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# Abstracts from the SLOA : 15th Annual sessions 2023

## Oral Presentations

KNOWLEDGE AND COMPLIANCE TOWARDS ALENDRONATE THERAPY AMONG POSTMENOPAUSAL WOMEN WITH OSTEOPOROSIS IN ORTHOPAEDIC CLINICS IN NATIONAL HOSPITAL KANDY **SWUC De Silva, KAC Rathnayake National Hospital Kandy**

**Introduction :** Poor compliance to treatment is a dilemma during osteoporosis treatment which increases their potential fracture risk and the prevalence of adverse effects.**Material and methods:** This is a cross-sectional study using a self administered questionnaire, involving 50 consecutive postmenopausal women receiving Alendronate for > 6 months who attended orthopaedic clinics 1 & 3 in NHK between 01/02/2023 to 30/04/2023. The main objectives were to evaluate women's compliance, adherence to proper Alendronate administration instructions, assess their knowledge about Alendronate interactions with food and medications, measure the prevalence of Alendronate adverse effects among postmenopausal women with osteoporosis and whether patients received instructions regarding Alendronate intake. **Results:** 52% (n = 26) had good compliance, 12% had average compliance and 36% had poor drug compliance. Economic factors (54.17%) and patient related factors (25%) contributed mainly for poor drug compliance. Mean compliance score is 6.3 out of 7 questions. Only 52% had maximum compliance score values of 7. Mean knowledge score was 4.62. Only 8 % had the maximum score of 12 out of 13. 30% had complained of GORD. But majority of participants did not experience significant adverse effects. 49 participants (98%) received proper instructions and 88% had been instructed by the medical officers. **Conclusion:** Compliance to specific dosing instructions of Alendronate medication and knowledge of Alendronate specific food and drug interactions is suboptimal and requires more attention. Repeated assessment and reinforcing the knowledge during clinic visits by health care providers, ensure availability of medication and the implementation of strategies to overcome barriers are needed for adherence.

CORRELATION BETWEEN POST OPERATIVE NECK SHAFT ANGLE CHANGE OF HIP AND FUNCTIONAL OUTCOME **SAGA Jayawardana, D Munidasa National Hospital of Sri Lanka**

**Introduction:** Outcome of extra capsular fracture neck of femur fixation depends on quality of reduction. Post-operative Neck Shaft Angle (NSA) is a measurable parameter for quality of reduction. With subsequent weight bearing, NSA changes. Our study was to find whether there is an association between the change of neck shaft angle and functional outcome of the hip. **Materials and methods:** NSA was measured in post-operative X-rays and compared with normal contralateral hip. Hip function was measured with Harris Hip Score (HHS) using an interviewer administered questionnaire. Association between NSA and HHS was measured using SPSS statistical analysis software. We studied 21 patients who had under gone extra capsular fracture fixation and followed them up for twelve months with regard to change in NSA and functional outcome. Patients were reviewed in 1 month, 3 months and 12 months with regard to NSA and HHS during clinic visits. **Results:** NSA was reduced with weight bearing and HHS increased over time, There was a statistically significant association ($p < 0.001$) between NSA and HHS in one month, three months and twelve months. Both parameter changes were statistically significant. Mortality rate was 9.5%. **Discussion and conclusion:** Extra capsular fracture neck of femur immediate intraoperative reduction needs NSA 135° (Neutral reduction) or valgus reduction compared to normal contralateral hip. Varus reduction (<120 °) results in poor outcome. Post-operative care is imperative for good functional outcome.

HAND GRIP STRENGTH ASSESSMENT AS A PREDICTOR OF TREATMENT OUTCOMES IN DISTAL RADIUS FRACTURE PATIENTS **PMNC Marage1, HK Amarathunga2, MMM Sathik1, HKD Vidusha3, KK Ranasinghe1, BMS Udagedara1 1-National Hospital Kandy, Orthopaedic Unit 2-National Hospital Kandy, Nutrition Unit 3-Department of Psychiatry, Faculty of Medicine, University of Peradeniya**

**Introduction:** Distal Radius Fractures (DRF) significantly impact hand function and require effective management for optimal recovery. Assessing hand grip strength is a reliable method to evaluate function following DRF treatment. This study aims to assess hand grip strength in DRF patients, providing insights into treatment effectiveness and enhancing management strategies for improved outcomes. **Methodology:** A cross-sectional study with follow-up was conducted at National Hospital Kandy to evaluate hand grip strength in post-treatment DRF patients. Data collection involved a standardized data collection sheet and extracting clinical information from records. Hand grip strength was measured using an electronic dynamometer, with ethical approval obtained. **Results:** 132 patients with DRFs were included, treated with various methods such as POP back slab, POP full cast, K wires, and plates. All treatment modalities

showed significant improvements in grip strength over time. Grip strength varied based on age, type of DRF, and treatment modality. Highest mean grip strength at 10 weeks was observed in Colles fractures treated with k-wire fixation (65%), adult non-Colles DRFs treated with plate fixation (78%), and paediatric patients treated with POP back slab (80%). **Conclusion:** Hand grip strength is a valuable predictor to assess recovery in DRF patients. Improvements in grip strength following different treatment options highlight their effectiveness. Utilizing grip strength as an objective measure provides valuable insights into DRF management progress and outcomes, aiding in the development of tailored treatment plans and optimizing outcomes.

ASSOCIATION BETWEEN VITAMIN D DEFICIENCY AND COLLES FRACTURE RISK: A STUDY FROM A TERTIARY HOSPITAL IN SRI LANKA **PMNC Marage1, HK Amarathunga2, MMM Sathik1, RMUC Rathnayake1, HKD Vidusha3, BMS Udagedara1 1-National Hospital Kandy, Orthopaedic Unit 1 2-National Hospital Kandy, Nutrition Unit 3-Department of Psychiatry, Faculty of Medicine, University of Peradeniya**

**Introduction:** Colles Fracture (CF), a common type of distal radius fracture, frequently occurs in the elderly population. Vitamin D deficiency has been linked to various health issues, including bone fractures. Sri Lanka has a high prevalence of vitamin D deficiency. This study aims to investigate the relationship between vitamin D levels and CF in patients attending an orthopaedic clinic at the National Hospital Kandy, Sri Lanka. **Methodology:** 70 elderly patients aged 65-85 years with CF were recruited from the clinic. Serum vitamin D levels were measured using standardized methods. Demographic information, medical history, and lifestyle factors were collected through interviews and medical records. Statistical analyses, including logistic regression, assessed the association between vitamin D levels and CF risk. **Results:** The mean serum vitamin D level was 18.7 ng/mL (SD 4.2), indicating that most patients had vitamin D levels below the deficiency threshold of 20 ng/ml. Logistic regression analysis, adjusted for confounders, showed that patients with vitamin D levels below 20 ng/ml had a 2.3-fold increased risk of CF (95% CI: 1.5 to 3.5, $p < 0.05$). **Conclusion:** This study provides evidence supporting the association between low vitamin D levels and an increased risk of CF in patients in Sri Lanka. Further research with larger sample sizes and control groups is needed to confirm these findings and establish the causal relationship between vitamin D deficiency and CF.

VALUE OF CHARACTERIZING THE MICROBIOLOGICAL PROFILE OF ACUTE SEPTIC ARTHRITIS IN NATIVE KNEE; A TERTIARY CARE CENTER AUDIT **S Parathan, HTRC Siriwardane, P Kalaventhan, K Umapathy National Hospital of Sri Lanka**

**Introduction:** Acute Septic Arthritis is an orthopaedic emergency which requires prompt diagnosis, isolation of the causative organism, early surgical lavage and targeted antibiotic therapy. **Material and methods:** This retrospective audit evaluated demographics, comorbidities, pattern of admission and referral, diagnostic tests, antibiotic prescription practices. Selected recommendations from guideline (2023) of European Bone and Joint Infection Society were set as the standard. All consecutive adults who has undergone surgical intervention for acute septic arthritis in native knee in 4-month period in 2023 in a tertiary care center were included. Patients with sepsis, septic shock, overlying cellulitis or abscess were excluded. **Results:** Twelve patients were included. Nine (75%) were males. Majority of patients (6/12,50%) were in the age group of 51-60 years. Most (8/12,66.7%) had diabetes mellitus. They were referred from general surgical (n=6,50%) and medical (3/12,25%) units mainly. Orthopaedic referral was done on the day of admission for 3 patients only. All received antibiotics prior to orthopaedic review and diagnostic aspiration. All aspiration cultures were negative. None of the synovial full report revealed WBC count > 50000 mm3. Only 3/12 had blood culture. Six (50%) were treated with more than 2 antibiotics in the ward. Majority (8/12,66.7%) had arthrotomy on day 2 or later. **Discussion and conclusion:** This audit revealed delay in referral to orthopaedic service, administration of antibiotics before the diagnostic aspiration and usage of multiple antibiotics for the treatment. Earlier or urgent orthopaedic referral and diagnostic aspiration before antibiotic administration are recommended to characterize the microbiological profile, to study sensitivity pattern and to reduce antibiotic cost.

BACTERIOLOGICAL PROFILE OF ORTHOPAEDIC INFECTIONS IN A SECONDARY CARE CENTER IN SRI LANKA **HMKB Wijewardana, SMR Fernandopulle Teaching Hospital Kalutara**

**Introduction:** Orthopaedic infections remain one of the most troublesome complications accounting for high treatment cost, prolonged hospital stays as well as patient mortality and morbidity. Aim of this study is to identify the patterns of microbial organisms responsible for the different types of orthopaedic infections and their antibiotic susceptible profile. **Material and methods:** We reviewed 25 patients with positive wound cultures at Teaching Hospital Kalutara form January 2023 to March 2023. Standard microbial studies were performed for the identification of microbes and antibacterial susceptibility. **Results:** Compound fractures and peri-prosthetic infections were the majority of infections accounting for 36% each, while osteomyelitis (16%) and superficial surgical site infections (12%) accounted for the rest. Escherichia coli was responsible for 40% of the wound infections while 28% were due to Methicillin-Resistant Staphylococus aureus (MRSA). Pseudomonas species were identified in 24% of the cultures while Acinetobacter and Streptococcus pyogenes accounted for one case each. Sensitivity of the bacterial isolates to the antibiotics varied. In general resistance to beta-lactam antibiotics and 2nd generation

Cephalosporin antibiotics were above 90%. Ciprofloxacin and Clindamycin were sensitive for more than 50% of the tested organisms while that was 100% for Teicoplanin and Vancomycin. **Discussion and conclusion:** All the organisms showed multidrug resistance with higher resistance towards the commonly used antibiotics. Ciprofloxacin and Clindamycin can be used as frontline antibiotics while emphasizing on the rational use of antibiotics.

KNOWLEDGE AND PRACTICES REGARDING DIAGNOSIS AND INITIAL MANAGEMENT OF HAND INFECTIONS AMONG SRI LANKAN DOCTORS **O. Basnayake, A. Ansar, D. Samarathunga, G. Ekanayake, D. Dissanayake Department of Plastic and Reconstructive Surgery, National Hospital of Sri Lanka**

**Introductions:** Even though hand infections are a less frequently encountered entity in orthopaedic practice, it causes significant functional impairment without proper treatment. This study aimed to assess the knowledge and practice regarding hand infections among Sri Lankan doctors. **Materials and methods:** A descriptive cross-sectional study among Sri Lankan doctors (Pre and Post-intern) was performed using a self-administered online questionnaire on knowledge and practice regarding diagnosis and management of hand infections. **Results:** Out of 379 responders, 63% were post intern doctors. The majority (n=168;44%) had encountered hand infections at least once a month and the rest 15% (n=60) had no exposure. The median score for the questionnaire was 21 and 20 respectively among post and pre intern doctors. The average knowledge of identification of hand infections was 69.5% vs.72.4 ($p<0.001$), average knowledge of management was 77.5% vs. 87.8. ($p<0.001$), importance of starting antibiotics 94.1% vs.89.4% ($p<0.001$), early rehabilitation with exercise 75.6% vs. 60.2% ($p<0.001$), and position of safe immobilization 28.2%vs.21.3% ($p<0.001$) post and pre-intern doctors respectively. **Discussion and conclusions:** Basic knowledge on hand infections is important not only for hand surgeons but also nonspecialist doctors as well. Comparative lower scores in post-intern doctors may indicate the necessity of continuous medical education on this topic by specialists.

IMPLEMENTING CAPRINI RISK ASSESSMENT SCORE IN AN ORTHOPAEDIC UNIT - AN AUDIT ON ADULT VTE PROPHYLAXIS **PK Amarasinghe, ABSA Perera, RMM Theepan, B Thileebphan, MA Anjhazzallah, SR Samaraweera, MS Wisenthige Sri Jayewardenepura General Hospital**

**Introduction:** Risk of death from Venous Thromboembolism (VTE) is mostly due to Pulmonary Embolism, often clinically silent. Therefore, routine risk assessment and thromboprophylaxis is advocated in western countries. **Materials and Method:** Caprini risk assessment tool was used to determine the risk score for VTE of all adult patients admitted to orthopaedic unit, SJGH. Then thromboprophylaxis was given according to the risk score. Patient education on prevention of VTE and prophylaxis was given on admission and discharge. NICE guidelines (2018) quality standards were used to assess adherence to guidelines, pre and post-intervention. **Results:** The number of patients identified as high risk for thromboembolism and thromboprophylaxis given according to protocol has increased by 12.6% (83.2 to 95.2%) following the intervention. Patient compliance in VTE risk assessment using the Caprini Risk assessment tool was 73.4%. Patient education on VTE prophylaxis increased by 71.2%. (28.1 to 97.6%) **Conclusion:** Thromboprophylaxis adherence to guidelines was increased up to the standard. However, patient compliance was not up to standards due to lack of motivation of staff and inability to fill by elderly patients as this was paper-based. Caprini risk assessment tool can be used to improve the standards of VTE prophylaxis in surgical units.

TIBIAL SEGMENTAL BONE LOSS MANAGEMENT WITH ILIZAROV FRAME BY DISTRACTION OSTEOGENESIS **SD Hewavitharana1 , P Kalaventhan2 , C Herath3 1 - Colombo North Teaching Hospital 2 - National Hospital of Sri Lanka 3 - National Hospital Kandy**

**Introduction:** Reconstruction of tibial bone defects is considered a challenging task. Ilizarov circular external fixator can be used to manage tibial bone defects successfully, using the concept of distraction osteogenesis. It addresses the issues of shortening, deformity, soft tissue loss, and joint contractures. **Material and Methods:** This retrospective descriptive and self funded study was conducted at Teaching Hospital Kurunegala on patients who underwent the Ilizarov technique for tibial bone defect management during 2018-2020. Patients with mental diseases, bed ridden and neurovascular limb injuries were excluded. Patients were treated using Ilizarov frame with distraction osteogenesis. All patients were evaluated both clinically and radiologically through routine follow up visits. The outcome was assessed using the Association for the Study and Application of Methods of Ilizarov (ASAMI) bone and functional scores. **Results:** Twenty seven patients were included in this study. According to the ASAMI bone score, 15 demonstrate excellent results and 12 showed good results. According to the ASAMI functional score, 19 patients showed good and 8 patients showed excellent outcome. **Discussion and conclusion:** Ilizarov method serves well in reconstruction of bone defects with advantages and disadvantages. Alternatives like Masquelet technique, vascularized or non-vascularized bone grafts suits different indications. According to our results, treatment of tibial defects with Ilizarov technique using distraction osteogenesis yields satisfactory results.

STANDARDS OF ORTHOPAEDIC OPERATION NOTES (SOON) - A CLINICAL AUDIT **KHMAP Senavirathne, HMC Herath, AGB Anuradha National Hospital Kandy**

**Introduction:** The Royal College of Surgeons of England (RCSE) has laid down guidelines on operative note documentation (2014) that is included in patient records, as a quality improvement measure, that emphasizes every surgical procedure should be followed by thorough, descriptive and legible documentation. Our aim was to identify compliance of Orthopaedic Department of National Hospital Kandy, in operative note documentation, with expected practice described by the RCSE. **Material and methods:** Postoperative notes of all orthopaedic operations performed in orthopaedic surgery unit D, from 01-04-2022 to 31-05-2022 were retrospectively analyzed. Documented information was compared against the standards. An operation record Performa for Orthopedic surgery, based on RCSE guidelines, was then introduced after a team briefing. It was reaudited from 01-07-2022 to 31-07-2023. There were 38 records in retrospective analysis and 48 cases in re-audit. **Results:** Many of standard information was included in the notes but did not reach the target levels. Some important information was least recorded. Legibility was a major concern. A significant quality improvement was noted after the introduction of the orthopaedic operation note performa. **Discussion and conclusions:** We need significant improvement in operation detail documentation preferably in a typed document. This audit may be conducted in many centers across the island to improve record keeping quality. SLOA may introduce a national performa for orthopaedic surgery operation records or a way of electronic record keeping system. This will be helpful for trainees in their overseas training and future references.

OUTCOME OF TOE TO FINGER TRANSFER IN TRAUMA - A SINGLE CENTERED EXPERIENCE IN A DEVELOPING ASIAN COUNTRY **G Ekanayake, KWSM Wijayawardhana, P Nadesan, P Abeysekara, DR Samarathunga, O Basnayake Plastic and Reconstructive Surgical Unit, National Hospital of Sri Lanka**

**Introduction:** Toe-to-finger transfer is a complex surgical procedure. Indications and techniques are evolving day by day with the expanding surgical techniques. It benefits patients with both acquired and congenital hand defects. This study aimed to assess the outcome of toe to finger transferred patients following trauma. **Methods:** This is a prospective follow up study with patients who underwent toe to finger transfer following traumatic amputation. Functional outcome was assessed using DASH (Disabilities of the Arm, Shoulder, and Hand) score. **Results:** All were male patients. Age ranged from 17 to 52 years with mean age of 29±10.2 years. Right sided toes were used in 54.5%(n=6). 69.2%(n=9) of the toe transfers were big toe to thumb. 23.07%(n=3) were 2nd toe to IF or middle finger while the other one was 2nd toe to thumb. Survival of the transferred toes was 100 %. 15.3%(n=2) had rotational deformity. One patient had contracture and one had bulky index finger which needed debulking. Considering the outcome assessment, Mean DASH score of the population was 26.5±0.9. DASH score ranges from 25 to 28.3. **Discussion & Conclusion:** Toe to finger transfer has a high success rate in our population despite the limited facilities. Majority shows a satisfactory sensory and motor recovery and were able to carry out activities of daily living independently. Considering the favorable outcome, toe-to-finger transfer remains the best option next to a successful replantation of a finger.

TO TRAVEL IN TIME WITH OPEN ACL RECONSTRUCTION - A CASE SERIES **ONLP Dharmaratne, NWJTA Nanayakkara, TD Abayadeera, GMHNP Kumara, GC Ananda Department of Orthopaedic Surgery, Base Hospital Homagama**

**introduction:** Open acl reconstruction was the most popular method of treatment back in the 1970s and 1980s for acl rupture. Currently, arthroscopic acl reconstruction is the gold standard. Aim of this series is to assess the benefit of revisiting this old surgical technique in those with poor socioeconomic backgrounds in limited resource settings. **Material and methodology:** During the period of 2021 to 2023 open acl reconstruction was done in 6 patients. For this case series, retrospective analysis of functional outcome of 3 of them were considered. Surgical technique involved a median parapatellar incision, harvesting semitendinosus tendon and formation of anatomical femoral and tibial tunnels, through which the graft was fed and held in position with bio screws. Both short and long-term complications were analyzed, and patient reported outcome measures including ikdc-skf (international knee documentation committee subjective knee form) and lysholm knee scoring scale were used. **Results:** Open acl reconstruction showed no major neurovascular complications. Superficial surgical site infection was seen in one patient. But overall great outcomes were observed with high scores of >80 in both ikdc-skf and lysholm knee scoring scale. **Discussion and conclusion:** It is evident from the outcomes available that open acl reconstruction has shown promising results in resource poor settings. Therefore, it is worthwhile to revisit this orthopaedic practice where there is a requirement.

PES ANSERINE PAIN SYNDROME IN NON TRAUMATIC KNEE PAIN PATIENTS **B Thileebphan[1], RMM Theepan[1], HHLS Herath[1], IS Rathnayake[1], P Tishanthan[2] [1] - District General Hospital Mannar [2] - District General Hospital Trincomalee**

**Introduction:** Non-traumatic knee pain is a common issue encountered in clinical practice, with osteoarthritis typically cited as the primary culprit. However, several other conditions can contribute to this discomfort, and one such condition that is increasingly garnering attention is pes anserine pain syndrome (paps). This study seeks to elucidate the characteristics of paps in non-traumatic knee pain patients.

**Material and methods:** Data was collected through interviewer administered questionnaires from 97 patients, involving 138 knees, over the course of one year at dgh, mannar. **Results:** The mean age of the participants was 55.39 Years (24 to 86 years). Females are accounting for 80% of the patients. On average, patients reported experiencing symptoms for 23 months. Out of the 138 knees examined, 116 (84%) had paps, independent of osteoarthritis. Pes anserine area was the primary source of pain in 66% of these knees. All patients reported that their daily or extended daily activities were impacted by this syndrome. The study identified a significant association between pes anserine pain syndrome and both obesity and diabetes mellitus ($p < 0.05$). Most patients (63%) could not identify any specific triggering events for the onset of their symptoms. **Conclusion:** This study higlights prevalence of paps in non-traumatic knee pain patients, whether it co-exists with osteoarthritis or not. It also pinpoints the pes anserine area as a major pain generator. Raising awareness of the prevalence of this syndrome can aid physicians in tailoring treatment strategies (steroid injections or focused physio) to maximize pain relief and improve the quality of life for affected individuals.