSTRACT

Fibrous dysplasia is a slowly growing benign lesion and a non-inherited developmental anomaly of bone in which normal bone marrow is replaced by fibro-osseous tissue. The etiology remains unclear. The disease process may be localised to a single bone (monostotic fibrous dysplasia) or multiple bones (polyostotic fibrous dysplasia). In fibrous dysplasia, any abrupt alteration in the clinical course, manifested by pain and swelling, raises the possibility of malignant degeneration. Malignant changes are rare. Malignant tumour usually develops in the third or fourth decade of life. A 47 year old women came in with a complaint of limping gait that had lasted for 2 weeks. For the past three years she had been experiencing a dull aching pain over the left hip. A series of x-rays, MRI and a biopsy were performed and the resultant diagnosis was osteosarcoma originating in a preexisting lesion of polyostotic fibrous dysplasia of proximal left femur. She was given a cycle of chemotherapy and a high dose of single fraction radiotherapy. Surgery was performed after three weeks of chemotherapy when blood results had normalised. Unfortunately, the chemotherapy and radiotherapy had affected wound healing resulting in profuse serious discharge which needed repeated debridement and washout. Chemotherapy will be continued after the wound has healed.

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Orthopaedic Presentation of Myeloma Patients in Malaysia

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ABSTRACT

Background: Multiple myeloma is the most common malignant primary bone tumour. It usually presents to the haematologists but some may present to the orthopaedician along with pathological fractures, back pain or weakness. This study aims to highlight common orthopaedic presentations and investigations in the identification and management of possible myeloma cases. **Method:** This is a retrospective descriptive study. Subjects involved were 70 cases of multiple myeloma seen at the haematology clinic of Hospital Ampang from January 2010 till February 2012. Sixty-nine were included in the results. **Results:** Out of 69 patients, 35 (50.7%) were Malays, 24 (34.7%) Chinese and 10 (14.4%) Indians. Age at presentation ranged from 31 years to 78 years (mean age: 58 years); 47% (33) were males and 53% females. Ten (14.5%) had solitary plasmacytoma and 59 (85.5%) had multiple myeloma. Only 53 (77%) of patients had symptoms; 41 (77%) complained of diffuse bone pain, 12 (33%) of back pain with weakness. Those who presented first to the orthopaedician were 18 (26%) with fractures and 6 (9%) with bone pain or weakness. Forty-five (65%) were known cases of myeloma. Thirty-two (46%) of patients had no fractures. Four (6%) patients had single bone lesion involving the spine without fractures. Thirty-three patients (48%) had pathological fractures with 91% involving the spine. Other tumour sites were the humerus, radius, pelvis with one patient each; two patients each had tumours in the femur and clavicle. Five patients had more than one site involved. Out of 58 patients, 33 (59%) were anemic and 30 (52%) thrombocytopenic. The ESR level test was performed with 25 patients and was elevated in 22 (88%) of them. Corrected serum calcium was raised in 14 (20%) and normal in 50 (73%). Forty-four patients had skull radiographs which found that 26 (59%) had punch out lesions. Serum electrophoresis was performed in 65 patients and 47 (72%) were found to have raised IgG (heavy chain); 25 (38%) had elevated lambda chains and 40 (62%) had elevated kappa chains. Sixty-one (88%) had confirmatory bone marrow aspiration.

Think Horses not Zebras: A Case Report

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ABSTRACT

Alveolar soft part sarcoma is a rare tumour accounting for less than 1% of all sarcomas. Due to its rare occurrence, literature regarding this entity remains relatively limited. We have a case of an 8 year old who presented with left below knee pain and swelling over the course of 3 weeks. The child was otherwise well. A plain radiograph showed a greenstick tibia fracture with the possibility of a pathological fracture. A subsequent MRI showed a lesion at the upper two thirds of the left tibia with surrounding soft tissue involvement. Biopsy taken of the tibia showed a small round cell tumour, possibly Alveolar soft part sarcoma. Due to the curious presentation and the rarity of the tumour, he was referred to our centre for expert management. A core needle biopsy was repeated at our centre and again reported alveolar soft part sarcoma. Primary Alveolar soft part sarcoma of the bone is next to non-existent in the literature. The child was commenced on neoadjuvant chemotherapy with future plans for surgery. Simultaneously, tissue paraffin blocks were sent for further testing. Fluorescence in situ hybridization was carried out. LSI EWSR1 gene translocation was observed and the child's diagnosis was revised to left tibia Ewing's sarcoma. The case serves to illustrate that what is common will always be common. We must always investigate further if the clinical picture does not make sense.

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A Rare Case of Primary Carcinoid Tumour of Musculoskeletal Soft Tissue

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ABSTRACT

Carcinoid tumours are a type of neuroendocrine tumour. Neuroendocrine tumours are classified into small cell carcinoma, large cell neuroendocrine carcinoma, atypical carcinoid, and carcinoid. Carcinoid tumours are slow growing in nature and occur frequently in sites rich with neuroendocrine cells. The diagnosis of carcinoid tumour is initially based on histology with confirmation by positive immunohistochemical staining. Specific sites of incidence for carcinoid tumours were identified in Irvin et al big series which included 13,715 carcinoid tumours. The gastrointestinal tract site reported the greatest incidence with 67.5% and bronchopulmonary system 25.3%. There have never been reports of primary carcinoid tumour arising from soft tissue. We are reporting a case of carcinoid tumour presenting as musculoskeletal soft tissue tumour. Carcinoid tumours are not solely from the gastrointestinal and respiratory tract. They can also arise from soft tissues.

Intracranial Meningeal Haemangiopericytoma with Pelvic Metastasis

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ABSTRACT

Intracranial hemangiopericytoma is a rare vascular tumour. It accounts for 0.5% of all primary central nervous system tumours and 2% of benign meningiomas. It is known for its high tendency for local recurrence and distant metastasis, long after the initial diagnosis. Bone, liver, lung and the abdominal cavity are commonly reported sites of distant metastasis. Its management is challenging due to its late presentation, variability of bone and involvement of organs. We describe a case of intracranial meningeal haemangiopericytoma with metastasis to the pelvis, 16 years after the initial diagnosis and treatment of the primary lesion.

Does Lightning Strike Twice?

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ABSTRACT

A tumour is defined as an abnormal mass of tissue, the growth of which is basically autonomous and exceeds that of normal tissues. It could be broadly categorized into benign and malignant. We often see primary lesions (tumours) with metastases, but reports of mixed pathologies (both benign and malignant) occurring in the same patient at different times in his life is rare. We present an interesting case under our follow up of a patient who has had 5 different forms of tumours with different pathologies throughout his lifetime. The first was hepatoma, followed by pleomorphic sarcoma of the thigh, adenocarcinoma of the prostate, meningioma and finally schwannoma. To this date, he is still alive. Thus, lightning does strike twice or more times in the same place (person)!

Palm Oil Industry-induced Marjolin's Ulcer

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ABSTRACT

Marjolin's ulcers are malignancies that arise from previously traumatized, chronically inflamed, or scarred skin. Many studies have been conducted on burn scars neoplasms. However, the entity may be misunderstood easily if we presume that all neoplasms that arise in the background of burn injuries are merely a known complication of scarred wound. We report an interesting case in which a retired palm oil estate worker developed Marjolin's ulcer on one of his many burn scars after sustaining repeated trauma from palm oil seeds and developing recurrent episodes of subcutaneous abscesses.

Plating and Cementation for Metastatic Disease of the Long Bones

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ABSTRACT

Skeletal metastasis can cause pathological fractures, pain, neurologic deficits, anemia, and hypercalcemia secondary to bone loss. Therefore, the aim of surgical management for pathological fractures is pain relief and restoration of function with immediate mechanical stability. Local control can be achieved by adjuvant radiotherapy, given after the surgery. The use of bone cement augments structural stability and enables immediate motion and return of function. Various techniques have been described in the management of pathological fracture or impending fractures, which include the use of intramedullary nail, cementation with intramedullary nailing or cementation and plating. Cementation and plating has been the authors' technique of choice of reconstruction for pathological fractures or impending fractures (based on Mirel's classification) of non-weight bearing long bone. We describe our unique method of cementation and plating after curettage of tumour tissue.

Chronic Osteomyelitis of the Rib Mimicking a Sarcoma: A Case Report

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ABSTRACT

Chronic osteomyelitis is an infrequent cause of soft tissue mass. It is almost impossible to differentiate from bony or soft tissue sarcoma based on clinical grounds alone. This report highlights the importance of histological examination and tissue culture in the diagnosis of such cases. We present a 60 year old man, with a history of diabetes who came to us with left chest wall swelling of a 4-month duration. There was no history to suggest infection but he had experienced significant weight loss in the past months. Imaging studies showed a destructive lesion of the left 7th rib with soft tissue involvement. A preliminary diagnosis of sarcoma was made but the biopsy showed that it was a chronic infection. Cultures grew *Klesiella* species. Patient was treated with long term antibiotics and the symptoms resolved. Infection should always be considered as one of the differentials when dealing with tumours.

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Chronic Haematoma of the Right Thigh Two Decades after Iliac Bone Grafting for Left Humerus Open Fracture

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ABSTRACT

The formation of a chronic haematoma in the right hip 22 years after the harvesting of an anterior iliac bone graft for an open fracture of the left humerus is reported. Harvesting autogenous iliac bone grafts is a common orthopedic procedure. Although simple, complications are not necessarily uncommon. Documented donor-site complications include nerve, arterial, or urethral injury, chronic donor-site pain, cosmetic deformity, herniation of abdominal contents, sacroiliac joint instability, pelvic fractures, gait disturbances, hematoma, infection, peritoneal perforation, and hip subluxation. To the authors' knowledge, the presence of chronic haematoma has not been reported as a complication. **Objective:** This study seeks to describe a rare complication at an iliac bone graft donor site. **Method:** A 62 year old man presented with progressive swelling over the anterolateral aspect of the right upper thigh for the past 6 months. He had undergone autogenous iliac bone graft 22 years ago for his open comminuted humerus fracture. **Results:** MRI showed large heterogenous soft tissues with areas of hemorrhage and necrosis within, overlying the right hip joint. There were also scalloping and erosive changes within the underlying right iliac bone. An initial open biopsy showed presence of intramuscular haematoma. Wide excision biopsy of the haematoma was performed. Operative findings showed that the mass was adhered to the right iliac crest and it was removed partly at the same time. Histopathological evaluation (HPE) confirmed the presence of chronic haematoma. **Conclusion:** Although acute haematoma is a common complication post autogenous iliac bone grafting, chronic haematoma has not been reported until this study which shows that chronic haematoma after post iliac bone grafting does happen.

Angiomatoid Fibrous Histiocytoma: A Rare Finding

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ABSTRACT

Angiomatoid fibrous histiocytoma (AFH) is a rare soft tissue tumour that is found primarily in the extremities of children. It is normally difficult to make a preoperative diagnosis of AFH; and more and more, molecular diagnostics are being utilized to establish diagnosis in situations where the pathology is not conclusive. AFH is a rare disease that is often misdiagnosed initially. Patients can present with a clinical picture suggestive of other diseases, such as lymphoma as in our patient. Additionally, pathologic review can be concerning for a sarcoma with more malignant potential. Although thorough pathologic review is critical for a diagnosis, techniques such as FISH have been used to confirm cases with pleomorphic features. AFH can recur locally, but most patients do well with wide local excisions alone, if a wide surgical margin is possible. Radiotherapy may be utilized when wide excision margins are not feasible. AFH does have low potential for metastasis, but surgery can be effective in these cases as well. We present a case of a 72 year old man whose presentation was initially concerning for bony tumour. The diagnosis was established upon pathologic review with immunohistochemistry. Following the case report, we provide a review the literature.

Functional Outcomes after Internal and External Hemipelvectomy in HUSM

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ABSTRACT

Background: Although great advancements have been made in survival rates over the last half century with adjuvant therapies and current surgical techniques, hemipelvectomy as the surgical treatment for pelvic tumours continue to have significant associations with morbidity and complications. Using the Enneking's criteria as adopted by the Musculoskeletal Tumor Society (MSTS), we evaluated the functional outcomes of patients who have had an internal hemipelvectomy with and without reconstruction, and external hemipelvectomy. **Method:** We evaluated patients who underwent hemipelvectomy in our institution between 2001 and 2010. Patients who had had an internal or external hemipelvectomy surgery at any point in their clinical course were included in the study. Patients with follow up periods of less than four months were not included. MSTS scores were obtained at various times after the surgery. **Results:** A total of 50 patients who had undergone various types of resection and reconstruction techniques were included in this study. The average age is 40.1 years (range 12-79). Average duration of follow up is 10 months. The average MSTS percentage score was 44.32% (range: 6.67%-100%). Results show that external hemipelvectomy in our patients have a high morbidity and mortality rate. Various techniques of resection and reconstruction give different functional scores. **Conclusion:** Hemipelvectomies have a profound impact on patients' lives as illustrated by their low MSTS scores. Proper patient selection is crucial to obtain the best outcome. This study is an effort to obtain a proper reference for preoperative discussion with patients and relatives regarding expected outcomes following such a procedure.

Chondrosarcoma of the Right Ilium in a 10 Year Old Girl: A Case Report

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ABSTRACT

Chondrosarcoma is rare in children, with a 2.2% occurrence. Cartilaginous tumours are usually benign in children. We report a case of chondrosarcoma of the right ileum in a 10 year old girl, who presented with a swelling over the right hip region persisting for 2 months. Plain radiographs showed osteolytic lesion over the right ileum. MRI findings were in keeping with a malignant chondrosarcomatous transformation from a pre-existing osteochondroma. Excision and reconstruction of the abdominal wall with mesh was carried out. Postoperative histopathologic examination was consistent with low-grade Chondrosarcoma. This report highlights the rarity of this tumour in children.

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A Case Report On Extraskkeletal Osteosarcoma

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ABSTRACT

Extra skeletal osteosarcomas are uncommon tumours, usually arising from the lower extremities or girdle. They tend to be aggressive with a high metastatic potential and poor outcomes. Optimal treatment is undefined, and the role of radical surgery, aggressive chemotherapy and radiotherapy are currently being evaluated. A 63 year old man presented to our centre with progressive left buttock swelling he had had for the past six months; the swelling had rapidly enlarged in the past two months and was now associated with pain. Clinical examination revealed an ill-defined swelling measuring 15X10cm that was hard in consistency and mobile. MRI showed an aggressive soft tissue tumour arising from the left gluteal maximus with neurovascular bundle infiltration. CT thorax showed features of lung metastases. The patient underwent wide excision of the tumour and histopathological result reported it as extra skeletal osteosarcoma. The patient is currently receiving adjuvant chemotherapy and radiotherapy. In conclusion, we recognise that diagnosing extraskkeletal osteosarcoma remains a challenge as it mimics other soft tissue tumours.

Chronic Osteomyelitis of the Rib Mimicking Soft Tissue Sarcoma: A Case Report

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ABSTRACT

Chronic osteomyelitis is an infrequent cause of a soft tissue mass. It is almost impossible to differentiate it from bony or soft tissue sarcoma based on clinical grounds alone. This report highlights the importance of histological examination and tissue culture in such a case. A 60 year old man with newly diagnosed diabetes mellitus presented with a painless, hard left lower chest wall mass. The mass was fixed to the underlying structure and was rapidly increasing in size in the past 4 months and was associated with significant weight loss. There was no other constitutional symptom. There was no regional lymphadenopathy. Systemic examination was not remarkable. WBC was 6.95, ESR was 43 and CRP was 2.95. Both tumour markers and mantoux test result were negative. CXR revealed no focal lung lesion. CT scan of the thorax, abdomen and pelvis showed homogenous enhancing soft tissue tumour arising from the intercostal muscle of the left lower thorax measuring 9.0x2.4x7.7cm with destruction of anterior left 7th rib. Technetium-99m bone scan revealed moderate tracer uptake anterior aspect of left 7th rib. The result of core needle biopsy was inconclusive. An incisional biopsy carried out revealed no evidence of malignancy. Tissue culture showed positive results with *Klesiella* species. Patient was diagnosed as having chronic osteomyelitis of the left 7th rib and treated with cefuroxime. After 2 weeks the swelling had reduced in size significantly. The possibility of osteomyelitis mimicking a tumour should be borne in mind in order to avoid misdiagnosis.