29th Annual Conference of
Nepal Orthopaedic Association (NOA)

ORTHOCON 2024

22-24 February 2024 | Park Village Resort, Kathmandu

Theme: Advancing Orthopaedics Together




NEPAL ORTHOPAEDIC ASSOCIATION
1995
सर्वे सन्तु निरामया

Souvenir Book

Message from the Organizing Chairman

Dear Esteemed Members and Participants,

It is with great pleasure and honor that I extend a warm welcome to each one of you attending the 29th Annual Conference of the Nepal Orthopaedic Association, **ORTHOCON-2024**, scheduled to take place from 22nd to 24th February, 2024 at the picturesque Park Village Resort in Kathmandu, Nepal.

The field of Orthopaedics has witnessed remarkable advancements in education, specialized services, technology, evidence-based practices, orthopaedic industries and research over the past few decades. This progress has given rise to numerous subspecialty societies within our country. In recognition of these transformative developments, we have chosen the theme for this year's conference as **"Advancing Orthopaedics Together."**

This theme emphasizes the collective effort required from all specialties, industries, and stakeholders to propel orthopaedics further. Your expertise and dedication are crucial in shaping the future of our field, and this conference will serve as a testament to our shared commitment to advancing orthopaedic knowledge and patient care.

The Organizing Committee has meticulously planned an enriching program, including pre-conference PG courses, workshops, didactic lectures, symposiums, and plenary discussions. Participants from across Nepal and neighboring countries will converge to share knowledge, skills, and evidence-based practices. Esteemed faculties and speakers from both the country and abroad will create a platform for interaction, discussion, and learning in their respective fields.

Orthocon 2024 is not just an academic feast but also a forum for socializing, networking, and fostering new friendships, expanding the boundaries of our society and enhancing fraternity within the orthopaedic community.

I encourage you to explore the rich content of this conference, which will showcase valuable insights and experiences defining our orthopaedic community. May your stay in Kathmandu be comfortable, and the Orthocon 2024 be a fruitful experience for all participants.

Together, let us make this conference a resounding success, fostering collaboration and furthering the advancements in Orthopaedics.

Prof. Dr. Arjun Lamichhane
President, Nepal Orthopaedic Association
Organizing Chairman, ORTHOCON- 24

Message from the Organizing Secretary

Respected Seniors and Dear Colleagues
Namaste

It is with great pleasure and enthusiasm that I extend a warm welcome to each one of you to the Annual Orthopaedic Conference, **ORTHOCON 2024**.

This conference serves as a platform for the exchange of knowledge, ideas and groundbreaking research that continues to shape the landscape of Orthopaedic surgery.

Our Theme **"Advancing Orthopaedics Together"** reflects our commitment to pushing the boundaries of knowledge, embracing innovation and ultimately improving patient outcomes. Over the course of the conference, we are privileged to host distinguished speakers, engage in insightful panel discussions and interactive workshops that promise to expand our horizons. I encourage each one of you to actively contribute, share your expertise and foster the spirit of collaboration.

I extend my heartfelt gratitude to the organizing committee, sponsors and all those who have dedicated their time and effort to make this conference a reality.

As we embark on this enlightening journey together, may the annual orthopaedic conference ORTHOCON 2024 be a source of inspiration, knowledge and inspire us to elevate the standard of care in orthopaedics surgery.

Warm Regards

Dr. Vijayendra Adhikari
Organizing Secretary

Message from the Scientific Committee Chairman

Dear Esteemed Members and Participants,

Warm Greetings from the Nepal Orthopedics Association (NOA)!

It is with great pleasure that I extend a heartfelt welcome to all national and international delegates participating in **ORTHOCON 2024**, on behalf of the Scientific Committee of the conference.

In the dynamic field of orthopaedic surgery, research and scientific publications are instrumental in shaping the future. They serve as the backbone for advancements in techniques, technologies and ultimately, improved patient outcomes. We cordially invite orthopaedic surgeon from every corner of the globe to participate and share their abstracts related to the conference theme: **"Advancing Orthopedics Together"**. Your contributions are integral as we collectively work towards enhancing orthopaedic surgical disciplines and elevating patient care in Nepal on global scale.

ORTHOCON 2024 aims to delve into cutting-edge research, providing a platform for engaging discussions on the latest advancements in Orthopaedic surgery. Kindly consider this as our earnest request for you to share your valuable insights with us. Together, let's create a feast of knowledge and a scientifically stimulating experience at ORTHOCON 2024.

Looking forward to your active participation and make this academic feast an indelible conference.

Warm regards

Dr. Sunil Singh Thapa
Scientific Committee Chairman

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Arthroplasty (THA Session)

ICL

VTE Prophylaxis for Joint Replacement

Prof. Shishir Lakhey

ICL

An update on Developmental Dysplasia of Hip

Dr. Mark Moroney

FREE PAPER

Spinopelvic Relationship in THA

Prof. Abhay Elhence

FREE PAPER

THR in Rheumatoid Hip

Dr. Vishnu Senthil Kumar

FREE PAPER

Total Hip Arthroplasty following Open Reduction Internal Fixation of Acetabular Fractures: A Functional Outcome Study

Dr. Bibek Banskota
Consultant, B&B Hospital

ABSTRACT

Introduction: Total hip arthroplasty (THA) is the endpoint of failed acetabular fracture (surgery). Failure may be attributed to causes related injury causing avascular necrosis (AVN) of the femoral head, inadequate articular restoration leading to post-traumatic arthritis, or rarely massive osteolysis of femoral head. We present a case series of patients who underwent a THA following acetabular fracture or surgery for the same, and report their short-term functional outcome.

Method: Between November 2013 and June 2023, 12 patients underwent a THA for acetabular fracture, 10 of whom had undergone surgery for the fracture. There were 10 males and 1 female with an average age of 43 years. The average follow up was 26 months. Retrospective data on patient and fracture demography, and details of THA prosthesis used, was retrieved from chart and radiograph review, and prospective functional outcome score was measured using the Harris Hip Score (HHS).

Result: There were 11 males and 1 female, 7 right hip cases and 5 left hip cases. THAs averaged 12 months after acetabular fracture surgery. The most common index fractures requiring THA were posterior wall (4) and posterior wall-column (3). The most common bearing couple was ceramic-on-polyethylene. THA was indicated for painful avascular necrosis of the femoral head in 5 cases, massive osteolysis in 2 cases, and poor reduction leading to secondary arthritis in 4 cases. Post-THA Harris Hip Score (HHS) averaged 86, up from 26 pre-op.

Conclusion: THA following acetabular fracture results in significant improvement in functional score for the patient.

ICL

Managing acetabular bone defect in THA

Prof. Poon Kein Boon

ICL

Revision THA for Intrapelvic Cup

Prof. Abhay Elhence

Arthroscopy (Knee Session)

FREE PAPER

A Tale of Two Kids: ACL Avulsion Repair in Skeletally Immature Persons and Follow Up

Dr. Nirab Kayastha
Assoc. Prof., Shree Birendra Hospital, Nepalese Army Institute of Health Sciences

ABSTRACT

Anterior cruciate ligament (ACL) is a stabilizing structure preventing anterior translation of tibia on femur as well as preventing rotatory movement in the knee. Children and adolescents are susceptible to injures of the ligament during games. The ligament injuries might be avulsion fractures of tibial eminence, partial tears or full thickness tears. Due to the presence of open physis there is an apprehension to perform transphyseal repair or reconstruction of the torn ligament lest the procedure result in growth disturbances.

A 14 y boy and a 6 y old girl sustaining ACL tibial avulsion were treated arthroscopically: the boy was treated with transphyseal bone bridge repair and the girl was treated by all-physeal tunnel technique. The avulsed bony fragment was stabilized with orthocord sutures.

The girl and the boy were recently seen in OPD at one year and two- year follow-up respectively. The kids are ambulant with full weight bearing; knee range of motion is comparable to uninjured knee. Translational and rotatory tests are negative in both the cases. There is no limb length discrepancy.

ACL injured knees in pediatric population should be addressed; operative treatment is better for the favorable outcome. Properly executed avulsion repair respecting the physis can give satisfactory results.

FREE PAPER

Relationship Between Surgical Delay and Repairability of Medial Meniscus Tear in Anterior Cruciate Ligament-Deficient Knee in Young Patients: A Cross-Sectional Study

Dr. Sushil Thapa
Senior Consultation Orthopaedic Surgeon, Bharatpur Hospital

ABSTRACT

An ACL (anterior cruciate ligament) deficiency places the knee at increased risk of medial meniscus tear. The cause of tear is repetitive micromotion during physical activities in an unstable knee. There are several factors that determine the repairability of a torn meniscus. One of them is time elapsed since injury till surgery. This study aims to assess the relationship between surgical delay of ACL reconstruction and repairability of the associated torn meniscus.This is a cross sectional study performed in Bharatpur hospital on sixty-two patients. Those with ACL and medial meniscus tear were studied. The tears zone 1 and zone 2 were included. These patients were divided into three groups on the basis of time since knee injury: up to 3 months, 3-6 months and more than 6 months.The total number of patients was sixty-two. Out of them 30 (48.3%) were repaired and 32 (51.6%) were excised.The rate of medial meniscus repair was higher (56%) and the rate of excision was less (44%) among those presenting within six months of injury. As the time elapsed more after injury (after six months), the rate of repair declined to 43% while the rate of excision was 57%.The repairability of medial meniscus decreases with time since injury. So, the patients with ACL and meniscus tear should be operated earlier when a torn meniscus is repairable .

FREE PAPER

Stiff Knees: Etiopathology and Management

Dr. Rupesh Kumar Vaidya
Chief Orthopedic Surgeon & HOD Department of Orthopedics, Suvekchya International Hospital

ABSTRACT

Stiff knees are not so uncommon in clinics. They result after injuries, surgeries, infection, arthroscopic and arthroplasty surgeries, and other causes.

Stiff knees present a significant disability to the patients and a challenging scenario to the treating doctor. We discuss their etiopathologies and principles in management with case examples.

Key words: Arthroscopy, Arthrolysis, Injuries, Stiff Knees

FREE PAPER

Tips and Tricks for successful Arthroscopic ACL Reconstruction

Dr. Gandhi Nathan Solayar

ICL

Knee Alignment –from Plant to Execution

Dr. Sunil Pant

FREE PAPER

Decision making in Meniscal Injury

Prof. Navin Karn

FREE PAPER

Knee Rehabilitation post ligamentous reconstruction: Need for consensus

Dr. Nijan Bajracharya

Knee Free Paper Session

FREE PAPER

Getting ready for unexpected pathologies during knee Arthroscopy. How MRI findings may fool you?

Dr. Chakra Raj Pandey

FREE PAPER

Early Tourniquet Release with knee lavage in Knee Arthroscopy: Does it help?

Dr. Bibhuti Nath Mishra
Consultant, Grande International Hospital, Tokha, Kathmandu

ABSTRACT

Tourniquet use in knee arthroscopy is quite common. The surgical advantages achieved are blood loss control, increased arthroscopic visibility and better surgical field management. It can be used safely for 2hrs maintaining recommended inflation pressure for the patient. Tourniquet pain and nerve compression injuries are most common reported complications of it. In literature, hemarthrosis and infection are commonest reported complications following knee arthroscopy surgery. We designed a study to address the commonest complications from both, the tourniquet & arthroscopy surgery. It's a single surgeon multi-centric observational study carried from February, 2021 till October 2023. Identical or comparable intra-operative and post-operative protocols were carried out in all. Cases for diagnostic knee arthroscopy, ACL or PCL reconstruction, meniscus repair, partial meniscectomy, meniscus root repair, ACL avulsion fixation, knee synovitis and arthroscopic arthrolysis for post traumatic knee stiffness were included in this study whereas septic knees, cartilage procedure surgeries and multi-ligament surgery with open procedure performed within tourniquet time were excluded. In the patients meeting our inclusion criteria, tourniquet was deflated just after finishing the surgical procedure and before closure of skin portals/incision. After 5 mins, the knee and incision sites were thoroughly washed with 2 grams of vancomycin mixed in 2 liters of Normal Saline (NS). Then skin portals were closed and compression bandage was applied. The knee was observed for tourniquet pain, tourniquet induced nerve compression, hemarthrosis/effusion and infection. Out of the total 154 patients involved in this cross-sectional survey, above mentioned complications was encountered in 2.6% in total. Infection was encountered in only one patient (0.64%) and that also was reported after 1 month of surgery. Our results are quite comparable with the data's from developed world. Hence, we advise early release of tourniquet to decrease tourniquet time and also for vancomycin wash of knee along with screw portals to prevent post-operative infection and hemarthrosis.

Keywords: Tourniquet; Knee; Arthroscopy; Vancomycin

FREE PAPER

The effectiveness of locally administered Vancomycin on grafts in reducing the incidence of septic arthritis after Anterior Cruciate Ligament Reconstruction (ACLR)

Dr. Rajiv Baral
Consultant, Anamiwa Hospital, Kathmandu, Nepal

ABSTRACT

As we knew from the literature, graft contamination could be the main cause of postop septic arthritis. Prompt intervention in the case of infection can lead to a satisfactory outcome. There are various strategies for prevention of post –operative ACL infection like IV antibiotics, restriction of tobacco use etc. In addition to above methods, vancomycin has been introduced to prevent post- ACLR infection in practice. This study is necessary due to gap remains on literature in our setting assessing effectiveness of presoaking vancomycin on graft to prevent post ACLR infection. This is retrospective cohort study containing total 54 patients (27 intervention-vancomycin use /27 comparison- no vancomycin) undergoing ACLR with BTB and hamstring graft between Jan 2020 and April 2022 are included in the study. Our study showed that the local use of vancomycin in graft is associated with lower infection rate (P<0.048).Others outcome measure including graft rupture rate, KOOS score are similar between groups. Hence, we recommend presoaking graft by vancomycin as a method of prevention of post ACLR infection.

FREE PAPER

Association between femoral intercondylar notch angle and risk of non-contact ACL injury

Dr. Sumit Sharma
Resident, NTC

ABSTRACT

Injuries to the Anterior Cruciate Ligament of the knee are common. Femoral intercondylar notch angle has been linked with the risk of anterior cruciate ligament injury. Magnetic resonance imaging of knee evaluates this parameters and studies their relationship with Anterior Cruciate Ligament injury. This study is an observational study. Patients with suspected Anterior Cruciate Ligament injury at National Trauma Center, Mahaboudha, Kathmandu between October 2022 to September 2023 were enrolled. Those with anterior cruciate ligament tear were taken as case and those without tear were taken as control based on standard knee Magnetic resonance imaging performed on a 1.5 Tesla Philips Achieva and the measurements were made using Intellispelle Portal software. On the sagittal MR image, a slice in which the roof of the femoral intercondylar notch is entirely displayed was chosen. The Blumensaat line was drawn along the cortex of the roof of the intercondylar notch on the sagittal plane. The angle between femoral longitudinal axis and blumensaat line will be the intercondylar notch angle. The findings were correlated with presence or absence of anterior cruciate ligament tear. Out of 62 cases, 31 had tear, and 31 had no tear. The femoral intercondylar notch angle was found to be narrow in patients with anterior cruciate ligament tear and measured 30 ± 2, $P < 0.001$, which was statistically significant. Femoral intercondylar notch angle in males with anterior cruciate ligament injury was 30±3, $P<0.001$ and in females with anterior cruciate ligament injury was 31±2, $P<0.001$.The femoral intercondylar notch angle might predispose to anterior cruciate ligament tear in both genders and there is statistically significant associations of anterior cruciate ligament injury and high body mass index (BMI).

FREE PAPER

Accuracy of Clinical Examination Versus MRI in ACL tear

Dr. Dilip Koju
Resident, NAMS, NTC

ABSTRACT

Background: Anterior cruciate ligament is commonly injured ligament that can be diagnosed by history, clinical examinations, imaging and arthroscopy. If proper clinical examinations is done, more expensive and invasive procedures such as MRI or diagnostic arthroscopy can be avoided to diagnose ACL tear. This study was carried out to determine if clinical examinations itself were good enough to diagnose ACL tear.

Objective: The main objective of this study was to compare the accuracy of Clinical tests and MRI in ACL tear.

Methods: Observational study was performed in patients presenting to National Trauma Center, Kathmandu over a period of 6 months. After fulfilling inclusion and exclusion criteria, patients with knee injury were clinically examined and MRI investigations were sent for necessary patients. Magnetic resonance imaging performed on a 1.5 Tesla Philips Achieva. Arthroscopy was performed and was used to compare clinical examinations and MRI. Sensitivity, Specificity, PPV, NPV and Accuracy of clinical examinations and MRI was measured and compared.

Results: Out of 104 cases enrolled in the study, 25 cases had arthroscopically diagnosed ACL tear. Sensitivity, Specificity, PPV, NPV and Accuracy of ADT were 93.67%, 84.00%, 92.25%, 85.87% and 90.63% respectively. Lachman test was 96.20% sensitive, 92.00% specific and 94.88% accurate. For Pivot Shift test, sensitivity was 89.97%, specificity was 96.00%, PPV was 98.00%, NPV was 81.27% and accuracy was 91.80%. Sensitivity, Specificity, PPV, NPV and Accuracy of MRI were 96.20%, 96.00%, 98.13%, 92.05% and 96.14% respectively.

Conclusion: Even though MRI is slightly more accurate, thorough clinical examinations can diagnose ACL tear reliably.

FREE PAPER

Association between Posterior Tibial Slope and Anterior Cruciate Ligament Injury

Dr. Aman Krishna Ranjit

ABSTRACT

Introduction: Anterior cruciate ligament (ACL), the main stabilizer of knee joint, is the most injured ligament of knee. Several structural risk factors of non-contact ACL injury have been identified and posterior tibial slope (PTS) is one of them. The aim of this study was to demonstrate the relationship of PTS on ACL injury, identifying patients at risk of sustaining ACL tears using plain radiographs.

Method: From October 2020 to September 2021, a total of 48 cases were included on this study. 16 patients with ACL tear by non-contact mechanism, diagnosed by MRI or arthroscopy were included in the ACL injured group and 32 patients with intact ACL on physical examination or on arthroscopy were included in the ACL uninjured group. Goniometric measurement of PTS angle was performed on true lateral knee X-rays of both groups. Means and standard deviations (SD) were calculated in each group as well as in the male and female population.

Results: The mean PTS was significantly higher in ACL injured group than in ACL uninjured group 10.87°±SD2.77° versus 7.90°±SD1.94°; p=0.01. A statistically significant difference in PTS was not observed between males 9.04°±2.50° and females 8.73°±2.81° (p=0.466). There was a statistically significant difference between the female injured and uninjured groups, but not between male injured and uninjured groups.

Conclusion: Increased PTS can be a significant risk factor for the ACL injury. There was no significant difference in PTS measurements between the male and female groups.

Key words: anterior cruciate ligament, ACL injury, posterior tibial slope

FREE PAPER

Association of Intercondylar Notch Angle in ACL Injuries in Patients Attending Shree Birendra Hospital

Dr. Alok Singh
Resident, NAIHS

ABSTRACT

Background: ACL injury is one of the common injuries of ligament of knee owing to increased involvement in sports and RTA. Non-contact ACL injury has shown to have increased incidence in Nepal as well. Various factors have shown to have association with ACL injuries such as sex, BMI and notch parameters like intercondylar notch angle. Despite advancement in ACL reconstruction, there is increased risk of post operative morbidity like osteoarthritis. This study was conducted to study effect of variation of intercondylar notch angle in non contact anterior cruciate ligament injuries.

Methodology: A hospital based case control study was conducted in Department of Orthopedics, Shree Birendra Hospital, Chhauni. A total of 120 patients (60 with ACL injury and 60 with healthy ACL) were included in this study. Demographic data of the patients were taken and the intercondylar notch angle was measured from magnetic resonance images (MRIs). Statistical analysis was done to determine relationship between demographic parameters and ACL injury and INA and ACL injury.

Results: A total of 120 patients were included in the study with 60 cases and 60 controls. The BMI of ACL injured patients averaged 24.42±2.09kg/m2 and that of controls averaged 24.42±2.00kg/m2. This was not of statistical significance (p-value-0.287). The intercondylar notch angle among the ACL injured patients averaged 35.06 degrees which was of statistical significance when compared to non ACL injured patients (37.86 degrees) with p-value<0.05. The average intercondylar notch angle was found to be 36.46±2.77 degrees.

Conclusion: ACL injured knees were noted to have narrower intercondylar notch angles. BMI was not significant in association with ACL injury in this study.

Keywords: ACL, intercondylar notch angle, MRI, non-contact ACL injury

Spine Session 1

FREE PAPER

Outcome of Surgical Decompression for Foot Drop in Degenerative Disc Disc (DDD)

Dr. Ramkrishna Dahal
Grande International Hospital

ABSTRACT

Introduction: Antigravity weakness of the tibialis anterior muscle, commonly known as a foot drop, is a common debilitating condition secondary to lumbar nerve root deficiency, and one of the causes is compression or inflammation due to stenosis (either from bone spurs, ligamentum flavum, facet cysts, or a herniated disc). Controversy exists regarding the appropriate management of this condition with equal proponents of surgical and nonsurgical treatment. The indication, timing, and benefit of surgery for foot drop remain debatable.

Materials and Methods: This is a retrospective study of 21 cases of foot drop secondary to DDD where all patients who underwent surgery at the Department of spine services, Grande International Hospital. Preoperative duration of foot drop reported by the patient, preoperative tibialis anterior strength defined as per the Medical Research Council (MRC) Scale, and change in muscle strength postoperatively and at last follow-up were recorded. For purpose of inclusion in the study, foot drop was defined as weakness of tibialis anterior of MRC grade 3 or less.

The extent of recovery was evaluated by comparing the difference between preoperative muscle weakness and muscular strength at the last follow-up. This was analyzed as complete recovery, partial recovery, no recovery for purpose of analysis. The preoperative duration of symptoms was divided into less than 72 hours, within 1 week, within 1 month and greater than 1 month.

Results: Out of 21 patients, 8 patients who presented within 72 hours had complete recovery with MRC grade 5 postoperatively. Out of 5 patients who presented within 1 week, 3 patients had complete recovery and 2 patients had partial recovery. Out of 5 patients who presented within 1 month, 2 patients had complete recovery, 1 patient had partial recovery and 2 patients had no recovery. Out of 3 patients who presented after 1 month, 2 patients had partial recovery and 1 had no recovery.

Conclusion: In accordance with literature, our data revealed a good recovery rate for operative management of foot drop secondary to lumbar degenerative disease. We found, adjusting for preoperative muscle strength, duration of preoperative weakness was significantly associated with extent of recovery.

Key words: degenerative disc disease, foot drop, recovery, severity

FREE PAPER

Uncommon spine cases: How did I treat?

Dr. Bishnu Babu Thapa
Assoc.Prof., Nepalese Army Institute of Health Sciences (NAIHS)

ABSTRACT

Spine Diseases which are not present frequently are uncommon cases. The treatment modalities of these uncommon diseases are differ from surgeon to surgeon. The uncommon conditions are Thoracic hard disc, Spinal osteochondroma, Aneurysmal bone cyst, Epidural abscess and others.In our department we treat only extradural lesions.We did surgical treatment of 480 patients in last 8 years.Among 480 cases,18 cases were uncommon spine diseases. We have treated different uncommon spine diseases in our Centre. In this presentation we describe the surgical treatment of few uncommon spine diseases.

FREE PAPER

Evaluation of outcome of timing of surgical intervention on Cauda Equina Syndrome

Dr. Rajesh Pratap Shah
Orthopedics Surgeon, Associate Professor, Shree Birendra Hospital, NAIHS

ABSTRACT

Introduction: Cauda Equina Syndrome (CES) is a rare clinical entity with devastating consequences. This disorder is caused by compression of lumbar and sacral nerve roots resulting in various neurological dysfunction. Identification and prompt treatment is required to avoid permanent damage.

Method and Methodology: This retrospective study conducted from april 2016 to may 2021 in Shree Birendra Hospital, Chauni, Kathmandu. All the case meeting the inclusion criteria were included in the study. Patients were operated using posterior open discectomy and the outcome was evaluated at 2 weeks, 3 months, 6 months and 1 year

Result: Total non of the patient meeting the criteria was ten . Two were female and eight were male with mean age of 40.30+6.58 years. The mean time of onset of symptoms and timing of surgery was 142hrs. vas for leg pain improved from 5.09+0.732 to0.70+0.483 and vas for back pain improved from 3.20+1.047to 0.5+0.57post operatively . All the cases had good improvement in sensory and motor function. Bowel and bladder improvement was present an all the cases at final follow up. Sexual was poor in two patients.

Conclusion: Timing of surgery may not be the most important determining factors for the outcome of the CES. Surgical decompression in delayed presentation also have good clinical outcome in CES.

Keywords: Back Pain; Cauda equina Syndrome ; Disability; VAS

Tuberculous and Pyogenic Spondylodiscitis: The Function of the Anterior Meningovertebral Ligament in Patients with Anterior Epidural Abscess

Dr. Umash Karki
Consultant Orthospine Surgeon, Deputy Superintendent, Nepal Armed Police Force Hospital

ABSTRACT

TB and Pyogenic spondylodiscitis are the most common spine infections .Hence,differentiating between them is most important to guide early and prompt treatment. At the level of the mid vertebral body, there is a midline, sagittally oriented septum (meningovertebral ligament) anchoring the posterior longitudinal ligament to the periosteum seen in MRI which divides the anterior epidural space into 2 discrete right and left compartments. Unlike pyogenic spondylodiscitis, TB spondylodiscitis spares the intervertebral disc and attached ligament in the setting of early infection because it lacks the proteolytic enzymes necessary to breach the disc.

The purpose of this study was to determine whether the identification of the ventral meningovertebral ligament on MR imaging can help differentiate between TB and pyogenic spondylodiscitis. It was a retrospective study done at Indian Spinal Injuries Centre,New Delhi. Data was collected from the period of 2012-2022 from the Pacx system and lab reports. Age group 12-90 years with anterior epidural abscess on MRI were included. MR imaging sequences reviewed for each patient included axial and sagittal T2WI and T1WI without contrast. A total of 97 patients(M:53, F:44) with a mean age of 48.31+_16.7. There were 7 cervical, 48 thoracic and 41 lumbar spine involvement. Meningovertebral ligament was present in 69 TB PCR positive cases and 1 TB PCR negative case and was absent in 10 TB PCR positive cases and 17 aerobic positive cases. Thus the sensitivity of the meningovertebral ligament presence was found to be Sensitivity: 87.34% Specificity: 94.44%;PPV: 80.23%;NPV: 9%;Accuracy: 88.66%.Thus.intact anterior meningovertebral ligament is an indirect sign of Tubercular spondylodiscitis with epidural abscess and can be useful in differentiating tubercular and pyogenic spondylodiscitis.

Keywords: Meningovertebral ligament, Spondylodiscitis

ICL

Current Status of Minimally Invasive Percutaneous Endoscopic Spinal Surgery

Prof. Tsai-Sheng Fu

ICL

Pearls and Pitfalls in Biportal Endoscopic Decompression Technique (Lumbar and Cervical)

Prof. Si-Young Park

FREE PAPER

Robotic and VR Spine Surgery

Dr. Harmantya Mahadhipta

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VIDEO

A Global Orthopaedic Community with a plethora of Oppurtunities

Dr. Prakrit Chetri
(YSC SICOT Representative of Nepal)

VIDEO

Empowering the Gobal Young Orthopaedic Community

Dr. Aju Bosco
(Chair-Young Surgeons Committee of SICOT)

FREE PAPER

Unilateral Biportal Endoscopy (UBE) for Lumbar Disc Herniation

Prof. Dipak Shrestha

FREE PAPER

Congenital Trigger Thumb Release

Dr. Puskar Pudasaini

FREE PAPER

Microsurgical Coaptation of Ulnar Nerve

Dr. Lok Raj Chaurasia

FREE PAPER

Role of Ozone Molecule for Chronic Elbow Stiffness

Dr. Dipendra Gurung
Orthopedic Consultant, Annapurna Childrens and Women Hospital, Pokhara

ABSTRACT

Objective: A evidence based study for a case of chronic elbow stiffness treating with the non invasive technique, day care introducing ozone molecule.

Introduction: We all know ozone layer is an important natural features of the earth atmosphere that protects us from harmful uv rays from the sun. Ozone is a naturally occurring gas found in the earth atmosphere that can be beneficial when present in the right moment in right place. Ozone –is a molecule consisting of 3 oxyxen atoms is a gas. Oxidation a type of reaction involving positively and negatively charged ions. A redox reaction involves the transfer of a negatively charged electron. Oxygen and ozone gain the electron in these reactions making them oxidizers. So oxidation is responsible for several of the benefits of ozone therapies. A phenomenon hormesis is responsible of the body is dose dependent. Positive or beneficial response to a chemical or other biological stressor is stimulated at low dose but inhibited at zero dose and high dose.

Back to its history in around 1785 van marum observed that when oxygen was exposed to an electric discharge it was activated and reacted with mercury and he called the charged oxyen. Around 1801 cruikschank noted that an unknown gas could be formed during electrolysis. Swiss dentist EA Fisch(1899-1966) had the first idea to use ozone as a gas or ozonized water in his practice.

When a famous surgeon DR E payr (1871-1946) had to be treated for gangrenous toe, he was surprised by the efficacy of ozone treatment. At present lacking of scientific and clinical studies the use of ozone therapy has always encountered great skepticism and the current situation varies in different countries. It is favoured in underdeveloped or poor countries such as eastern Europe, Cuba, Mexico and South America. It is widely accepted in Germany, Austria and Switzerland. Ozone therapy is used to treat variety of condition such as chronic pain and inflammation, arthritis, various bacterial and viral infection, revascularization of dead or dying tissues and presently is even being studied as a potential treatment for cancer. In current times ozone is being used as an antiageing agent, for reversal of post covid AVN, in diabetic neuritis, rheumatoid arthritis, parkinsons disease, reversal of alzeheimer and autism, osteoarthritis, disk prolapsed and a plethora of other conditions.

Materials Required:

1) Ozone 5cc extraction from ozone medical generator and connection through dry oxygen regulator in 1/8 th flow of oxygen.

2) Viscous supplement - Hyloronic acid 2ml of concentration
3) Anasthetic supplement - Lignocaine 2 percent
4) Portal blocks- cocktail regime - 2 percent lignocaine , 6ml distilled water, 1 ml depomedrol

Methods: This non invasive technique is done absolutely just under local infiltration with combination of portal blocks to enhance and reduce the pain during the procedure and after the procedure to relief pain .Patient is under supine position with the arm slight abduction .Painting and draping done in or securing sterile condition and under local infiltration and combining the portal blocks to enhance and to make pain free creating double benefits and vice versa. Portal blocks is given through ist web space of the affected site .Here the portal blocks is given around the ist interoseei muscles. Since these are supplied by the radial nerve and here ends the terminal branch of superficial radial nerve branch. Basically here we block the sodium channel protein pump and stop the pain. We take 10cc syringe and inserting anterolateral approach for elbow. Under flursocopy inserting 10 cc syringe entering into the articulating site checking is done prior under fluoroscopy .Initally we inject a low amount of local infiltration 2 percent and than after confirmation we inject viscous supplement to stimulate viscous effect and than we inject ozone 5cc and we can see the distraction of the joint after injecting the joint space after ozone administration. Here the efeect of artholysis creates by ozone and also stimulates collagen production due to reactive oxygen species releasing free radicals and helps to release the stiffness of elbow.

Results: Patient has absolutely no side effects because this procedure is done in local infiltration and portal blocks with minimum dose.
No any soft tissue necrosis will be present
Early range of motion is the highest benefit.
No required of admission ,patient can be discharged on the same day.
Zero complication or no presence of scars.

Key words: ozone, viscous supplement, portal blocks

Spine Free Paper Session

FREE PAPER

Body Mass Index in Patient with Degenerative Spondylolisthesis: A Cross-sectional Study

Dr. Kaushal Raj Kafle
Resident, TUTH

ABSTRACT

Low back pain is a leading cause of disability globally. The rise of obesity, a representative of modernization, is particularly marked in third-world countries. Various spine pathologies are linked to obesity, and patients with obesity experience heightened disability, symptoms, and neurological manifestations. Degenerative Lumbar Spondylolisthesis (DLS) emerges as a significant cause of low back pain in the middle-aged and elderly population. However, conflicting literature exists regarding high Body Mass Index (BMI) in DLS. This cross-sectional study at Tribhuvan University Teaching Hospital (TUTH), Nepal, from January 2022 to May 2023, assessed 81 patients aged ≥40 diagnosed with DLS defined by anterior translation of ≥3mm on the lateral radiograph. The height and weight were measured to calculate BMI. Level and Meyerding´s grades of DLS were documented. Demographic data were collected and, statistical analyses, including the independent T-test, compared the mean age, height, weight, and BMI among DLS levels, grades, and between sexes. Among the 81 patients, 73% were females, and 27%were males. The mean age, height, weight and, BMI were 59.41±10.97 years, 1.52±0.07 m, 60.43±12.82 kg, and 26.04±4.41 kg/m2 respectively. A notable 59.3% of patients had a BMI ≥ 25. Distribution of DLS levels revealed 2.5% L3-L4, 60.5% L4-L5 and, 37% L5-S1. Grade I and II DLS constituted 79.01% and 20.98% respectively. Patients with grade II DLS exhibited significantly higher weight and BMI than those of grade I DLS, observed across the overall population (p=0.031, 0.013), female population (p=0.003, 0.007) and, at L4-L5 level (p=0.003, 0.004). While a higher proportion of DLS cases had BMI ≥25, this association lacked statistical significance among men and women. Notably, BMI and weight were significantly higher in patients with grade II DLS compared to grade I DLS, underscoring potential implications for understanding the relationship between obesity and DLS.

FREE PAPER

Clinicodemographic Study of Traumatic Cervical Spine Fractures presenting to Tertiary Care Center

Dr. Subarna Paudel
Resident, Tribhuvan University Teaching Hospital, Institute of Medicine

ABSTRACT

Cervical spine injuries form a minority of trauma cases but impose a high financial burden. Its incidence is 11.8 per 100000 per year. It is associated with neurological deficits in 40% of cases. Knowing its clinicodemographic profile will help us understand the spectrum of these injuries which is essential for early recognition and prevention of significant future disability. The clinicodemographic trend is not well established in developing countries with only a few single-center studies in Nepal. Thus, this study aims to explore the clinicodemographic profile of traumatic cervical spine injury in TUTH.

It is a hospital-based descriptive observational study of traumatic cervical spine fractures presented to the Department of Orthopedics and Trauma Surgery, TUTH over 18 months (February 2022 to August 2023). Patients with trauma within 3 months were enrolled in the study. For each case, written informed consent was taken, and injury was classified according to AO classification. Performed proforma with study variables and the ASIA Impairment Scale chart was filled. Data were entered in MS EXCEL and distributions were tabulated into diagrams and tables.

There were 51 cases with 113 injuries included in the study of which 82% were male. The mean age was 50.08 years. Fall was the most common mode of injury with 59% of total cases from rural places of injury. The median time since the injury to hospital presentation was 45 hours with the majority of cases carried to the hospital in ambulance with cervical immobilization. The sub-axial spine was commonly involved with C6/C7 being the commonest level. There were 66.66% of cases with neurological deficit with the majority of them in AO Type C pattern of injury.

The study reflected on the trend of the clinicodemographic profile of traumatic cervical spine fracture in TUTH. There was a recent increase in the mean age of patients. Fall was the commonest mode of injury with the majority in their 40s to 60s. In our institute, sub-axial spine injury is presenting more commonly than upper cervical spine. Surgical treatment is more preferred recently.

FREE PAPER

Correlation of Coefficient of Stenosis with Clinical Symptoms in Lumbar Spinal Stenosis

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ABSTRACT

Lumbar spinal stenosis (LSS) is defined as a clinical syndrome of buttock or lower extremity pain, with or without low back pain, resulting from diminished space for neurovascular elements in the spinal canal. It is one of the most common indications for spinal surgery in patients older than 65 years of age. In patients with lumbar spinal stenosis, the relationship between the radiological severity and clinical findings is not clear. The aim of this study was to determine the coefficient of stenosis which is the ratio of total lateral canal cross sectional area to the total dural sac cross sectional area and its correlation between the pain and disability level.

This is an observational descriptive cross-sectional study. 67 patients (33 male; 34 female), mean age of 66.3 ±8.6 years with neurogenic claudication and central LSS between February 2021 to August 2023 were included in the study. Dural sac cross sectional area, total lateral canal cross sectional area were noted and the coefficient of stenosis was calculated at the maximum stenotic level in MRI to describe the severity. Correlation was done with the patients disability measured by Oswestry disability Index (ODI) and back pain and leg pain were evaluated by Numeric rating scale (NRS) and Visual analogue scale (VAS).

Based on Schizas classification, mild, moderate, severe and extremely severe stenosis were present in 28.36%,28.36%, 29.85% and 13.43% patients respectively. Lateral canal stenosis were Grade 0, Grade 1, Grade 2 and Grade 3 in 3, 10, 25 and 29 patients respectively. The radiological severity of LSS illustrated by coefficient of stenosis was significantly correlated with ODI score ($p < 0.05$) and VAS score ($p < 0.05$).

In our cohort, coefficient of stenosis was found to have significant correlation with patient disability and pain.

Keywords: Lumbar spinal stenosis, Oswestry Disability Index, Schizas classification

FREE PAPER

Spino-Pelvic Radiological Parameters in Patients attending Tertiary Hospital

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ABSTRACT

Background: The emphasis on sagittal spinopelvic alignment is increasing and it is important in the management of spinal disorders. This study was conducted to find out normal spinopelvic radiological parameters in patients attending Shree Birendra Hospital.

Methodology: One hundred and forty patients with acute back pain (71 males and 69 females) with acute mechanical back pain with no history of previous spinal disease and spinal and pelvic surgery were subjected to standing sagittal spino-pelvic radiographs. Spinopelvic parameters like Pelvic Incidence (PI), Pelvic tilt (PT), Sacral Slope (SS) and lumbar lordosis angle (LLA) were measured. A statistical analysis was done to study the relationships among them.

Results: The mean PI was 51.55 (SD-8.447) degrees, PT was 14.04 (SD- 7.585) degrees, SS was 37.64 (SD-6.744) degrees and LL was 52.47 (SD- 9.599) degrees. There was a statistical difference between male and female parameters in PI and PT. A majority of parameters had higher values for female subjects when compared to male subjects. PI was positively correlated with LL, PT and SS, whereas LLA was positively correlated with PT and SS.

Conclusion: This study presents the various spino-pelvic radiographic parameter values of a sample of the Nepalese population. There was a significant difference in radiographic parameters between males and females in several pelvic parameters. There was a significant correlation between different spinopelvic parameters. The values obtained are similar to the values presented as normal in the literature.

Keywords: Lumbar lordosis angle, Normal parameter, Nepalese population, Pelvic incidence, Sacral slope, Sagittal balance, Sagittal parameter, Spino-pelvic alignment, Spondylolisthesis

FREE PAPER

Clinico-Demographic Study of Traumatic Thoracolumbar Spine Fractures Presenting to Tertiarty Care Center

Dr. Arun Upreti
Resident, Maharajgunj Medical Campus

ABSTRACT

Thoracolumbar(TL) Spine fractures are associated with significant morbidity due to their neurological complications and associated injuries. The aim of this study was to investigate demographic and clinical characteristics of patients sustaining thoracolumbar spine injuries in a tertiary care center in Nepal. A thorough understanding of clinical and demographic characteristics will build our understanding of the disease, planning clinical services and prevention program.

This was a cross sectional observational study of 80 patients with TL Spine fractures attending Tribhuvan University Teaching Hospital between February 2022 to August 2023. Data collected included demographics, injury mechanism, transport, associated injuries, fracture location, neurological assessment, and method of management.TL fracture was classified according to AO System. Neurological injuries were classified according to ASIA Impairment Scale.

Data from 80 patients were evaluated. 68.9% of patients were male. The mean age was 39 years. The majority of patients(68.8%) sustained injury in rural region. Fall was the cause of the injury in 71.3% of cases, 63.7% of patients were transported in ambulance. Associated injuries were present in 50% of patients. The mean time to hospital arrival was 56 hours. Thoracolumbar junction was the most common site of fracture and L1 was the most fractured vertebra. There were 42 AO Type A, 22 AO Type B and 16 AO Type C fractures. Neurological impairment was seen in 30% of cases. 49% of the cases underwent surgical management. The average time from injury to surgery was 11 days.

The mean age, male predominance and falls as principal cause of injury was comparable to other studies done in developing countries. More fractures occurred in the rural setting probably due to high-risk socioeconomic practices. Associated fractures were present in half of the patients with the highest incidence in Thoracic fractures. AO Type A was the most common fracture type. Neurological impairment had higher incidence in Type C fractures. Patients undergoing surgical management were younger and were more likely to have multilevel fractures, AO Type B/C injuries and neurological impairment.

FREE PAPER

Correlation between Modic Changes with Lumbar Disc Degeneration, Facet Angle Tropism, Facet Joint Osteoarthritis, and Oswestry Disabilty Index Score in a Patient with Low Back Pain

Dr. Vishal Kumar Dangol
Resident, Kathmandu Medical College and Teaching Hospital

ABSTRACT

Modic Changes (MCs) are signal changes in Magnetic Resonance Imaging (MRI) of the lumbar vertebral endplates and marrow. The type of MCs varies according to MRI signal intensity changes. Patients with LBP have been known to have MCs, however, the relationship between MCs and facet joint tropism/arthritis and disc degeneration is still up for debate. The study aimed to find the relationship between MCs with Lumbar disc degeneration(LDD), facet angle tropism(FAT), facet joint osteoarthritis(FJOA), and Oswestry disability index score(ODI) which would provide important insights into the complicated etiology of lower back pain and help to guide more efficient diagnostic and therapeutic procedures.

This prospective cross-sectional observational study was conducted at Kathmandu Medical College presenting between February 2021 and August 2023. All patients who had MRI done for LBP were included in the study. The exclusion criteria included: patients with spine neoplasm and infections, scoliosis, and peripheral vascular disease. A correlation of MCs was done with ODI, LDD, FT, and FJOA.

There were 67 patients (56.7% male, 43.3% female) and the mean age was 41.6±14.4 years. MCs were found in 39 patients with type II in 19 (28.4%), type I in 12(17.9%), and type III in 8(11.9 %) patients. MC type II was associated with a high ODI score as compared to the patients without MCs($p<0.05$). The distribution of MCs according to the Pfirrman grading for LDD were grade 2(14.9%), grade 3(38.8%), and grade 4(40.3%); this correlation was not statistically significant($p=0.15$). FT was observed in only 6 cases, 4 had no MCs and 1 had type 1 MCs and the other had type 3 MCs. The association between MCs and facet joint tropism was not found to be statistically significant ($p=0.40$). As for facet joint osteoarthritis according to Weishapt grading, distribution in patients in whom MCs were observed were grade 1(28.4%), grade 2 (34.3%), and grade 3(23.9%); this correlation was statistically significant ($p<0.05$).

In this study, MCs were found to have a significant correlation with ODI and FJOA, suggesting a potential interplay between these factors and the severity of functional impairment and facet joint pathology.

FREE PAPER

Comparative study on Wound Infections following Wound Closure using Staples and Absorbable Suture among Obese Patients Undergoing Lumbar Spinal Surgeries

Dr. Akshay Panduranga

ABSTRACT

Background: Surgical site infections are the infections of the incisions or organ or space occurring after surgery. Aimed to compare the incidence of wound infections after lumbar spinal surgery using staples and absorbable sutures for skin closure in obese patients.

Material & Method: Retrospective, Hospital based observational study. Cases of lumbar spine surgery meeting the inclusion criteria presented at R.L. Jalappa Hospital Centre are chosen retrospectively from March 2021 to March 2023. All the patients >18 years and <75 years who underwent lumbar spine surgeries were included in present study. The patient were randomly allocated into 2 groups; Group A: Wound closure with skin stapler and Group B: Wound closure with absorbable sutures. The primary outcome was the number of wound infections. All the data were entered in excel sheet and analysed using SPSS v23.0.

Result: A total of 40 participants, showing mean age and gender distribution between the groups was comparable with no significant difference noted. There is significant difference in mean duration of development of SSI among the patients between the groups.($p<0.05$) There is significant higher incidence of SSI in absorbable suture group (35%) compared to the patients in staples group (15%). The mean duration of development of SSI in absorbable suture group (9.86±2.12) was early compared to the patients with staples for suture closure (12.67±2.08).($p<0.05$)

Conclusion: The present study documented lower rate of surgical site infection in patients with skin staples compared to the wound closure using absorbable sutures.

Keywords: Wound, Staples, Suture, Infection, Staphylococcus.

FREE PAPER

Efficacy of Caudal Epidural Steroid Injection in Prolapsed Intervertebral Disc in Lower Lumbar Region and Canal Stenosis

Dr. Bijay Kumar Shrestha
Resident, KMCTH

ABSTRACT

The aim of this study was to evaluate efficacy of Caudal epidural steroid injection under ultrasound guidance in patients with lumbar disc herniation(LDH) and lumbar canal stenosis

This is a prospective observational interventional study that was conducted at Kathmandu Medical College Teaching Hospital between February 2022 to July 2023. All patients 20 years and above with a diagnosis of low back pain with radiculopathy and/or neurological claudication were included in the study. The inclusion criteria were all gender with single or multilevel disc herniation with signs and symptoms consistent with nerve root irritation and failure of other conservative treatment (bed rest, physiotherapy, traction). Patient with sequestrated discs, motor deficits (< 4/5), cauda equina syndrome, segmental instability, allergy to local anesthetic or corticosteroids, psychogenic disorders, tumors, deformities, spinal infections and patients who had lumbar surgery in the past were excluded from study. Each patient was injected with a mixture of 2ml (80 mg) of Depomedrol, 2ml of 2% lignocaine, and 6ml of normal saline under ultrasound guidance. Patients were observed for 30 minutes after injection and then discharged. Severity of pain and disability were assessed using visual analog scale (VAS) and Oswestry Disability Index (ODI) before the injection; and at 3 and 12 weeks post injection.

Out of 56 patients, 3 patients were lost to follow up and remaining 53 (29 males and 24 females) who completed their follow-up were included. Mean age was 45.9±16.1 years. 19 (35.8%) patients were in the age group 36-50 years. L4-L5 and L5-S1 levels were involved in 25 (47.2%) and 9 (17%) respectively. 19 (17%) patients had involvement of both levels. 62.3% (n=33) had LDH and 37.7% (n=20) had spinal canal stenosis. Mean ODI pre-injection and at follow-up 3 weeks and 12 weeks were 50.5±14.2, 30.30±12.52 and 29.64±12.12 respectively. Mean VAS pre-injection and at follow-up 3 weeks and 12 weeks were 2.9±0.7, 1.30±0.54 and 1.25±0.51 respectively (p-value <0.05).

In conclusion, caudal epidural steroid injection was found to be effective for short-term pain control in patients with lower lumbar disc herniations and spinal canal stenosis in the present study.

Key words: Caudal Epidural Steroid, Oswestry Disability Index, Prolapsed Intervertebral Disc, Visual Analog Score

Hand and Upper Limb Session

FREE PAPER

A Nonmicrosurgical Workhorse Flap for Fingertip Defects: Cross Finger Flap

Dr. Chandan Kumar Jayswal
Orthopaedic and Hand Surgeon, Blue Cross Hospital

ABSTRACT

Fingertip injuries with soft tissue defects are one of the commonest problems presenting to orthopaedics, plastic, general and hand surgeons. It requires reconstruction that is able to provide stable padding with some sensory recovery. There are various techniques used for reconstruction of fingertip injuries. Cross Finger Flap (CFF) is a non microsurgical procedure, relatively simple, can cover the larger defect without significant complications.

We present 52 patients (Male: 46 and Female: 6) with fingertip injuries who underwent CFF for the soft tissue coverage from 2015-2023. The most commonly injured finger were long finger (18) followed by index (15), ring (9), thumb (8) and small (2). The injury level was Allen Type 1: 7, Type 2: 9, Type 3: 24 and Type 4:12.

All flaps survived and detached after 2 weeks of surgery. The average follow up time was 18 months (range 3-6). On final follow up, the average ROM was MCP (-90° to 30°), PIP (-90° to 10°) and DIP (-70° to 0°). All of them went back to the same profession on average of 6 weeks. 18 patients had temporary joint stiffness following flap separation but resolved after physiotherapy. 21 patients complained of cold sensitivity and 15 complained of aesthetic. There was no donor site morbidity. The average patient satisfaction score was 8 (range 5–10).

The CFF is a safe and reliable reconstruction technique. It is a simple non microsurgical procedure that can be performed under local anesthesia, and is able to provide both mechanical stability and sensory recovery. We recommend this procedure can be one of the option for reconstruction of fingertip injuries.

Keywords: Fingertip injuries, Cross Finger Flap, Functional Outcome.

FREE PAPER

Chronic Distal Radio-Ulnar Joint (DRUJ) Instability managed by Adams-Berger Technique using Palmaris Longus Tendon Graft – A Case Series

Dr. Abhishek Kumar Thakur
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ABSTRACT

Chronic Distal Radio-Ulnar Joint (DRUJ) instabilities are difficult conditions to manage and can result in poor outcomes if not addressed adequately. DRUJ instability can lead to wrist pain and loss of hand function due to reduced forearm rotation and decreased grip strength. Stability of the DRUJ is provided primarily by the dorsal and volar radioulnar ligaments of the Triangular Fibro-Cartilage Complex (TFCC). In acute cases, arthroscopic or open surgical repair of the TFCC can restore stability. However, in chronic injuries where anatomic restoration of the TFCC is not possible, or in cases which have failed previous attempts at repair, DRUJ reconstruction with tendon grafts may be indicated. The Adams–Berger procedure aims to restore kinematics and function of the DRUJ by reconstructing the dorsal and volar radial ulnar ligaments with a tendon graft. We present the results of 5 chronic DRUJ instability cases which were managed at our centre by Adams-Berger technique using Palmaris Longus tendon graft.

Keywords: Adams–Berger procedure, Distal Radio-Ulnar Joint (DRUJ), DRUJ instability, DRUJ reconstruction

FREE PAPER

Oncoplastic Reconstruction after Tumour Resection in Nepal

Dr. Basanta Maharjan
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ABSTRACT

There has been notable progress in the management of bone and soft tissue tumors with an emphasis of limb salvage in Nepal. This has deemed the involvement of oncoplastic reconstructive surgery an integral part of their multidisciplinary treatment. Our study delineates the onco-plastic reconstructive procedures performed on 111 cases of musculoskeletal tumors between January 2021 to January 2024. Tumor distribution revealed 45% soft tissue sarcomas, 37.83% bone sarcomas, and the remainder benign tumors. Reconstructions were categorized into soft tissue (62 cases i.e 55.85 %), functional (19 cases i.e., 17.11 %), and combined (8 cases i.e., 7.2 %), with an additional 22 cases (19.8%) involving proximal tibia endoprosthetic reconstruction utilizing a gastrocnemius flap and patellar tendon reconstruction.

Soft tissue reconstruction involved split-thickness skin grafts (12 cases) and various flaps (59 cases: 7 free flaps and 52 local flaps). 7 free flaps included 2 free fillet flaps and 5 anterolateral thigh-free flaps. The medial gastrocnemius flap was frequently employed local flap followed by the latissimus dorsi flap. Functional reconstruction encompassed vessel reconstruction (8 cases), sural nerve cable grafting (4 cases), and tendon transfers post nerve resection (13 cases). Functional outcome was satisfactory with mean MSTS score of 23.88. Total 26 cases (23%) were referrals post whoops procedures which highlights the burden of whoops surgery resulting in complex reconstructive procedures.

Hence, onco-plastic reconstruction demonstrated favorable oncological, aesthetic, and functional outcomes. However, it is acknowledged as technically demanding and time-consuming, underscoring the crucial need for a dedicated team effort.

FREE PAPER

Brachial Plexus Injury: Experience of Starting Nerve Surgery at Kirtipur Hospital

Dr. Lok Raj Chaurasia
Hand Surgeon, Kirtipur Hospital

ABSTRACT

Introduction: Brachial plexus injury, a commonly neglected severely debilitating injury, has increasing incidence in Nepal due to increasing number of 2 wheelers and RTA. Management of such injuries has undergone a paradigm shift from no treatment to advanced microsurgical reconstruction. Authors would like to share their early experience of treating such injuries.

Methodology: Epidemiological data (age, sex, affected limb, duration etc) of the patients presenting to the center were recorded. They were evaluated by the operating surgeon and therapist and grouped into I (C5, C6); II (C5, C6, C7); III (C8, T1); IV (C5, C6, C7, C8, T1) and isolated nerve injuries. All patients underwent exploration of plexus with nerve reconstruction (neurolysis, nerve grafting, nerve transfer). The patients who completed at least 1 year follow-up post surgery were evaluated in terms of range of motion, power (MRC) for shoulder, elbow and wrist.

Results: Mean time of presentation was 6.67 months. Group I (C5, C6 roots) were the most common injuries followed by group IV. There has been a significant improvement in the stability, power and range of motion of shoulder and elbow in group I. There has been improvement in fine control movement of hand and wrist, however there has been no increase in grip strength of hand in group IV. Most patients returned back to their normal activities.

Conclusion: This study gives an idea about status of brachial plexus injury and its treatment status. Still a lot needs to be done in this field of hand surgery.

FREE PAPER

An Epidemiological Study and Management of Post Traumatic Brachial Plexus Injury Patients at Tertiary Hospital of Nepal

Dr. Santosh Batajoo

ABSTRACT

Background: Epidemiological studies provide the magnitude of the problem. Epidemiological study of the brachial plexus has not been done in Nepal so we wanted to know the situation of posttraumatic brachial plexus injury in Nepal. Epidemiological study can help to improve the treatment and hence the outcome.

Materials and Methods: This is retrospective study done from January 2020 to December 2023. Total 38 patients had brachial plexus injury. Patient's age, sex, mode of injury, types of injury, associated injuries, type of treatment were collected. Nerve surgery was done in 8 patients. Secondary procedure was done in 4 patients. 3 patients recovered. Neurotization procedures done for shoulder were spinal accessory nerve to suprascapular nerve in 7 patients, Somsak procedure in 2 patients. Neurotization procedures done for elbow were Intercostal nerves to musculocutaneous nerve in 4 patients, phrenic nerve to musculocutaneous in 2 patients, Oberlin procedure in 1 patient.

Results: Average age of the patient was 27.6 years with male 36 and female 2. Road traffic accident accounted for 36 (94.7 %) patients, with 34 (94.5 %) two wheeler and 2 (5.5%) four wheeler and 2 (5.3 %) patients fell form the height. 10 (26.3 %) had isolated brachial plexus injury and 28 (73.7 %) was associated with other injuries. 28 (73.7 %) were complete, 10 (26.3 %) were partial. Among partial 8 were upper, 2 were lower trunk injuries. Medical Research Council (MRC) scoring system was used to assess motor recovery. Result for shoulder function was good in 2 patients, fair in 3 patients and poor in 2 patients. Result for elbow function was good in 3 patients and fair in 1 patient and poor in 3 patients.

Conclusion: Most of these injuries are caused by road traffic accident and among them motorcycle accidents remained the major cause.

ICL

Often a Missed Diagnosis: Perilunate Injuries

Dr. Shilu Shrestha
Chief Consultant Orthopedic Surgeon, National Trauma Center (National Academy of Medical Sciences)

ABSTRACT

Perilunate injuries are rare high-energy injuries constituting less than 10% of all wrist injuries. These are severe injuries which may lead to serious functional sequelae with lifelong disability of the wrist. Delay in diagnosis can detrimentally narrow the treatment option and decrease the functional outcome. It is therefore early recognition and management are prudent to restore patient function and prevent morbidity. We did a single surgeon retrospective study of 38 patients who had either an isolated perilunate dislocation (n = 6), lunate dislocation (n = 5) and fracture-dislocation (n = 27) in their wrist. Radiological evaluation and clinical evaluation of pain, range of motion and functional scores with Patient-Rated Wrist Evaluation (PRWE) & QuickDASH were evaluated.

62 % of the patients were missed during the primary evaluation. The mean time of presentation was 23.4 days (3 -62 days). Various surgical procedures were performed depending on the presentation. The mean follow-up time was 18.06 months (6–52 months). The average final visual analog score for pain was 2. The wrist joint had a mean dorsiflexion of 42 degrees and palmar flexion of 38 degrees. The mean PRWE and QuickDASH scores were 12 /100 and 16.5/100, respectively.

We noticed late presentation of these injuries significantly changes the functional outcome. Despite optimal treatment, these injuries causes sequelae such as pain, stiffness, strength deficit and post traumatic arthritis. Therefore we recommend to be vigilant of these injuries during the primary evaluation and prioritize for early management.

ICL

Management of Mangled Hand

Dr. Niranjan Prasad Parajuli

ICL

DRUJ Dislocation

Dr. Shilu Shrestha

MSK Oncology

ICL

Bilogical Reconstruction for Bone Sarcoma

Prof. Po-Kuei Wu

ICL

Surgical Margins in Musculoskeletal Oncosurgery: Current Prospects

Dr. Dipendra Subedi

FREE PAPER

Musculo Skeletal Tumor Care with Ilozarov Reconstruction

Dr. Cielo E. Balce

FREE PAPER

Functional Outcome of Limb Salvage Surgery-Total Knee Replacement, with Megaprosthesis in Primary Bone Tumour around Knee

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ABSTRACT

After Buchanan first described total femur reconstruction in 1950, the definitive surgical management of the tumors on the extremity has changed drastically. Currently with development of the diagnostic tools and imaging helped early and proper tumor staging and improvement in surgical techniques and reconstruction helped to perform limb salvage surgery to become safe and acceptable even if the tumor is high grade. Limb savage surgery and reconstruction by Mega prosthesis is considered the standard procedure currently for majority of patients with sarcomas of extremities. In this observational study we took 8 patients who underwent to total knee replacement with mega prosthesis for primary bone tumors around the knee joint from January 2022 to January 2023 in a tertiary cancer hospital in Nepal and assessed their functional outcome after 9 months of surgery with MSTS scoring system. Out of 8 cases, 4 were male and 4 were female, 4 cases of osteosarcoma and remaining 4 were of giant cell tumor. The involvement of distal femur was seen in 6 cases and proximal tibia in 2 cases. The youngest patient was 14 years old the oldest was 63 years old, with mean age of 28.12 (±16.97) years. The knee flexion improved significantly after the operation, the mean value of preoperative knee was 11.25˚ (±6.40) and improved post operatively with mean value of 76.85˚ (±37.12) with p value of 0.001. On final follow-up at 9 months the mean pain score was 4.12 (±1.59), the mean score for function was 3.37 (±1.59), the mean support score was 4.37(±1.76), the mean score for walking was 3.62(±1.76) and the mean score for gait was also 3.62(±1.76). 1 case developed prosthetic joint infection after 3 months of surgery while another 1 case had recurrence at distal end of prosthesis with lung metastasis after 6 months of operation. We conclude that endoprosthesis replacement for primary bone tumours had good to excellent functional outcome.

Keywords: bone tumors, knee, MSTS (Musculoskeletal Society) scoring system, functional outcome, mega-prosthesis, limb salvage

FREE PAPER

Treatment Strategy for Gaint Cell Tumor of Bone: A Single Center's Experience in China

Dr. Wei Zhun Qiang

Trauma Session 1 (Upper Limb Trauma)

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ORIF for Proximal Humeral Fractures

Dr. J P Leung

ICL

Negative Pressure Wound Therapy For Traumatic Lower Extremity Wounds

Dr. J P Leung

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Infections in Fractures

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A Workhorse Flap for Upper Limb Soft Tissue Coverage: Groin Based Flap

Dr. Ramesh Shrestha
Consultant Orthopaedics Surgeon, National Trauma Center, NAMS

ABSTRACT

Soft tissue defect following open fracture of hand and forearm is one of the commonest challenges faced by orthopedic surgeon. With the advancement in implants and instrumentation, fracture fixation has been much refined, however, soft tissue reconstruction has compromised patient's functional outcome. Pedicled groin flap is a non-microsurgical, reliable procedure which is easy to learn and perform with predictable outcome.

We present 49 patients (Male: 41 and Female: 8) with soft tissue defect in hand and forearm treated with pedicled groin flaps during 2015-2023.The mean age of patient is 31.42 years. All flap survived and detached after around 3 weeks. We performed a mean of 4.42 operation in one patient. The average defect size covered was 8.2 X 6.2 cm. There was partial flap necrosis of the flap in 32% (n=16) of the patient, delayed wound healing in 18.36% (n=9), scar revision in 37% (n= 11). Primary closure of donor site is done in 89.79% (n=44) cases and covered with skin graft in 5 cases. Patients' evaluation of donor sites showed mild to moderate pain in 12% patients and 11% had aesthetic dissatisfaction. The average patient satisfaction score was 7 (range 6-9).

Pedicled groin flap can cover large defects, reliable and non-microsurgical. Therefore, we feel that it can be one of the options as a workhorse flap for orthopedic surgeon for early soft tissue reconstruction of major injuries around hand and upper limb.

Keywords: Soft tissue defect, clinical outcome, pedicled groin flap

Arthroplasty (TKA Session)

ICL

Ten Commandments for a Successful TKA

Dr. Rajiv Kumar Sharma

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Soft Tissue Balancing in Knee Replacement Surgery

Dr. BS Murthy

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TKR in Valgus Knee

Prof. Abhay Elhence

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A Practical approach of High Volume Surgeon to do Simultaneous Bilateral TKA

Prof. CS Yadav

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Has HTO have any Relevance in the Era of Arthroplasty??

Prof. Ravi Mittal

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Robotics or CAS - Whether Real Innovation or Marketing Ruse??

Prof. CS Yadav

VIDEO DEMO

Live in Box Robotic Surgery with Cuvis Robot

Dr. Sekhar Shrivastav

ICL

Nonsurgical Treatment in PJI

Dr. Ukrit Chaweewannakorn

ICL

Managing the Failed TKR

Prof. Poon Kein Boon

Trauma Session 2
(Complex Trauma and Limb Salvage)

ICL

Current Concepts of Open Fractures

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Limb Salvage with Ilizarov

Prof. Muhammad Shoaib Khan

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Limb Reconstruction in Difficult Case

Dr. Jiancheng Zang

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Functional & Radiological Outcome of Segmental Tibial Bone Defect with Soft Tissue Defect Treated with Ilizarov Ring Fixator

Dr. Birendra Bahadur Chand

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Decision making in Distal Femur Fractures

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Extreme Nailing Options in Tibia

Prof. Vivek Tirkha

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Complex Humerus Fractures How to get it Right

Prof. Vivek Tirkha

Spine Session 2

FREE PAPER

Surgery For Cervical Ossification of Posterior Longitudinal Ligament (OPLL) via Open Door Laminoplasty

Dr. Aayush Shrestha
Orthopedic Surgeon, Grande International Hospital

ABSTRACT

Introduction: In our department, from Sept 2018 to Sept 2021, we treated 10 cases of severe cervical posterior longitudinal ligament (8 males and 2 females; mean age 58.6) via open-door laminoplasty. We followed up with all the patients for a mean of 28 months. The mean operative duration was 106 minutes (range: 80–140), and the mean blood loss was 220 ml. Mean Preoperative modified Japanese Orthopedic Association (mJOA) score was 11.5 and Mean Post-Operative mJOA score was 14.1. Complications such as axial Neck Pain, C5 root palsy, and CSF leak were encountered.

Materials and Methods: The mean operation time was 102 mins (80- 145 mins), and the mean blood loss was 230 ml. The modified Japanese Orthopedic Association (JOA) score was 8.9±1.5. In the follow-up period, there were no incidents of loosening or breakage of the implants. Consequently, we concluded that open-door laminoplasty is safe and effective for treating severe cervical ossification of the posterior longitudinal ligament. The safety and clinical efficacy in the follow–up period supports this surgical procedure.

Results: Fourty-two patients (24 males and 18 females; mean age 57.42 years) were followed-up for a mean of 19 months. The mean operative duration was 106 minutes (range: 80–140), and the mean blood loss was 220 ml. Mean Preoperative modified Japanese Orthopedic Association (mJOA) score was 11.5 and Mean Post-Operative mJOA score was 14.9. Complications such as axial Neck Pain, C5 root palsy, and CSF leak were encountered.

Conclusion: Open-door laminoplasty is a safe technique that can achieve satisfactory decompression along with preservation of the posterior structures and cervical motion in severe cases of cervical ossification of posterior longitudinal ligament.

Keywords: Cervical Ossification of Posterior Longitudinal Ligament, Open-Door Laminoplasty.

FREE PAPER

Intraspinal Pathologies in Operated Cases of Adolescent Idiopathic Scoliosis Retrosepctive study

Dr. Umesh Thakur

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Surgical Management of Congenital Scoliosis: Experience of last 7 years at HRDC

Dr. Deepak Banjade

ICL

What is in and what is out in cervical Laminoplasty

Prof. Dipak Shrestha

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High Grade Spondylolisthesis

Dr. Binod Bijukachhe

ICL

Spinal Cord Injury: Time to Surgery, Does it Alter the Outcomes

Prof. Gaurav Raj Dhakal

ICL

Distal Junctional Kyphosis in Scheuermann's Kyphosis

Prof. Prakash Sitoula

Pelvis and Acetabulum Session

FREE PAPER

CT Scan Inlet & Outlet Angle Measurement in Patients Visiting Tertiary Care Hospital

Dr. Arjun Poudel
Fellow in Hip, Pelvis, Acetabulum & Arthroplasty, B&B Hospital

ABSTRACT

Background: The early management in a suspected pelvic fracture starts with the good standard radiographic view including AP, inlet and outlet views. Inlet and outlet views are taken with 45 degree tilt from anteroposterior plane. However recent studies have shown that there is significant variation in different region of the world and these values should be redefined.

Material & Method: This is the prospective study carried out in tertiary care hospital. Total 35 patients(20 male and 15 male)of age older than 18year who had routine CT scan for any indication unrelated to pelvic pathologies are included.

Statistical Analysis: Mean and Standard deviation were calculated. For each angle measured, the effect of age was determined and a comparison was made between male and female patients ,p value <0.05 is considered significant.

Result: The mean angle of caudal tilt for ideal screening inlet was 33degree+/-(16.3-31.3) and mean angle of cephalic tilt for ideal screening outlet view was 56 degree +/-9(51.6-81.8).

Conclusion: This study re-evaluated the optimal inlet and outlet angle in Nepalese and demonstrated that the mean angles need to create an ideal inlet and outlet views are 33 degree and 56 degree respectively.

FREE PAPER

Case Report: 8 Week Old Acetabulum Fracture Managed by Extended Iliofemoral Approach

Dr. Amit Ranjan Mishra
Senior Fellow, Calcutta Medical Research Institute Hospital

ABSTRACT

Introduction: Operative management of acetabulum fractures produce better outcome than non operative treatment in displaced acetabulum fractures. While most surgeons recommend fixation within 11days, neglected cases are still found. Possibility of malunited fragments make these fractures difficult to reduce, and this is particularly more so in acetabulum associated fractures. Extended iliofemoral approach can give better exposure in these cases.

Methodology: 22 year old female, fall from height presented to us 8 weeks after being treated with skeletal traction elsewhere. Xray and CT scan showed atypical fracture with involvement of anterior and posterior column along with iliac blade fracture. The fracture was approached with extended iliofemoral approach with anterior and posterior column plating along with plating and cc screw for iliac blade. Patient had painless weight bearing, walking and near full range of motion at 6 month follow-up.

Conclusion: Neglected acetabulum fractures are difficult to expose and reduce due to presence of malunited fragments and callus. Associated fractures make it trickier. Extended iliofemoral approach can give adequate exposure and anatomic reduction can give good clinical outcome even in old fractures

FREE PAPER

Functional Outcome of Traumatic Dislocation and Fracture Dislocation of the Hip at Tertiary Care Center Nepal

Dr. Nitesh Raj Pandey
Consultant Orthopaedic Surgeon, B & B Hospital

ABSTRACT

Background: Traumatic dislocation and fracture-dislocation of the hip is an absolute orthopedic emergency that is steadily increasing in incidence. Early recognition and prompt, stable reduction is the essence of successful management. A delay in recognition and reduction leads to preventable complications and morbidity. The purpose of this retrospective study is to identify prognostic factors that predict long-term outcome after hip dislocation.

Methods: It was a retrospective study in B & B Hospital, Lalitpur,Nepal. Hospital records of the patients admitted during 2012/01/01 to 2022/12/31 was analyzed. All traumatic dislocation and fracture-dislocation of the patients irrespective of line of management were included in the study. The functional evaluation system described by harris hip score was used to analyze functional outcome.

Results: There were 42,000 trauma cases admitted during the period. After screening, a total of 88 traumatic dislocation and fracture-dislocation of the Hip cases were enrolled of which 82 % (72) were male. Traffic accidents constituted the leading cause of traumatic dislocation in this series 68 cases (77 %) Around 30 percentage were due to 2-wheeler. 25 percentage were associated with femoral head fracture. Sixty-nine patients were treated with closed reduction, and 19 patients were treated with open reduction.

Conclusions: Traumatic dislocations and fracture-dislocations of the hip are severe injuries caused mostly by high-speed motor-vehicular accidents. Young adult males are most commonly affected, and there is a high rate of concomitant injuries. Excellent results can be achieved by early and stable closed reduction of these injuries with immobilization of the affected hips.

FREE PAPER

Treatment Outcome of Traumatic Diastasis of the Pubis Symphysis - A Single Center Experience of 15 years

Dr. Rajendra Aryal
Consultant, B&B Hospital

ABSTRACT

Introduction: Traumatic diastasis of the pubic symphysis in pelvic ring injuries occurs from anterior-posterior compression and vertical shear mechanisms. As traumatic diastasis of the pubis symphysis is life threatening, so timely and adequate surgical stabilization is paramount. Addressing the symphyseal diastasis is an important aspect and numerous internal fixation methods have been described. The purpose of this study is to evaluate the treatment outcomes of patients following operative fixation of pubis symphysis diastasis over a period of 15 years in single tertiary center, with minimum of 1 year follow up.

Methods: This is descriptive cross-sectional study from January 2006 to December 2020 (15 years). All the data were extracted from hospital electronic system. Surgically treated patients with diagnosis of traumatic pubic diastasis injury were included. Missing information, Pt brought dead or died in emergency were excluded.

Results: A total of 69 adult patients (51 males and 18 females) were eligible for the study out of 87 surgical management traumatic pubic diastasis injury. Radiographic failure of fixation with broken implant was recorded in 15.9% (11). Majeed Score was excellent (88) ranging from 76-100.

Conclusion: Open reduction and internal fixation with plates is the most widespread surgery for traumatic pubic diastasis, however, Broken implant or recurrent diastasis was observed during follow-up. Despite the high rate of radiographic failure, most patients recovered with a good clinical function at the final follow-up. The radiographic outcomes, such as an increased symphysis distance or plate breakage, did not affect the clinical functional outcomes.

ICL

Combined Injuries of Pelvis and Acetabulum

Dr. Bibek Banskota

ICL

5 Gospels about Pelvi-Acetabular Surgery which every Orthopaedic Surgeon Must Know

Prof. Abhay Elhence

ICL

Percutaneous Fixation in Pelvi-Acetabular Surgery

Prof. Vivek Tirkha

ICL

Is Anterior Intrapelvic Approach Panacea for all Acetabular Fracture?

Prof. Dipak Shrestha

Pediatric Session

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Recurrent Neglected CTEV

Dr. Viraj Singade

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Improving Quality of Life in Individuals with Cerebral Palsy- Upper Limb and Lower Limb

Dr. Chasanal Rathod

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Deformity Correction of Neglected Cerebral Palsy

Dr. Jiancheng Zang

FREE PAPER

Evaluating the Long-Term Efficacy of the Ponseti Method in Managing Idiopathic Clubfoot among Children Aged Five to Ten: A sixteen-Year Follow-Up Study

Dr. Bibek Banskota
Executive Director at HRDC and Consultant Orthopedic Surgeon at B&B Hospital

ABSTRACT

Introduction: Clubfoot affects 200,000 infants annually, 80% in LMICs. Nepal has 782 cases yearly. The Ponseti method is standard for pre-walking idiopathic clubfeet. Limited research exists on its efficacy with modifications in 5-10-year-olds. This study assesses Ponseti's utility in this age group, offering insights for global clubfoot management.

Methods: A retrospective review of medical records was supplemented by a prospective follow-up evaluation of physical findings (alignment and range of motion) and social impact using a self-generated, pre-tested questionnaire. The patients presented between five and ten years of age in 2008 & 2009 were only included in the study.

Results: The study was performed on 36 children (54 feet) with a mean age of 7.4 years (5 to 10) at presentation, supplemented by digital images and video recordings of gait. There were 24 males & 12 females. The mean follow-up was 15.5 years (15 to 16 years). The mean number of casts was 8 (6 – 11), and all children required surgery, including a percutaneous tenotomy or open tendo Achillis lengthening (56%), posterior release (29.5%), posterior medial soft- tissue release (12.5%), or soft tissue release combined with an osteotomy (2%). The initial scores, according to Pirani et al. and Diméglio et al., averaged 5.1 (3 – 6) and 15.9 (11-20), respectively, which was 0.1 (0-1.5) and 1.2 (0 - 6) respectively at latest follow-up. Mean active dorsiflexion was 6 (0-10), which was 14 (5-20) passively. Forefoot alignment was neutral in 48 feet (90%), adducted (< 10°) in 4 feet (8%), and > 10° in two feet (4%). Hindfoot alignment was neutral or mild valgus in 52 feet (96%) and mild varus (< 10°) in 2 foot (4%). Of the 54 feet with gait videos available for analysis, normal gait was present in 50 feet (92%). Overt relapse was identified in two foot. Ninety-eight percent of the participants were completely satisfied. Hundred percent of the participant reported that they were completely independent in their activities of daily living. Eighty-nine percent of the participants said that social discrimination had been drastically reduced due to the treatment of their clubfeet.

Conclusions: Our study shows that at 16 years follow-up, children who present with idiopathic clubfoot between 5-10 years of age, have good correction and good satisfaction. While Ponseti alone might not correct the entire deformity, it helps to reduce the magnitude of surgery required. Hence, we recommend Ponseti treatment for even late presenting idiopathic clubfoot.

FREE PAPER

Surgical Strategy of Ulnar Osteotomy Assisted Open Radiocapitellar Joint Reduction in Chronic Anterior Monteggia in Children

Dr. Nitish Bikram Deo
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ABSTRACT

Introduction: Chronic monteggia continues to pose as treatment challenge to achieve stable radiocapitellar joint reduction despite evidence of several surgical strategies. The current series reviews the intraoperative challenges and outcomes following uniform treatment with proximal ulna osteotomy assisted open radial head reduction without annular ligament reconstruction in children with symptomatic chronic anterior monteggia.

Methods: Six cases (mean age: 7 years) between 2018 to 2023 underwent proximal ulna assisted open radiocapitellar joint reduction fixed with prebent plate without annular ligament reconstruction and above elbow cast immobilization for 4 weeks. The clinical and radiological evaluation was done preoperatively and after average duration of 28 months.

Results: The mean interval between injury and surgery was 14 months. The radiocapitellar pin was kept for additional 4 weeks in 4 cases and autogenous bone grafting of ulnar osteotomy was done in 1 case. At final follow up, all had stable radiocapitallar joint and united proximal ulna. There was an average restriction of 100 of supination and 50 of pronation. Two cases had delayed union of proximal ulna, one case required subsequent autogenous bone grafting. There was a case of preoperative PIN palsy which partially recovered after 6 months.

Conclusion: The uniform strategy of open reduction of radiocapitellar joint assited by ulnar osteotomy showed stable reduction and satisfactory function. Ulnar osteotomy is a strong contributor to long term radial head reduction. Bone grafting of wide proximal ulna osteotomy at index surgery might be needed to avoid delayed union or nonunion.

FREE PAPER

Accessory Soleus Muscle in Persistent Clubfoot Deformity: A Report in 4 Feet

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ABSTRACT

Accessory soleus muscle is not commonly found in children who undergo surgical release for congenital clubfoot, and there are only a few reports about it in the literature. The purpose of this study is to raise awareness about the role of the accessory soleus muscle in clubfoot deformity.

The study conducted a case series of 4 patients undergoing surgical release for clubfoot deformity. In each of these cases, a distinct anomalous muscle deep to the tendoachilles was identified. Despite an adequate posteromedial soft tissue release, hindfoot varus and equinus persisted in each of these cases. However, the deformity could be corrected only on lengthening accessory soleus muscle at its insertion.

It is important to recognize the presence of an accessory soleus muscle in patients with clubfoot, and its release is necessary to fully correct the deformity. Failure to recognize this muscle may lead to persistent hindfoot deformity.

FREE PAPER

Functional and Cosmetic Outcome of Unipolar Release of Congenital Muscular Torticollis in Children above 1 year

Dr. Saugat K.C
Fellow, HRDC/B&B Hospital, Gwarko

ABSTRACT

Introduction: Congenital muscular torticollis (CMT) is a condition where Sternocleidomastoid muscle (SCM) is shortened on the involved side causing ipsilateral tilt and contralateral rotation of the face and chin. Non-operative treatment with physical therapy in children below one year often leads to normal neck motion. Unipolar release surgery provides comparable result without having any risk to accessory spinal nerve. There has been limited research throughout the literature in children aged one year and above

Objectives:
Primary Objective:
1. To assess the functional and cosmetic outcome of unipolar release surgery for congenital torticollis using score given by Lee and Kang

Secondary Objective:
1. To analyze epidemiology of congenital torticollis in our Centre
2. To find out any complication/recurrence associated with unipolar surgery

Methodology: This is a retrospective cross-sectional study which is undergoing in HRDC, Banepa with minimum six month follow up of cases from 2016 to 2023 A.D. Total of 29 cases are included in this study and we present with 14 cases with their functional and cosmetic outcome

Analysis and Discussion: In 14 cases, post-operative functional outcome was significant when compared to pre-operative score. Out of which 4 were excellent, 8 were good and 2 were fair as per Lee and Kang scoring system.

Similarly, post-operative cosmetic score was also significant in terms of loss of column, scar and lateral band

Conclusion: We conclude unipolar release surgery is safe and effective technique for age above 1 year with good functional and cosmetic result

Younezewa Young Surgeon Award Session

FREE PAPER

Giant Cell Tumor of Medial Malleolus

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ABSTRACT

Giant cell tumor (GCT), a rare bone neoplasm, is usually found in distal femur, proximal tibia and distal radius. In this report, an unusual case of GCT involving the medial malleolus is presented. A 32-years-old female who presented with complaints of pain and swelling of the left ankle for 2 months was investigated and diagnosed as GCT of the medial malleolus and treated with curettage, biopsy and reconstruction of medial malleolus with bone cement. In one year follow up she had a stable ankle joint, good functional outcome with no recurrence.

FREE PAPER

Management of Soft Tissue Sarcomas: Where do we stand? Early Nepalese Experience

Dr. Krishna Jung Sah
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ABSTRACT

Early detection and prompt specialized multidisciplinary care is crucial for soft tissue sarcoma patients. Yet, unplanned excisions i.e., surgeries with inadequate margins and without appropriate diagnostic workup, biopsy & staging are not uncommon. We retrospectively analyzed the soft tissue sarcoma patients operated at three specialized cancers care centers within the Kathmandu valley, viz- Nepal Cancer Hospital, National Academy of Medical Sciences and Bhaktapur Cancer Hospital, between Jan 2016- Jan 2021. Of total 128 patients, 89 belonged to planned group where index surgery was performed at our surgery and 39 belonged to unplanned group where prior unplanned excision was done elsewhere and second surgery was performed at our centers. Out of 39 patients, 13 were referred to our centers immediately after diagnosis of excised tissue came out to be sarcoma. 15 patients presented to us after recurrence post unplanned excision elsewhere whereas 11 were referred for radiation therapy post unplanned excision elsewhere at our centers. Undifferentiated Pleomorphic sarcoma was the most common histological subtype in planned group whereas in unplanned group myxofibrosarcoma was the most common histological subtype. 18/89 (20.2%) lesions in planned group were superficial in location vs 22/39(56.41%) in unplanned group (p=0.006). 39/89 (43.8%) lesions in planned group were smaller (less than 5 cm) at presentation compared to 28/39(71.7%) lesions in the unplanned group (p=0.003) In unplanned group location and size were reviewed from available imaging (MRI/USG) prior to initial unplanned excision. Our overall limb salvage rate was 120/128 =93.7%, 84/89=94.3% in planned group and 36/39=92.3% in the unplanned group (p=0.69). Plastic surgery procedure (flap coverage) was required for 10/89 (11.2%) in planned group vs 12/39 (30.7%) in unplanned group (p=0.007). Of 24/39 patients in unplanned group (excluding patients with recurrent disease), where re-resection of resection bed was performed residual viable tumor was evident on histopathology in 11 (45.83%) cases. Margins were free in all cases operated at our center. Smaller tumor in superficial subcutaneous location were more frequently to undergo unplanned excision by surgeons. Re-surgery after prior unplanned excision is extensive and plastic (flap coverage) procedures are more frequently needed.

Key words: sarcomas, planned excision, unplanned excision

FREE PAPER

Computed Tomography based Morphometric Analysis of Normal Distal Tibiofibular Syndesmosis

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ABSTRACT

It is estimated that syndesmosis injuries account for 1–18% of all ankle sprain, although the actual incidence is likely to be higher due to misdiagnosis in those with subtle diastasis. Therefore, accurate assessment of distal tibiofibular joint congruity is critical when syndesmosis injury is suspected following trauma to the ankle. the defined normal parameters of distal tibiofibular syndesmosis vary, as shown by different studies. So this study aims to produce normal morphometric ankle parameters based on CT. The primary objective was to measure anterior tibiofibular distance and posterior tibiofibular distance based on computed tomography imaging in the Indian population. It was an observational study conducted at AIIMS, Rishikesh hospital. The study sample size was 100. The inclusion criteria were age group: 16-60 years, unilateral ankle/foot injury requiring CT scan and patient undergoing CT angiography of lower limb. The measurements were done by two independent observers. The assessment was performed using axial, sagittal, and coronal CT images. The measurements were taken from a position 10mm proximal to the ankle joint line.

The mean±S.D. of anterior and posterior tibiofibular distance were, respectively, 3.47±0.83mm and 5.26 ± 1.28mm. The mean ATFD calculated in our study was higher than the three studies conducted previously, namely, Wong F et al, Tonogai et al, and Elgafy et al but was lower than that calculated by Abdelaziz ME et al. Similarly mean PTFD calculated in our study was higher than the study conducted previously namely, Wong F et al, Elgafy et al, but was lower than calculated by Abdelaziz ME et al. The mean PTFD was greater than the mean ATFD in our study which is in consistency to the study conducted previously. Our study showed male had significantly greater ATFD than Female (P. 0.02, CI: 95 %), which was in contrast to the study reported by Elgafy et al. and Tonogai et al, which showed no significant difference with respect to gender. Our study showed there was no significant difference in the measurement of PTFD on the basis of gender (P. 0.07, CI: 95 %).

FREE PAPER

Outcome of Unilateral Transforaminal Lumbar Interbody Fusion

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ABSTRACT

Lumbar fusion surgery may be recommended to reduce ongoing, disabling pain caused by conditions such as degenerative disc disease, discitis and/or recurrent disc herniations. There are different options available for fusion surgery. Unilateral transforaminal lumbar interbody fusion (U-TLIF) is one of the spinal fusion surgery designed to create solid bone and eliminate motion in spinal segment, immobilizing the unstable segment and achieve anterior as well as Posterior column stability. Unilateral TLIF is a popular fusion technique to restoring disc height, maintain load bearing to anterior column and saggital balance with less neural retraction through a single unilateral approach.

The aim of this study to assess the clinical and radiological outcomes of Unilateral TLIF. A retrospective analysis was conducted on patients operated with Unilateral TLIF with minimum of 18 months follow-up at Grande international hospital between 2018 and 2022. Outcomes of the patients were assessed using Oswestry Disability Index (ODI) and Visual Analogue Scores (VAS) and also regular intervals followup with periodic radiographs for union.

Total 25 cases were included: 13 males and 12 females with mean age of 49.4 years. 13 patients had suffered from Lumbar degenerative disc diseases, 5 had recurrent disc herniation and 7 had discitis. At 18 months followup, ODI and VAS scores were significantly improved (Mean ODI score reduce from 44.38% to 11.48 % and VAS from 7.6 to 1.8) and Fusion rate achieve 95 %.

UL-TLIF has high fusion rates and patient satisfaction with greater improvement in quality of life in lumbar degenerative disc disease, discitis and recurrent disc herniation.

Key words: Lumbar degenerative disc disease, Recurrent disc herniation, Discitis, Unilateral Transforaminal lumbar interbody fusion.

FREE PAPER

Does the Addition of a Remplissage in Bankart Repair Restrict External Rotation? A Retrospective Study

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ABSTRACT

Remplissage is becoming increasingly combined with Bankart repair and said to decrease recurrence after surgery. However, Remplissage is feared with limitations with external rotation of the shoulder. To our knowledge there are no such study conducted in our population. The main aim of the study was to determine whether the addition of the Remplissage procedure causes limitation in external rotation of the shoulder or not. A retrospective observational study was conducted in 42 cases who were operated and have at least 6 months to 12 months follow up. Postoperative Rowe score, Oxford Shoulder Instability Score (OSIS) was done to all the patients. External rotation of the contralateral and affected shoulder in abduction was measured with a goniometer. The average ROWE score was 81.76 ± 7.9 (range, 70 to 94). The average Oxford Shoulder Instability Score (OSIS) was 40.59 ± 2.4. 66.7% of cases had some limitation of external rotation. The majority of cases had less than 10° external rotation limitation and only 2.4% had more than 10° external rotation limitation. Addition of Remplissage with Bankart repair for anterior shoulder instability causes limitation of external rotation in 66.7% of cases. However, ROWE score and OSIS score was good to excellent in most of the cases.

Keywords: Bankart lesion, Bankart repair, External rotation, Hill-Sachs lesion, Remplissage, Recurrent shoulder dislocation

FREE PAPER

The Early Outcome of Initial Tendoachilles Tenotomy in Ponseti Casting Method for Clubfoot Assoiated with Arthrogryposis Multiplex Congenita

Dr. Sabin Pokharel
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ABSTRACT

Introduction: Clubfoot present in Arthrogryposis Multiplex Congenita (AMC) are known to be rigid, severe, difficult to correct than idiopathic clubfoot and having higher recurrences regardless of treatment used. Ponseti method has been advocated for AMC clubfeet but having more relapses and longer time for casting. Surgical procedures are frequently used with less functional outcome and stiffer and painful recurrences. We studied the treatment of these clubfoot with modification in ponseti casting using initial TA tenotomy to see if it achieves painless plantigrade braceable feet or not with less number of casts avoiding extensive surgery.

Methods: Prospective cohort study was conducted at a center for pediatric orthopedics in Banepa, Nepal for one year, August 2022 to July 2023, following ethical clearance from the Institutional Review Committee (IRC) (B&BIRC-22-17). Using convenient continuous sampling all AMC clubfeet cases less than 3 years of age were included and previous casting or surgical procedures on same foot were excluded from the study. The ponseti casting method was preceded by initial Tendoachilles (TA) tenotomy. Pirani and dimeglio scores, forefoot abduction and dorsiflexion were recorded by a physiotherapist before and after completion of casting and compared by paired student t test and p value less than 0.05 was considered statistically significant.

Results: We analyzed 13 cases with 25 feet and achieved correction was in 88% (n=22) cases. The mean total number of casts required was 7.08 (SD 1.57). The initial Pirani score was (mean = 5.8, SD = 0.48), dorsiflexion angle (mean = -26.2 degrees, SD = 14.31), abduction angle (mean = -38.4 degrees, SD = 6.73), and Dimeglio Score (mean = 16.44, SD = 2.66). After treatment, Pirani score decreased to 1.98 (SD = 0.6035), abduction angle increased to 25.80 degrees (SD = 19.40), and dorsiflexion angle improved to 10.20 degrees (SD = 7.14). The final Demeglio Score was 6.92 (SD = 1.73). All these changes were statistically significant (p value= 0.0000).

Conclusions: The modification to the ponseti manipulation and casting with initial tendoachilles tenotomy gives painfree, braceable, plantigrade foot avoiding extensive surgeries with less number of casts in clubfoot associated with Arthrogryposis.

FREE PAPER

Early Functional Outcome after Anterior Cruciate Ligament Reconstruction in Patients using Postoperative Brace or No Brace. A Prospective Comparative Study

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Fellow in Arthroscopy and Sports Surgery, AKB Center for Arthroscopy, Sports Injuries and Regenerative Medicine, B&B Hospital

ABSTRACT

Use of postoperative brace is usually considered to be an integral part rehabilitation following anterior cruciate ligament reconstruction (ACLR). However, benefit of its use has been debated. Multiple studies show no difference between brace and no brace group following ACLR. We routinely use brace following ACLR at our institute and there is limited studies have been done in our population. This study aims to evaluate the difference in early functional outcome between brace and no brace group after ACL reconstruction. This prospective cohort study was done at AKB center of arthroscopy, sports injury and regenerative medicine, B&B Hospital from 1st September 2022 to 31st July 2023. Adult patients (≥ 18 years), who underwent ACLR or ACLR with meniscus procedure were included in the study and were randomized into two groups. Group A were prescribed brace and group B no brace. Early 3 months' functional outcome were measured with VAS scores, thigh girth measurement, range of motion (flexion and extension), lachmann's test, pivot shift test, Lysholm knee scoring scale and short form health survey (SF-12). Total of 132 patients were included in the study, 66 in each group. Sports was the most common mode of injury in both the groups (57.57 % in group A & 54.54 % in group B). ACLR with meniscus repair was most commonly performed procedure in both the groups (57.57% in each group). Semitendinosus with gracilis was the most commonly used graft in both groups. There was no any statistically significant difference between VAS score, knee range of motion, thigh girth, lachmann test, pivot shift test and lysholm score of both the groups. There was statistically significant difference in mental component of SF-12 score between the two groups with p value of 0.006. No significant difference in early functional outcome between brace and no brace group following ACLR with or without meniscal procedure. Better SF-12 mental component scores indicate possible mental discomfort in patients with brace use.

FREE PAPER

Long Bone Open Fractures among Orthopedic Trauma Patients presenting in a Tertiary Care Center: A Descriptive Cross-Sectional Study

Dr. Sachindra Raj Joshi
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ABSTRACT

Management of open fracture often presents a challenge to the treating surgeon due to the complexity of injury and risk of infection associated with it. The familiarity with the patterns of open fracture enhances the preparedness and thus improves the outcome. Hence, this study aims to find out the prevalence of open fractures among patients presenting in emergency department of a tertiary care center. This was a descriptive cross-sectional study conducted at B&B Hospital, Lalitpur, Nepal from January 2020 to January 2024 where data of patients with long bone open fracture were retrospectively retrieved from the hospital's computerized database. Data included Demographic details, location of fracture, Gustillo Anderson classification, pattern of fracture and associated injury. The analyses of different variables were done according to standard statistical analysis. Out of 2572 patients with long bone fracture, 305 had open fracture (11.86%). The mean age was 33.65 ± 16.30 (5-84) years. Male accounted for 84.6% of the cases. Road traffic accident accounted for 88.2% cases. Most of the open fracture occurred in lower limb (84.9%); also, open fracture of tibia and fibula accounted for 43% of the cases. According to Gustillo Anderson Classification, Type I was accounted for 22.6% cases, Type II was 31.5%, Type IIIA was 25.2%, Type IIIB was 15.4% and Type IIIC was 5.2%. Wedge and Comminuted pattern of fracture was accounted for 70% cases. Also, 140 (45.9%) cases had associated other injuries, 15.1% cases had associated long bone fractures where 4.3% were open fractures. So, to conclude open fracture had male predominance and was mostly caused by road traffic accident. This study describes the location, type and patterns of open fracture, where tibia and fibula were more usually involved, Gustillo Anderson Type III was most common type and frequently seen fracture pattern was wedge/ comminuted.

Keywords: Gustillo Anderson, Long Bone, Open Fracture.

FREE PAPER

Effectiveness of Post-Debridement Wound Swab versus Deep Tissue Culture in Isolating Pathogens and Predicting Infection in Patients with Open Fractures: A Prospective Comparative Study

Dr. Aman Gupta
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ABSTRACT

Post-debridement cultures have shown superior sensitivity than pre-debridement cultures in isolating pathogens in patients with open fractures. However, there is controversy in selecting the method of culture sampling. Hence, this study was conducted to compare the effectiveness of post-debridement wound swab cultures and tissue biopsy cultures in isolating pathogens and predicting infection in patients presented with open fractures. A Prospective, comparative study was conducted at B and B hospital using convenient sampling with patient presenting with open fracture of long bones from June 1, 2022 to November 30, 2023 after getting ethical clearance from IRC department. Those patients who had type I open fractures with small size (< 1cm2) or puncture wounds, established infection during the time of presentation, multi-location open fractures and open fractures of fingers and toes , those not fit for surgical debridement and received prior treatment for open fractures at another center were excluded from this study. All included patients underwent debridement and received broad spectrum antibiotics as per hospital protocol. Wound swab and tissue cultures were obtained at the end of primary debridement. All patients were followed up for 2 weeks to check for early infection. Second wound swab and tissue biopsy cultures were obtained after irrigation of wound with normal saline. All data were analyzed. Sensitivity, specificity, negative predicative value (NPV), positive predicative value (PPV) and diagnostic accuracy were calculated using standard formulae. Mean age of the patient in the study was 36.71 ± 16.53 years. The mean presentation to debridement time was 11.21 ± 8.36 hours. The infection rate was 20%. The sensitivity, specificity, PPV, NPV and diagnostic accuracy were 73.68%, 94.34%, 70%, 95.24% and 91.20% for wound swab culture and were 18.18%, 97.09%, 57.14%, 84.75% and 83.20% respectively for tissue culture. Wound swab have higher efficacy in terms of culture positivity rate compared to tissue biopsy culture. Both wound swab and tissue biopsy cultures have similar specificity and efficacy in predicting infection. Wound swab culture has slightly higher sensitivity and PPV.

Keywords: Open fractures, Infection, Wound swab culture, Tissue culture

Research Methodology Training Session

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Why it is Important to get IRC Approval?

Dr. Rajesh Kumar Chaudhary

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How do I Select Good Topic for any Research?

Prof. Amit Joshi

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FREE PAPER

TKR Post-Operative Radiograph as a Tool to Access Technical Adequacy of Surgical Procedure: An Observational Cross Sectional Study

Dr. Dibya Purush Dhakal
Lecturer, Institute of Medicine, TUTH

ABSTRACT

Introduction: Total knee replacement is a very popular surgery done globally to improve life quality in patients with severe osteoarthritis affecting activity of daily living. Failure of accurate execution or inadequate technical procedure can lead to suboptimal results with early mechanical failure This study emphasizes on the use of total knee replacement postoperative radiographs as a tool to evaluate the adequacy of surgical procedure

Methodology: Mechanical alignment, condylar bone stock, joint line preservation and cortical notching are studied with Medial distal femoral angle(MDFA), medial proximal tibial angle(MPTA), posterior condylar offset ratio(PCOR), Insall Salvati index(ISI) and Gujrathi grades of notching were the variables measured. The findings were tabulated and presented in graphs and figures. Henceforth, the optimality and sub-optimality of surgical procedures were inferred comparing with the normal values.

Results: A Total of 30 patients undergoing total knee replacement surgeries over a period of six months were included in the study. Mean MDFA was 84 degrees mean MPTA 90 degrees, mean PCOR 0.45 and mean ISI was 0.45. Grade II notching was noted in 2 patients while Grade I notching was observed in 5 patients. Majority of patients had adequate technical findings on postoperative radiograph when compared to standard values.

Conclusion: Postoperative Total knee replacement radiograph can be used as a useful tool to assess the adequacy of surgical procedure.

FREE PAPER

Comparative Analysis of Outcomes of Lateral versus Medial Approach in the Total Knee Arthroplasty for Valgus Deformity: A Systematic Review and Meta-Analysis

Dr. Rajesh Kr. Rajnish

ABSTRACT

Background: Valgus knee deformity poses great challenges in total knee arthroplasty (TKA), and requires precision in balancing soft tissue and implant component positioning. The surgical approach used for TKA has a determinantal impact on intraoperative soft tissue balancing, postoperative knee function, and complications. We executed a systematic review and meta-analysis of the current literature, which included a maximum number of studies with quantitative analysis of all possible outcomes to substantiate the current evidence of the advantage of lateral versus medial approach in TKA for valgus knee deformity.

Methodology: We performed a meticulous primary electronic search across PubMed, Emabse, Scopus, and Cochrane Library databases and looked for the comparative studies that evaluated the medial versus lateral approach in TKA for valgus knees. Statistical analyses were executed with RevMan-5.4.1.

Results: On the evaluation of four randomized controlled trials (RCTs), two prospective and five retrospective comparative studies, our analysis revealed a better functional outcome in terms of Knee Society Score [MD 2.24, 95% CI 0.42, 4.05; p=0.02] with the medial approach. However, comparable results were observed for two approaches with regard to Knee Society Function [MD 0.69, 95% CI -1.77, 3.15; p=0.58], knee flexion range of motion (ROM) [MD 3.30, 95% CI -1.34, 7.95; p= 0.16], overall complications [OR 0.60, 95%CI0.27,1.34;p=0.22], wound-related complications, infection, nerve injury, periprosthetic fracture, post-operative valgus, blood loss, duration of surgery, postoperative pain, and patellar tilt for TKA in valgus knee.

Conclusion: Evidence from the currently available published data suggests that the lateral approach, compared to the medial approach in TKA for the valgus knee, does not show clear superiority.

Keywords: lateral parapatellar approach, medial parapatellar approach, total knee arthroplasty, Valgus knee.

FREE PAPER

The Outcome of Femoral Nerve & Adductor Canal Block in Patient Undergoing Total Knee Arthroplasty

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ABSTRACT

Purpose: The postoperative pain management is one of the important factors for functional recovery after total knee replacement. There are numerous methods for post-operative pain control after TKA. This study sought to establish if there is a benefit using a combination of femoral nerve and adductor canal block in terms of postoperative pain scores and functional recovery.

Material & Methods: This was a prospective study which was conducted on a series of patients who underwent total knee arthroplasty surgery between September 2022 and October 2023. All patients underwent surgery under spinal anaesthesia and femoral and adductor canal block was administered prior to the surgery. Outcome evaluations included visual analogue scale (VAS) scores at rest and during activity on 1st,2nd ,3rd & 5th day, number of days required to perform straight leg raise, quadriceps strength, use of rescue drugs, incidence of falls and complication occurrence.

Results: A total of 80 patients were included in this study (20males, 60 females). The mean age was 67.23 years. The mean BMI was 23.94. Among all patients 51 patients were of ASA 2 category & 29 were of ASA 3. Right knee was involved in 50 cases and 30 in left. The mean VAS on 1st POD was 2.775, 1.96 on 2nd ,1.4 on 3rd & 1.13 at the time of discharge (7th POD). 20 patients demanded for rescue drugs during 1st POD, 2 patients on both 1st & 2nd POD whereas 58 patients (72.5%) did not require any rescue drugs. 48 (60%) of them were able to straight leg raise test on 1st POD, 27 of them on 2nd POD and 5 on 3rd POD.

Conclusion: Preoperative femoral nerve blocks along with adductor canal block are associated with decreased in postoperative pain and enhance functional recovery in patients undergoing total knee arthroplasty with almost no complication.

FREE PAPER

Persistent Knee Pain after Uncomplicated Total Knee Arthroplasty Secondary to Undiagnosed Spondylotic Myelopathy: A Case Report

Dr. Manoj Kandel
Senoir Orthopedic Surgeon, Bharatpur Hospital

ABSTRACT

Recent studies have identified that up to 30% of patients are not satisfied with the surgical results of total knee arthroplasty (TKA), and this discontent is directly tied to the patients' symptoms and perceived diminished quality of life after TKA. Moreover, quality of life is influenced by many physical, behavioral, social, and psychological aspects, which are not taken into consideration by the functional outcome ratings. In some cases, the persistence of symptoms after TKA may be attributed to the presence of another underlying etiology. Nociceptive knee pain is often associated with knee osteoarthritis, while neuropathic pain has a different origin and may be linked to the development of persistent postoperative pain. Compression of the spinal cord can cause pain to radiate below the affected segment. It can manifest as sciatic neuropathy or knee discomfort, and the pain caused by cervical spondylotic myelopathy can cause delays in diagnosis and therapy, as well as needless medical and surgical therapies. We report the case of a 78-year-old woman who presented with a 18 months history of progressive bilateral knee spasms and pain and reduced quality of life. The patient had undergone bilateral total knee arthroplasty after a diagnosis of osteoarthritis and failure of conservative treatment. Symptoms like repetitive right knee flexion weakness and spasm appeared postoperatively, and the patient was diagnosed with cervical spondylotic myelopathy. Consequently, she was successfully treated with physiotherapy which involved scraping therapy, spinal manipulation, and intermittent motorized traction to relieve cervical nerve pressure. Thus, cervical spondylotic myelopathy should be considered in the differential diagnosis of cases of persistent knee pain. Neurological pain should be one of the differential diagnoses in patients with leg pain before and after TKA. A complete medical history and physical examination, including musculoskeletal and neurological examinations, are required. Proper diagnosis and therapy of cervical cord compressive myelopathy can prevent unnecessary investigations, surgical treatments, and possible adverse effects.

Keywords: Cervical spondylotic myelopathy, knee pain, knee arthroplasty, knee rehabilitation

FREE PAPER

Total Hip Arthroplasty in Acetabular Fractures. Our Experience with Few Cases

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ABSTRACT

Total Hip Arthroplasty (THA) is a well-accepted treatment for established hip arthritis following acetabular fractures. If a conservatively managed or operated case progresses to non-union/mal-union failing to restore the joint integrity, it may eventually develop secondary arthritis warranting a total hip arthroplasty.

In recent years, acute total hip arthroplasty is gaining importance in conditions where the fracture presents with pre-existing hip arthritis, is not amenable to salvage by open reduction and internal fixation, or, a poor prognosis is anticipated following fixation.

There are several surgical challenges in performing total hip arthroplasty for acetabular fractures whether acute or delayed. The aim of surgery is to restore the columns for acetabular component implantation rather than anatomic fixation. Meticulous preoperative planning with radiographs and Computed Tomography (CT) scans, adequate exposure to delineate the fracture pattern, and, availability of an array of all instruments and possible implants as backup are the key points for success. Previous implants if any should be removed only if they are in the way of cup implantation or infected. Press fit uncemented modern porous metal acetabular component with multiple screw options is the preferred implant for majority of cases. However, complex fractures may require major reconstruction with revision THA implants especially when a pelvic discontinuity is present.

We present here our experiences of THA in few acetabular fracture cases, acute and delayed.

Keywords: Acetabular fractures, surgical challenges, total hip arthroplasty.

FREE PAPER

Functional outcome of Total Hip Replacement in Ankylosing Spondylitis in Nepalese Population: A Midterm Follow Up Study

Dr. Nabin Poudel
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ABSTRACT

Ankylosing spondylitis (AS) is a chronic inflammatory arthritis primarily affecting the spine and pelvis. Total Hip Replacement (THR) is a well established surgery in painful arthritic hip joint in AS which markedly improves function and improves the quality of life. The study of functional outcome of THR in our Nepalese population is very scarce and we evaluated the functional outcome of THR in our population with midterm follow up.

We prospectively evaluated 25 patients (15 bilateral and 10 unilateral) from June 2015 to October 2023 who underwent THR at our center. Pre and Post surgery ROM and Harris Hip Score were accessed for the study.

The mean follow up was 5.2 years and all hip joints function improved. The ROM improved from 30 to 105 (mean 75) in Flexion, -10 to 25 (mean 18) in Abduction, -5 to 20 (mean 15) in External Rotation and Harris Hip score improved from 15.3 to 82.1 points (mean 76.5). Hip pain was markedly improved compared to preoperatively.

THR has very favorable outcome in AS patients. The improvement in function and relief of pain improves the quality of life in such patients. We expect other studies in AS patients among Nepalese population will bring new lights in treatment of AS patients.

Key Words: Ankylosing Spondylitis, Midterm follow up, Total Hip Replacement

Ankle and Foot Session

FREE PAPER

Plate Osteosynthesis for Tibial Pilon Fracture

Dr. Bimal Pandey

FREE PAPER

Correlation between Pettrone's Score and OMAS Score in Internally Fixed Ankle Fracture

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Patan Academy of Health Sciences, Lagankhel, Lalitpur

ABSTRACT

Ankle fractures are a common injury that usually require surgery for fixation. Failure to attain adequate reduction during surgery results post-traumatic ankle arthritis with inferior long-term outcomes. Pettrone's radiological criteria helps to achieve reduction of ankle fracture and OMAS score is a questionnaire to assess functional outcome of post injured ankle. This study signifies the importance of adequate reduction of ankle fracture during surgery to achieve good functional outcomes.

This is a prospective cohort study which included two groups of reduced ankle fracture and malreduced ankle fracture based on Pettrone's score (PS), underwent surgical fixation. Functional outcome of both groups were assessed after 6 months± 2weeks completion of fracture fixation using OMAS score. The analysis considered type of ankle fracture, Pettrone's score and OMAS score using ANOVA score. The correlation between PS and OMAS score was analysed using Pearson correlation.

This study involved 36 patients, 18 in each group, with mean age of 37.2 years and 41.2 years, with male to female ratio 8:10 and 10:8 in reduced group and malreduced group respectively. The OMAS score of unimalleolar fracture is superior to other type of fractures. Reduced group ,PS<1, had exhibited the best OMAS score with decreasing trend of OMAS score in PS from 0 to 3. There was strong negative correlation between PS and OMAS score, with correlation coefficient of -0.92.

There is the strong negative correlation between Pettrone's score and OMAS score underscores the importance of achieving and maintaining high-quality fracture reduction during ankle fracture surgery.

Key words: Ankle fracture, Pettorne's criteria, Pettrone's score (PS), OMAS score

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Deformity and Ulcer on Foot & Ankle of Spinal Bifida Sequela

Dr. Jiancheng Zang

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Qin Sihe Method for Foot and Ankle Deformities; 22062 Cases

Prof. Sihe Qin

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Syndesmotic Injuries: When not to Fix

Prof. Mandeep Dhillon

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Calcaneum Malunion: What can we do?

Dr. Siddhartha Sharma

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Talus Neck Fracture/Pilon Fracture

Dr. Sandeep Patel

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Lisfranc Injuries: Fixation Technique

Dr. Daman Jha

Knee Osteoarthritis (Free Paper Session)

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What is Happening Next in Cartilage Repair and Regeneration

Prof. Tunku Kamarul Zaman Bin Tunku Zainol Abidin

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Efficacy and Safety of Stem Cell Therapies for Cartilage Defects: A Systemic Review and Meta-Analysis

Dr. Siddhartha Sharma

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Prospective Observational Analytical Study Comparing Proximal Fibular Osteotomy with Single Dose and Multi-Dose Intra-Articular Hyaluronic Acid Injection in Medial Compartment Osteoarthritis of Knee in Selected Tertiary Hospitals of Kathmandu, Nepal

Prof. Deepak Kumar Dutta
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ABSTRACT

Medial compartment knee osteoarthritis (OA) results in significant pain and disability. Several options like single or multi-dose intra-articular hyaluronic acid (HA) injections and surgery like proximal fibular osteotomy (PFO) are practiced over here. However, the comparative effectiveness of HA injections and PFO in terms of improvement in pain and knee function is not clearly understood.

A multi-center, prospective, comparative, clinical study was conducted between February 8, 2023 to May 31, 2023. Patients over 45 years with Knee OA, Kellgren - Lawrence (K-L) grade 2 and 3, were included. Included patients (45) were grouped using convenient sampling method into 3 groups: 14 in Group 1(single dose HA injection); 17 in Group 2 (three-dose HA injection); and 14 in Group 3 (PFO).

Following data were extracted: age, gender, side (right, left or bi-lateral), K-L grade, pre & post treatment pain (Visual Analogue Score VAS) and knee function score (Oxford Knee Score OKS) before the procedure & at 1 week, 2 weeks, 1 month and 3 months.

All 3 treatment options resulted in pain reduction at 1 month and 3 months. PFO resulted in better pain reduction, but few patients complained of post-op paresthesia as compared to HA groups. The study also showed PFO resulting in 7-30% more excellent outcomes over others.

PFO resulted in improved pain and knee function at 1 & 3 months. However, conclusive comparison against HA injections could not be drawn as there was considerable variation among participants.

Key words: Hyaluronic Acid, Knee Osteoarthritis, Proximal Fibular Osteotomy

FREE PAPER

Functional Outcome after Intra Articular PRP Injection in Knee Osteoarthritis

Dr. Sushil Sharma

FREE PAPER

Correlation Between Functional Status and Radiographic Grading in Patients with Osteoarthritis of Knee

Dr. Manoj Nepali
3rd Year Resident, NAIHS

ABSTRACT

Introduction: Osteoarthritis is a slowly progressive disease affecting synovial joints of the body characterized by the gradual loss of articular cartilage. It is more common in the knees compared to the hips, shoulders, and small joints of the hand. This study aims to identify the relationship between functional status and radiographic severity in knee osteoarthritis, which may provide crucial insights for its early management.

Methods: A hospital-based cross-sectional observational study was conducted on patients with knee osteoarthritis between June 2022 and August 2023 in Shree Birendra Hospital. The diagnosis of knee osteoarthritis was established using American College of Rheumatology (ACR) criteria, and their functional status was evaluated using the Western Ontario and McMaster Universities Osteoarthritis Index (WOMAC) scoring system and the Timed Up and Go (TUG) test. Radiographic severity was assessed using the Kellgren and Lawrence (K&L) grading system. Demographic parameters such as age, sex, and body mass index (BMI) were recorded. The relationship between WOMAC score, TUG score, and K&L grade was determined using statistical analysis.

Results: A total of 185 cases were included in this study. The mean age of the patient was 63.48 ± 8.61 years. There was a significant positive correlation between the WOMAC score and K&L grade, with a correlation coefficient (r) of 0.55 and a p-value <0.001. Similarly, there was a significant positive correlation between TUG test score and K&L grade, with a correlation coefficient (r) of 0.71 and a p-value <0.0001. This study also found a significant positive correlation between the WOMAC score and the TUG test score, with a correlation coefficient (r) of 0.73 and a p-value <0.0001.

Conclusion: There is a statistically significant positive correlation between the WOMAC score, TUG test score, and K&L grade in patients with knee osteoarthritis.

Keywords: Kellgren and Lawrence grade, Osteoarthritis, Timed Up and GO test, WOMAC score

FREE PAPER

Study of Correlation of Radiological Features with Knee Pain and Disability in Knee Osteoarthritis

Dr. Suman Maharjan
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ABSTRACT

Osteoarthritis is a common degenerative joint disorder that mostly affects the knee joint and poses an increasing societal and economic burden as our population ages. It has high significance because of its high prevalence and association with severe pain and functional disability. Knee pain is the most common and principal symptom of knee osteoarthritis (OA) that drives the patient to visit the hospital and contributes to functional disability. X-rays serve as the primary imaging method for knee OA diagnosis but radiological findings and clinical symptoms of do not always agree. Thus, aim of this study was to explore the correlation of radiological features with knee pain and disability in knee osteoarthritis. This cross-sectional study conducted at Tribhuvan University Teaching Hospital (TUTH), Nepal from May 2022 to November 2023, assessed 131 patients of age ≥50 years with knee osteoarthritis. The diagnosis was based on American College of Rheumatology (ACR) clinical criteria for knee OA. The severity of knee pain, stiffness and disability were assessed using the Nepalese version of Western Ontario and McMaster Universities Osteoarthritis Index (WOMAC). X ray of affected knee with Antero-Posterior weight bearing view was taken and graded according to Kellgren- Lawrence (KL) scale. Spearman's rank correlation coefficients was used to assess the correlation between WOMAC subsets and KL grades. There were 131 cases with mean age of 63.77±9.34 years of which 69.5% were female. The distribution of KL grades was 39.7% grade I, 29% grade II, 21.4% grade III and 9.9% grade IV. The mean WOMAC pain and functional disability scores were 8.34±2.8 and 36.67±8.85 respectively. KL grading was not statistically significant with WOMAC pain and functional disability ($p>0.05$).There was no statistically significant correlation between x-rays features as assessed with KL grades with knee pain and disability in knee osteoarthritis.

FREE PAPER

Efficacy and Safety of Diacerein vs Glucosamine in Treatment of Patients with Knee Osteoarthritis-A Prospective Cross-Sectional Study

Dr. Suman Shrestha
Resident (3rd Year), KIST Medical College

ABSTRACT

Background: Pharmacological therapies, surgeries, and non-pharmacological measures are used to manage knee osteoarthritis. Non-steroidal anti-inflammatory Drugs are the most commonly prescribed pharmacological treatments for knee osteoarthritis, even though they only treat symptoms and do not slow the disease's progression. For these reasons, second-line medications such as Chondroitin, Diacerein, and Glucosamine are used in osteoarthritis patients and are believed to alleviate symptoms and slow the degeneration of articular cartilage

Methodology: A hospital-based prospective cross-sectional study was conducted on patients visiting the Orthopaedics outpatient Department of KIST Medical College and Teaching Hospital. Patients with Kellgren and Lawrence grade II and III, and those meeting the inclusion criteria were included in this study from 2021-2023(18 months duration). 112 patients were included in this study, 56 patients in each group. The first patient and every alternate patient were given Diacerein and were placed in Group A. The second patient and every alternate patient were given Glucosamine and were placed in Group B. Both groups of patients were given Aceclofenac on an as-needed basis. The patients were followed up at three weeks, six weeks, and eight weeks. The efficacy was measured by using the Western Ontario and McMaster Universities Osteoarthritis Index and a visual analog scale score for pain.

Results: There was no discernible variation in the baseline features of the two groups. The mean Visual Analog Scale score decreased from 5.82 to 3.13 in group A and from 5.77 to 3.04 in group B. The mean Western Ontario and McMaster Universities Osteoarthritis Index score decreased from 61.84 to 31.29 in group A and from 60.88 to 29.82 in group B at the six-week mark. There was no significant increase in the Visual Analog Scale score and Western Ontario and McMaster Universities Osteoarthritis Index score at eight weeks after discontinuation of medication at six weeks. However, Gastrointestinal side effects experienced by the Diacerein group was higher than the Glucosamine group mainly Diarrhea and red urine.

Conclusion: Diacerein has a higher risk of adverse Gastrointestinal events when compared to Glucosamine. Glucosamine is a better option for treating knee OA than Diacerein.

Keywords: Diacerein; Glucosamine; Osteoarthritis

FREE PAPER

Functional Outcome after Intra Articular PRP Injection in Knee Osteorthritis

Dr. Baniya Kandel

FREE PAPER

Prevalence of Obesity and it's Association with Severity of Knee Osteoarthritis

Dr. Tika Ram Paudel
Resident, KMCTH

ABSTRACT

Osteoarthritis (OA) is the most common type of arthritis. Obesity is found to be one of the most important modifiable risk factors for osteoarthritis. However, there is paucity of literature correlating obesity and the risk of knee OA in Nepalese population. This study aimed to find the association of severity of knee osteoarthritis and obesity.

This is an observational descriptive cross-sectional study conducted at Kathmandu medica college from February 2021 to August 2023. BMI was calculated and it was correlated radiologically with Kellgren Lawrence (KL) grading and clinically with Western Ontario and Mcmaster Universities Osteoarthritis Index (WOMAC), Visual Analogue Scale (VAS) and Time Up and Go test (TUG). Patients were categorized according to their BMI into four groups: underweight (<18.5 kg/m2), normal weight (18.5-24.9 kg/m2), overweight (25.0-29.9 kg/m2) and obese (≥30.0 kg/m2).

There were 314 patients (99 male and 215 female) with mean age of 55.3 ± 10.7 years who met the American College of Rheumatology (ACR) criteria in this study. There were no patients in the underweight group, 25 patients (14.4%) in normal weight group, 127 patients (73.0%) in overweight group and 22 patients (12.6%) were in obese group. Of 314 patients, 55 patients (17.5%) had K-L grade I on knee x ray, 141 patients (44.9 %) had K-L grade II, 94 patients (29.9 %) had K-L grade III and 24 patients (7.6 %) had K-L grade IV. The mean TUG, VAS, WOMAC in this study was 15.34 seconds, 6.3 and 40.3 respectively. A significant correlation was found between BMI with KL grading, WOMAC score, VAS and TUG test when analyzed by spearman's rank correlation with p value less than 0.05.

In this study, it was found that clinical severity of OA knee in terms of pain measured by VAS, functional limitation and stiffness measured by WOMAC and radiological findings by KL grading is positively correlated with BMI.

Keywords: BMI, KL grading, osteoarthritis, WOMAC score

Innovation in Orthopaedic

3D Printing In Orthopaedics: Thailand Experiences

Prof. Thipachart Punyaratabandhu

ICL

Digital Technology in Orthopedic Surgery

Dr. Sanjeev Uprety
Orthopedic Surgeon/Chief Medical Informatics Officer, HRDC

ABSTRACT

In the dynamic field of orthopedics, the convergence of digital technology and artificial intelligence (AI) is reshaping traditional paradigms, ushering in a new era of precision and patient-centric care. Advanced imaging techniques, such as 3D imaging and augmented reality, empowered by digital technology, offer orthopedic surgeons unprecedented insights into patient anatomy. These technologies enhance preoperative planning and facilitate real-time navigation during surgeries, ensuring accurate implant placement and minimizing complications.

The integration of AI algorithms has revolutionized the analysis of extensive patient datasets. Machine learning models leverage patient-specific information, including genetics, lifestyle, and medical history, to tailor treatment plans and predict outcomes. This personalized approach not only improves patient experiences but also contributes to enhanced long-term results.

Orthopedic rehabilitation has been revolutionized by digital technology through the development of smart devices. Wearable sensors and AI-equipped rehabilitation tools enable remote patient monitoring, allowing for continuous assessment and adjustment of rehabilitation programs. This not only empowers patients to actively engage in their recovery but also provides clinicians with real-time data for optimizing treatment strategies.

The synergy of digital technology and AI in orthopedics reflects a transformative shift towards precision medicine and individualized care. As these innovations continue to evolve, orthopedic practitioners are poised at the forefront of a technological revolution, promising improved outcomes, streamlined processes, and a brighter future for musculoskeletal healthcare.

Key Words: Digitization. Artificial Intelligence

FREE PAPER

Qin Sihe Methods for Refractory Deformities on Knee

Prof. Sihe Qin

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Qin Sihe Methods for Traumatic Lower Limb Deformity

Prof. Sihe Qin

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Effectiveness of Antibiotics Coated Nails and Beads in Infected Nonunion and Chronic Osteomyelitis

Prof. Muhammad Shoaib Khan

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Dr. Prabodh Kantiwal

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Wound Alpha Defensin as a Biomarker of Early Fracture Related Infection in Open Fracture

Dr. Prasoon Kumar

FREE PAPER

Management of Various TA Ruptures from Acute to Neglected with Case Examples

Dr. Nagmani Singh

FREE PAPER

Orthopaedics Conditions Treated with Revolutionary Treatment Distal Sodium Channel Block (Case Series) with Video Demonstration Results

Dr. Dipendra Gurung
Orthopedic Consultant, Annapurna Children and Women Hospital

ABSTRACT

Back In 2018, DSCB study was being proposed for 39 surgeons under IAOS (Indian academy of orthopaedic surgeon)on behalf of the following chief investigators in our academic groups and I was the lucky to be the part of it to get involved from Nepal and was solely awarded with the certificate as a valuable contributor after the trail core study now elected as a international faculty for this technique.The technique about this has published internationally named as a physiological pain portals.Mandatory information about the this study is being undertaken by Indian Academy of Orthopaedic Surgeons, IAOS, on behalf of the following Chief Investigators.

1) Dr S.C.Gore, Pune India +91 94223 09039
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No benefits have been received or been promised for this study.
This was a purely non commercial research project.

Pain is one of the chief complaint that brings a patient to an orthopedic surgeon. Aplethora of medical and surgical methods compete with other semi and non invasive methods for treating pain. Pain is a complex amalgamation of physical and mental changes, and involves chemicals transmitted across cell membrane barriers, which in turn carry sensations to the brain. A disk bulge in an MRI associated with severe radiculopathy and sciatica is immediately diagnosed as a slipped disk, and aggressive management strategies are deployed to treat the offending disk. The patient is not concerned with the cause of pain, he wants relief from his symptoms.Sodium channel blockers like lignocaine are known to cause dramatic and temporary relief from sciatic pain and almost orthopedic conditions instantly. Plain lignocaine gives a few hours relief, while the cocktail developed by this study gives a significantly longer relief. The relief in pain, break in the pain cycle gives both the surgeon and the patient time to try the modalities like physical therapy,exercises, yoga and weight loss programmes all of which eventually lead to a pain free patient.The relief in pain is by no means permanent, the special concoction gives dramatic relief for a week or more, and this breaks the pain anxiety cycle of the patient, giving him a profound psychological boost. We have thus avoided dramatic back surgery, which often produces inconsistent short term and questionable long term

benefits! With trial and error, the following formula has been found to produce optimum effect, often lasting a week, and sometimes even two to three weeks or 6 months time sometimes till 2 years of optimum time We were instructed to take special consents following study parameter-

STUDY PARAMETERS FORM:
Pre injection/ Post injection/ 1 week/ 1 month
Patient Number and name:
Age and Sex:
Study parameter
Symptoms or signs Observations
Duration of pain in weeks
VAS Score for pain on scale of 1 to 10
Subjective satisfaction on scale of 1 to 5
Pain distribution is Horizontal or Vertical?
Is there pain in lateral aspect of buttock, leg, and lateralaspect of leg travelling down to calf ?
Is there Sciatic Scoliosis with one sided spasm ?
Straight leg raise is painful from how many degrees?
Is there weakness of great toe on one side compared to other?
Is there an Inability to stand tiptoes or on heels?
Is there tingling and numbness on outer areas of buttock,thigh and leg?
Is there weakness of dorsiflexion of ankle compared to other side?
Is there a severe spasm of hamstring muscles?

Inclusion criteria selected
Involving Age between 18 and 60
Patients who have not undergone any surgery on their backs.
Patients who have given a written and oral consent to the procedure and have been explained about sodium channel block.

Exclusion criteria
Blood sugar over 250 mg%
Skin lesions or infections around or near the injection gates.
Sensitivity to lidocaine.
Patients with psychiatric issues.
Patients not falling in the specified age group

We asked the patient to return after one week, and simultanously after one month and fill the form again and review. Each time we uploaded our results with pre and post results.

The theory works on charging of the entry and exits of the ions.
Sensory nerves carry sensations of touch pain temperature vibration and Proprioception. Any chemical or mechanical irritation in the path of the nerve will naturally be manifested as symptoms of pain on stretch. Sciatic neurones we know are all pseudo unipolar axons stretching to long distances from their nucleus

and the impulses travel both way. Electron microscopic image of a funnel shaped sodium channel. These channels are large transmembrane proteins, which are able to switch between different states to enable selective permeability for sodium ions. The mesh closes opens or remains semi open depending on voltages, and thus they are called voltage gated. An open mesh allows sodium ions enter the neuronal cell, and this produces the unpleasant sensations we call pain.

Distal sdium Channel block is infiltration of local anaesthetic drugs around nerve sheaths at the most terminal branch along its course. The depth varies from sub cutaneous to almost bone deep depending on target areas. Xylocaine or lignocaine is the essential ingredient of all blocks with one or more adjutants. All blocks are given distal and rather far away from the actual pain point or what we presume is the pathology. Those blocks were named as portal blocks ,images are illustrated in the slides, the lower site where we apply portal blocks were named as beta portal, the upper site was named as alpha portals and mid section site was named a kaput. Portal.

Cock tail regime-
The contents of the magic cocktail 3 ml 1% Xylocard (plain lignocaine without adrenaline or preservative) .
1ml or 40 mg or triamcelone acetate (Depomederol or Kenacort)
0.3 ml of Vitamin C injection (Ascorbic acid) Dilute with 4 ml distilled water.
This gives us 7.5 ml of the cocktail, the chief ingredient being Sodium Channel blockers in an acidic medium with a Ph of below 3.5

Key words: dscb, portal blocks

FREE PAPER

Controversies in Orthopaedics, Tips Tricks and Solution

Dr. Pramod Lamichhane
Consultant Orthopaedic Surgeon, Alive Hospital & Trauma Centre

ABSTRACT

Controversies persist everywhere and so do in orthopaedics. From the beginning of modern orthopaedics, there are controversies in timing of surgery, method of fixation and rehabilitation in certain types of injuries like in multiple trauma, open fractures and fractures with huge swelling. Basic principles of management remaining the same, treatment protocol or modality of treatment depends on the personality of the patient, injury pattern and resources available. Here we simplify and narrate the treatment protocol that we follow for such injuries with case series and examples. From July 2011 to Dec 2022 we operated 13084 orthopaedic cases, 9508 male and 3576 female. All the cases were operated within six hours of presentation to the hospital. Primary definitive internal fixation was done up to GIIIA. External or internal fixation was done in GIIIB cases depending on the nature of injury, personality of fracture and the patient. All the fractures united. There were less number of surgeries, less morbidity and they were with good results.

Key words: Controversies, Orthopaedics, Solutions, Tips and Tricks

Trauma Session 3 (Lower Limb Fracture)

FREE PAPER

Positive Pan-Computed Tomography Scan Reports in Trauma Patients Presenting in the Emergency Department of a Tertiary Care Centre: A Descriptive Cross-sectional Study (Preliminary report)

Dr. Subash Regmi
Department of Orthopaedics, B.& B. Hospital, Gwarko, Lalitpur

ABSTRACT

This study aims to find out to the overall positivity rate of pan-CT scans in diagnosing injuries in trauma settings and to find out prevalence of positive reports in 2 or more and 3 or more body regions. A total of 126 reports of 126 patients were evaluated between January 1, 2023, and October 15, 2023. Out of 126 patients, 93 (73.81%) were male and 33 (26.19%) were female. The mean age of the patients was 36.76 ± 17.86 years. The mechanisms of injury included Road traffic accidents in 113 (89.68%) cases and high-energy Fall in 13 (10.32%) cases. The overall positivity rate was 84.12%. The reports were found to be positive in 2 or more and 3 or more body regions in 50.79% and 15.07%, respectively. The preliminary findings suggests that the overall positivity rate was higher. However, the positivity rate in identifying injuries in 2 or more and 3 or more body regions was low. Hence, liberal use of pan-CT scans should be avoided in the emergency department, and the indications should be defined.

FREE PAPER

Association of Hip Geometry with Proximal Femoral Fracture in Elderly Population

Dr. Ishwor Ghimire Padhya
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Patan Academy of Health Sciences, Lalitpur, Nepal.

ABSTRACT

Background: There is increasing evidence that the proximal femoral geometry has an important role in the etiology of hip fractures. We performed a simple radiological study to investigate the association of hip geometry with proximal femoral fractures in the elderly population.

Objectives: To compare the Femoral neck diameter (FND), Femoral neck axis (FNA), Hip Axis Length (HAL), Neck shaft angle (NSA), and Femoral head diameter (FHD) from the contralateral normal hip in the patients who have sustained NOF and IT fracture (case population) and control group to study the association of the risk factor between two groups based on the above-mentioned radiological parameter. In addition, another objective is to study the gender-wise difference in hip geometry parameters in males and females.

Method: Prospective radiographic evaluation of 102 patients, 34 cases sustaining NOF and IT fracture (mean age 68 years) and 68 controls without fracture(mean age 71 years), from January 2022 to January 2023, in Patan Academy of Health Sciences, Lalitpur, and Nepal Orthopedic Hospital Kathmandu were taken for the study. Proximal femoral geometry (HAL, FNL, NSA, FHD, FND) was measured from the contralateral normal hip in the X-ray anteroposterior view of the pelvis for cases and any of the hip for controls. The data were recorded and Student's t-test was used to compare the continuous variables.

Results: A statistically significant difference in HAL (AUC:0.671) and FNL (AUC:0.645) was found between the case and control groups. However, no significant difference was found in the NSA, FHD, and FND. There was a significant difference between HAL, FND, FND, and FNA in males and females. However, there was no significant difference in NSA between males and females.

Conclusion: HAL and FNL were found to be increased in the group sustaining Femoral neck fractures and Intertrochanteric fractures compared to the control group. However, we didn't find any statistical difference in NSA, FHD, and FND among these two groups. As most of the literature has also stated, we conclude that HAL and FNL are independent predictors of the risk of hip fracture and that patients with increased HAL and FNL are more prone to proximal femoral fracture. But as the sample size was small larger sample is recommended to conclude this finding. However, it can be used as a screening tool in patients to predict and thereby forewarn about their susceptibility to hip fracture.

Keywords: Hip geometry, Intertrochanteric fracture, Neck of femur fracture, Proximal femoral fracture.

FREE PAPER

Dilemma in Fixing Femur Neck Fracture – Is there any difference in Neck Shortening between Femoral Neck System and Multiple Cannulated Screws? - A Non-Inferiority Prospective Randomized Controlled Trial

Dr. Saurabh Gupta

FREE PAPER

PFNA2 for Intertrochantric Fracture: Outcome Evaluation

Dr. Sharad Chandra Adhikari
Lecturer, MMC, IOM TUTH

ABSTRACT

Elderly osteoporotic individuals often sustain inter-trochanteric fractures of hip with trivial trauma. These frequently occurring fractures are attributed to the age-related changes such as generalized weakness, osteoporosis, decreased muscle strength, reduced reflexes, poor eyesight and syncopal attacks. As there is a gradual rise in the older population group in recent years due to increasing life expectancy, one must be judicious while deciding the optimal treatment option. Amongst the various treatment modalities available, PFN-A2 is a newer cephalo-medullary device which provides stable fixation and better healing.

Our observation includes 14 patients undergoing PFN-A2 for both stable and unstable intertrochanteric fractures. We excluded pathological fractures, ipsilateral femoral shaft fractures and those of more than 3wks duration. They were regularly followed up for 6mnths postoperatively. Clinical and radiological evaluations were done at 6weeks, 12weeks and 24 weeks. The functional outcome was evaluated using modified Harris hip score.

The mean age of incidence was 72yrs with equal gender distribution. All the fractures occurred due to fall injury with one exception of road traffic accident in a 30yrs individual. Mean operating time was 52.28mins. The average fracture union time was 12 weeks and radiological union was present in all of the 14 patients. The analysis of the functionality through Modified Harris hip score revealed excellent outcome in 10 patients, good in 3 and fair in 1patient.

We conclude that PFN-A2 has the advantage of closed reduction, quick surgery, less invasiveness and quicker rehabilitation with fewer complications.

FREE PAPER

Short versus Long Proximal Femur Nail for Treatment of Intertrochanteric Femur Fractures

Dr. Devendra Acharya
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ABSTRACT

Intertrochanteric fractures are commonly encountered hip fractures worldwide. Nowadays proximal femur nails are increasingly being used to treat intertrochanteric fractures. The current study aimed to evaluate the outcome of short proximal femoral nail compared to long proximal femoral nail for managing intertrochanteric fractures. This prospective observational study was done at a tertiary hospital from December 2020 to June 2023. Among 63 cases of intertrochanteric femur fractures (AO/OTA type 31A1 and 31A2), 30 were treated with short PFN while the remaining 33 cases were operated with long PFN. Demographic data, various intraoperative parameters, complications, union time and functional outcomes in terms of Harris hip score (HHS) were noted. Student t- test was used to compare continuous data whereas categorical data was compared using Chi-square or Fischer's exact test (SPSS 20.0 software). In this study the average estimated blood loss (EBL) (83.2 ± 11.1 ml) and duration of surgery (69.0 ±9.4 min) for short PFN group were found to be significantly lesser than the EBL (163.3 ± 21.3 ml) and duration of surgery (86.2 ±11.4 min) for long PFN group. However, similar results were found with regard to age, sex, fracture type, union time, complications and HHS (at 6 months).To conclude, use of PFN either short or long for intertrochanteric fractures (31A1 and 31A2) provides good results. Statistically significant lesser operative time and EBL found among the patients treated with short PFN makes it preferable especially in cases of sick and polytrauma patients where shorter operative time with minimal blood loss is desirable.

Key Words: Intertrochanteric fractures; Long PFN; Short PFN.

FREE PAPER

Functional Outcome of Titanium Elastic Nailing for Paediatric Femoral Shaft Fracture in a Tertiary Care Hospital

Dr. Vinod Kumar K

FREE PAPER

Distal Femur Fracture Fixation-Ten Commandments in Dual Plating

Dr. Vishnu Senthil Kumar

FREE PAPER

Short-Term Assessment of the Functional and Radiological Outcome of Surgical Management of Tibial Plateau Fracture

Dr. Shyam Bhagat

ABSTRACT

Introduction: Fractures of the tibial plateau range from simple lateral condyle fracture to severe comminuted metaphyseal fractures associated with varying degrees of articular depression. Management of these complicated fractures remains challenging. The objective in treating displaced fractures is to restore the articular surface anatomy, stable internal fixation to obtain a painless and stable knee joint with normal range of movements.

Objectives: To assess the functional and radiological outcome of surgical management of Tibial Plateau fractures.

Methods: It was a hospital-based prospective longitudinal study conducted at Gandaki Medical College and Teaching Hospital, Pokhara for a period of 18 months in a total of 30 patients with tibial plateau fractures. Each of them underwent operative intervention and was followed for 6 months. The functional and radiological outcomes were measured using Modified Rasmussen Criteria at last follow-up.

Results: The mean age in the study was 38.93(range 16-65) years. The most common mode of injury was road traffic accident (66.67%) followed by fall from height (20%). Schatzker type 2 (33.33%) was the most common fracture type followed by type 4 (26.67%). The mean duration from injury to the time of operation was 6.63 days. The mean Modified Rasmussen clinical assessment score was 25.47 with excellent, good and fair results in 15, 11 and 4 patients respectively. Whereas the mean Modified Rasmussen radiological assessment score was 7.47 with excellent, good and fair results in 7, 21 and 2 patients respectively.

Conclusion: Treatment goal of tibial plateau fractures should be anatomical reduction, stable fixation and early joint motion to prevent stiffness and reduction of complications. These fractures treated with different modalities at our institute has been associated with excellent and good functional outcome at the end of short term follow up.

Keywords: Tibial plateau, fracture, Modified Rasmussen criteria, Schatzker, functional outcome, radiological outcome.

Shoulder and Elbow Session

ICL

Recurrent Shoulder Dislocation: Changing Scenario

Prof. Amit Joshi

FREE PAPER

Arthroscopic Bankart Vs Open Latarjet How do I Decide?

Dr. Tarun Goyal

FREE PAPER

Decision Making in Rotator Cuff Injuries

Prof. Rajeev Raj Manandhar

ICL

Adhesive Capsulitis: Busting the Myth

Dr. Bibek Basukala

FREE PAPER

Percutaneous Endobutton Fixation of Acute Acromiovlavicular Joint Injuries

Prof. Ishwar Sharma Kandel
Professor, Gandaki Medical College

ABSTRACT

Acromioclavicular joint dislocation's management is controversial . Percutaneous endobutton fixation is good novel alternatives. we performed prospective study on eight patients with good functional and radiological outcome.

Key words: Acromioclavicular, endobutton, fixation

FREE PAPER

Elbow Stiffness: Management

Dr. Nagmani Singh

FREE PAPER

Physiotherapy after Arthroscopic Shoulder Stabilization

Mr. Nijan Bajracharya

Upper Limb Trauma Session 2

FREE PAPER

Functional Outcomes of Paediatric Diaphyseal Forearm Fracture managed with Titanium Elastic Nailing System at Pokhara Academy of Health Sciences

Dr. Indra Kumar Gurung
Resident, Pokhara Academy of Health Sciences

ABSTRACT

Diaphyseal forearm fractures are common injuries in children. In older children, there management is difficult due to increased chances of re-displacement after closed reduction. Hence, TENS is introduced to manage such fracture.

To study functional outcomes of pediatric diaphyseal forearm facture managed with Titanium elastic nailing system. Method: This study was conducted in the department of orthopedics, Pokhara Academy of Health Sciences (PAHS), Pokhara, Nepal over a period of twelve months. 32 cases of pediatric diaphyseal forearm fracture 6 -14 years underwent closed reduction and internal fixation with titanium elastic nailing system. The cases were studied in terms of demographics, symptoms and range of motion based on Price et al criteria.

The mean age of patients in our study was 10.88 +/- 2.297 years. There were 29 (90.6%) male and 3 (9.4%) female. Incidence of fracture is higher in right side 17 (53.1%) in comparison to left side 15 (46.9%). 6 (18.8%) fractures were in middle third, 15 (46.8%) fractures were in proximal third and 11 (34.4%) in distal third of both bone forearm. On final evaluation in terms of symptoms and range of motion of adjacent joints using Price CT et al., criteria for results, we had excellent outcomes in 84.4% patients and good in 15.6%.

We conclude that TENS is an effective and minimally invasive method of fixation of forearm fractures with excellent results in terms of bony union and functional outcomes with minimal complications and without jeopardizing the integrity of the physis.

Keywords: Diaphyseal forearm fracture, titanium elastic nailing system, Price et al criteria

FREE PAPER

Cast Index and Gap Index as a Predictors of Redisplacement of Paediatric Diaphyseal Forearm Fracture Managed Non Operatively by Plaster Casting

Dr. Rakesh Shrestha

FREE PAPER

Number of Reduction attempts of Pediatric Supracondylar Fracture of Humerus and its Effect on the Functional Outcome: A prospective Cohort Study

Dr. Pawan Acharya

FREE PAPER

Epidemiology of Paediatric Elbow Fracture: A Prospective Study

Dr. Kishan Nepali

FREE PAPER

Evaluation of the Functional Outcome of Tension Band Wiring in Olecranon Fracture

Dr. Brian Pokharel
Resident, Nepalgunj Medical College, Kohalpur

ABSTRACT

Fracture of olecranon process of ulna is one of the commonest fractures that occurs due to forced hyperextension injury of the elbow joint, avulsion of triceps tendon or direct trauma to the elbow. The accepted management for olecranon fractures is for undisplaced fractures (5% of total) are treated conservatively by short immobilization followed by gradually increasing range of motion while all displaced fractures (95% of total) are subjected to operative treatment. The gold standard for treatment of intra-articular olecranon fractures is open reduction of the articular surface and stable rigid internal fixation with TBW. The present study is undertaken to evaluate the functional result of operative management of olecranon fractures by TBW technique, its merits and demerits and to assess the elbow joint motion and stability after TBW. This prospective observational study was conducted at the Department of Orthopaedics NGMC, Kohalpur from 1st September 2021 to 31st August 2022. It included 40 patients from age group greater than 16 years within the inclusion criteria. All the patients in study were treated by open reduction and internal fixation with Kirshchner wires. The Kirshchner wires were removed after union. Mayo elbow performance score was used for evaluating functional outcome. 40 patients were included in the study. The mean age was 37.86 yrs (SD ±10.3). 29 patients were male and 11 were female. Right side was found to predominantly involved in 23 (57.5%) while in others 17 (42.5%) left side was involved. Majority of patients were found with history of injury due to RTA 24 (60%), while 14 (35%) injury were due to fall and 2 (5%) due to twisting injury. Fracture union was noted both clinically and radiologically. The range of hospital duration was from 3 to 6 days. Twenty nine patients had excellent result in Mayo elbow performance score while seven patients showed good score and four patients showed fair result. From our study, it is concluded that open reduction and internal fixation with tension band wiring technique is an effective means and a gold standard technique in treating olecranon fractures with minimal comminution and is based on sound biomechanical principles.

FREE PAPER

Radial and Musculocutaneous Nerve Injury in Shaft of Humerus Fracture: A Case Report

Dr. Sushil Shrestha
Assistant professor/ Lecturer, Shree Birendra Hospital

ABSTRACT

Radial nerve injury in the arm due to fracture of the humerus shaft is a common occurrence. However injury to both the radial nerve and musculocutaneous nerve in a case of humerus shaft facture is very rare.

We present a case of a 28 yr old male with radial nerve and MCN injury following fracture of shaft of humerus-right side. On presentation the patient had no flexion of the elbow, no supination of the forearm; wrist and fingers drop. However, extension of the elbow was preserved. Fixation of the humerus fracture with LCDCP by posterior approach was done. Upon exploration, radial nerve was found to be ruptured and shrunk and the healthy ends of the nerve was about 10cm apart. One month later, when the surgical wound in the arm had healed, radial nerve triple tendon transfer was done to correct wrist, fingers and thumb drop. After a month in below elbow slab physiotherapy was initiated for the hand. By 4 months of injury the patient had restored good function of the hand, however, there was no recovery of biceps function. Hence nerve surgery was planned. Intraoperative stimulation of the MCN showed no contraction so oberlin nerve transfer (ulnar nerve fascicle to biceps branch of MCN) was done. After 3 months of nerve surgery, the patient also recovered biceps function with antigravity flexion of elbow and active supination of the forearm.

Keywords: musculocutaneous nerve, radial nerve, oberlin transfer, tendon transfer

FREE PAPER

Shaft of Humerus # with Radial Nerve Injury: What we do?

Dr. Lok Raj Chaurasia
Hand Surgeon, Kirtipur Hospital

ABSTRACT

Introduction: Shaft of Humerus fracture with radial nerve paly accounts for 13% of trauma cases. There has been no consensus about the treatment method and treatment options include early exploration vs late exploration and/or tendon transfers. Proponents of late exploration have reported radial nerve exploration in upto 48% of cases after a period of 16 weeks.

Methodology: A case series of 10 cases, presenting to us at different times post injury. Early exploration of the nerve and fixation of the fracture was done in all cases using the posterior approach. The nerves underwent neurolysis, primary coaptation , nerve grafting or nerve transfer depending upon the intra operative findings. Patients were followed upto atleast 1 year.

Results: The mean time for presentation was 1.85 months. Only 3 patients presenting after 1 week of trauma. 2 patients underwent neurolysis,1 had humerus shortening osteotomy with reverse sural nerve grafting, 1 nerve transfer. One patient had ORIF with bone grafting and tendon transfer. All patients undergoing nerve exploration/ surgery developed full wrist rom and MCP rom. The thumb extension was good. The patient's satisfaction undergoing tendon transfer on Likert's scale was 3(neither agree nor disagree).

Conclusion: The author recommends early exploration of the nerve or during the time of fracture fixation(if managed operatively) to avoid second surgery and assure the patients. A study comparing both the groups of early exploration and late exploration with tendon transfer is required on a large number of patients.

FREE PAPER

Functional Outcome of Displaced Clavicle Fractures Treated with Open Reduction and Internal Fixation with Locking Plate

Dr. Sudheer Yadav
Junior Resident, KMCTH

ABSTRACT

Clavicle fractures account for 2.6% of all fractures around the shoulder. Unstable fractures need surgical treatment with a plate and screw for better stability, rotational control, and cortical compression. Open reduction and internal fixation result in faster recovery, improved shoulder function, and reduced pain in patients with unstable clavicle fractures. This study aimed to assess the functional outcome of displaced clavicle fractures treated with open reduction and internal fixation with a locking plate.

A prospective observational study was conducted at Kathmandu Medical College from February 2022 to July 2023. All patients aged 18–60 years with displaced clavicle fractures and a minimum follow-up period of 6 months were included in the study. The exclusion criteria included previous fractures around the shoulder, open clavicle fractures, neurovascular injury, and pathological fractures. Patients were assessed for mechanism of injury, affected side, union time, functional outcome, and complications. All fractures were treated with open reduction and internal fixation with locking compression plates. For functional outcome, patients were assessed using Constant and Murley at follow-up visits (6, 12 and 24 weeks).

39 patients males 30 (76.93%), females 9 (23.07%) meeting the inclusion criteria for the study. The mechanism of injury included motor vehicle accident 29 (74.35%),fall from height 6(15.34%), sports injury 3 (7.69%),hit by animal 1(2.56%).clinically and radiologically union was observed 9(23.1%) at 6 week and 23(58.9%) at 12 week and 7(18%) at 24 week .constant and murley score at 6 week 83.6% at 12 week 86.9% and 24 week 91.9%. superficial and deep infections were 3 (7.6%) and 2(5.1%) respectively. No patients need further operative for infective wound, Hypertrophic scars in 5(12.8%) patients.

Locking compression plates were found to be effective in the treatment of unstable displaced clavicle fractures with minimal complication.

Keywords: clavicle fractures, constant Murley score, functional outcome, locking plate

Younezawa Best Paper Resident Award Session

FREE PAPER

Clinical, Radiological and Functional Outcome of Intertrochanteric Femur Fracture Treated with PFNA2

Dr. Kshiteez Puri
Resident, Grande International Hospital

ABSTRACT

Surgery is the mainstay of treatment for intertrochanteric fractures. Different options are available to the management. DHS has proven to be the gold standard treatment, but the recent advancement in intramedullary devices has assured minimal invasiveness and secured fixation. The aim of this study is to assess the clinical, radiological, and functional outcomes associated with the use of PFNA2 in the treatment of intertrochanteric fractures. A retrospective analysis of 40 patients undergoing PFNA2 fixation at Grande International Hospital was conducted over 2 years. (Jan 2021 –Dec 2023). Data for this study were retrieved from clinical case records and operative notes. We recorded the age, gender, length of stay and operative time, number of C-arms shots, wound status, preoperative ambulatory status, Harris Hip score, and days required to regain mobility. Fractures were classified using the AO classification (A1, A2, and A3). Complications were also noted. Out of 40 patients, results: The mean age of the patients was 65 (range: 27 to 91) years. Trivial falls on level ground were the most common mechanism of injury. The mean surgical duration was 82(±7) minutes, and the average length of hospitalization was 6.5 days. The mean blood loss during surgery was 120 (+12) ml. The number of C-arm shots was 20(±5). 82% of the patients were able to regain preoperative mobility status by 6 months following surgery. PFNA2 is an effective option for fixation of intertrochanteric femur fractures with a high rate of radiological union, minimal invasiveness, an early return to function, and fewer implant-related complications.

Keywords: Harris hip score, Intertrochanteric fracture, PFNA2

FREE PAPER

Comparative Study of Intra-Articular Fractures of Distal Radius with Open Reduction and Internal Fixation with Locking Plate versus Closed Reduction and Percutaneous Pinning

Dr. Ashish Kumar Jha
Resident, National Trauma Center, NAMS, Kathmandu

ABSTRACT

About 60% of distal radius fractures are intraarticular, and AO C1 and AO C2 fractures are commonly treated with Closed Reduction and Percutaneous Pinning (CRPP) or Volar Locking Plate (VLP) fixation. CRPP is favored for its less invasive and cost-effective nature, while VLP is believed to offer superior wrist anatomy restoration, direct fracture site visualization, and quicker functional recovery. This study aims to compare the functional outcomes of these approaches at 3 and 6 months post-procedure.

Over the course of one year, a prospective cross-sectional study was undertaken at Kathmandu's National Trauma Center and Civil Service Hospital. After satisfying inclusion and exclusion criteria, patients with AO C1 and AO C2 intra-articular distal fractures were randomized into CRPP and VLP groups. Follow-ups at 3 months involved DASH score calculation and range of motion evaluation.

During the study, 38 participants (18 males and 20 females; mean age 48.26 years) encountered distal radius fractures, primarily resulting from low-energy falls. Among them, 21 were AO C1 fractures, and 17 were AOC2.At the 3-month mark, the CRPP group showed a significantly higher mean DASH score (20.36, SD 2.14) than the VLP group (15.76, SD 1.26) ($p < 0.05$). However, by the 6-month point, DASH scores exhibited no statistically significant difference between the CRPP (12.94, SD 0.326) and VLP (12.88, SD 0.235) groups ($p < 0.05$).

At the 3-month evaluation, the VLP group showed significantly superior functional outcomes with notably lower DASH scores compared to the CRPP group. This initial advantage underscores VLP's potential in reducing disability and enhancing upper limb functionality during initial rehabilitation. However, by the 6-month mark, functional differences between the groups had diminished, indicating comparable medium-term outcomes.

Key words: CRPP, DASH, distal radius, fractures, functional, VLP

FREE PAPER

Dry Needling Vs Corticosteroid Injection in Treating Lateral Epicondylitis: An Observational Comparative Study

Dr. Bikash Thapa
Resident, Nepalese Army Institute of Health Sciences

ABSTRACT

Lateral epicondylitis (LE), a prevalent cause of musculoskeletal pain at the elbow involving the common extensor origin, results from the overuse of the extensor carpi radialis brevis (ECRB) muscle, leading to repetitive micro trauma and primary tendinosis. This condition may also involve the extensor digitorum communis (EDC) and extensor carpi radialis longus (ECRL). Various treatment modalities exist, ranging from bracing to pharmaceutical interventions, extracorporeal shock-wave therapy, and alternative approaches like dry needling (DN).

This Study was Conducted at the Department of Orthopedics, Shree Birendra Hospital, Chhauni, Kathmandu, from June 2022 to July 2023, this hospital-based observational comparative study included 62 clinically diagnosed LE cases meeting specific criteria. Patients undergoing corticosteroid injection or dry needling were assessed using the Patient-Rated Tennis Elbow Evaluation (PRTEE) score before treatment initiation, at 3 weeks, and at 3 months.

The study encompassed 62 patients with a mean age of 43.4 ± 6.7 years in the DN group and 44.4 ± 7.6 years in the corticosteroid group. Both treatment groups showed effectiveness, with statistically significant improvements in PRTEE scores at the three-week and three-month follow-ups ($p < 0.004$).

Both dry needling (DN) and corticosteroid (CS) injections demonstrated notable enhancements in lateral epicondylitis (LE) over the three-month follow-up period. From a clinical perspective, comparable improvements in pain levels and functional outcomes were observed in both groups, suggesting that DN is a viable alternative treatment for LE. Consequently, clinicians should consider both approaches as equally effective therapeutic options for managing lateral epicondylitis.

FREE PAPER

Correlation between Pin Spread Ratio and Loss of Reduction following Pinning on Pediatric Supracondylar Humerus Fracture

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ABSTRACT

Supracondylar humerus fractures are common in pediatric patients, and Closed Reduction and Percutaneous Pinning (CRPP) is the preferred treatment for Gartland Type III fractures. Maximizing pin spread at the fracture site is crucial for construct stability, but the optimal Pin Spread Ratio (PSR) remains uncertain. This study investigates the impact of PSR on Loss of Reduction (LOR) after CRPP by cross-pin fixation and determines an appropriate PSR cutoff value.

A prospective cross-sectional analysis included Gartland III supracondylar humerus fractures treated with CRPP by cross-pinning technique from January 2022 to March 2023. PSR and Absolute Change in Baumann's Angle (DBA) were calculated from the first postoperative day to 4 weeks postoperatively. The analysis considered age group, gender, side of injury, PSR, and DBA categories using t-tests and ANOVA. Pearson correlation analysis assessed the PSR-DBA relationship. ROC analysis determined PSR's predictive value for LOR and established an optimal cutoff value.

The study involved 71 pediatric patients, with a median age of 8.0 years, with a male-to-female ratio of 2.2:1. LOR occurred in 5 cases (7.04%). DBA changes did not vary significantly across demographic and PSR groups. However, cases with LOR had significantly lower mean PSR values (0.426 ± 0.061) than those without LOR (0.521 ± 0.104, p = 0.049*). The PSR-DBA correlation was weak and statistically insignificant (r = -0.122, p = 0.310). PSR exhibited good predictive accuracy (AUC = 0.783) for distinguishing LOR cases from controls, with a cutoff of 0.429, providing balanced specificity (75.8%) and sensitivity (80.0%).

A PSR cutoff of 0.429 is a valuable tool for identifying pediatric patients with Gartland III supracondylar humerus fractures undergoing CRPP by cross-pin fixation at risk of LOR, aiding in clinical decision-making and reducing complications.

Keywords: Baumann's angle, CRPP, Loss of reduction (LOR), Pin Spread Ratio (PSR), Supracondylar humerus fracture.

FREE PAPER

Anatomical Risk Factors For ACL Injury : A Magnetic Resonance Imaging Study

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ABSTRACT

In the knee, the crucial stabilizer, the anterior cruciate ligament (ACL), faces high vulnerability to injury with increasing sports participation. Risk factors encompass both inherent anatomical features and external influences. Among the intrinsic factors, specific parameters of the femoral notch (width, width index, angle, and shape) and posterior tibial slope angles (medial and lateral) play a role. These anatomical features vary, depending on factors like build, race, and sex. However, little research has focused on the Nepalese population. This study examined the association between ACL injury and these anatomical factors in 122 individuals (61 with ACL injuries and 61 without). Knee MRIs were analyzed, revealing significantly narrower femoral notches, smaller notch width indices, and smaller notch angles in those with ACL injuries, further confirmed by statistically significant p-values. Additionally, they exhibited significantly higher medial and lateral posterior tibial slopes. While A-shaped notches were more common in the ACL injury group, the association didn't reach statistical significance. This study demonstrates a clear association between certain femoral notch parameters and increased posterior tibial slopes with ACL injuries in the Nepalese population. These findings pave the way for evaluating anatomical risk factors to guide preventative measures and potentially reduce the burden of ACL injuries.

Key words: ACL injury, notch angle, notch width, notch width indices, notch shape, posterior tibial slope

FREE PAPER

Anterior Cruciate Ligament Reconstruction with Peroneus Longus Autograft: A Clinical Evaluation of Donor Site Morbidity

Dr. Kiran Pradhan Shrestha
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ABSTRACT

Background: Peroneus longus autograft is a increasing graft of choice in Anetrior Cruciate Ligament, reconstruction because of its biomechanical properties similar to that of native Anterior Cruciate Ligament, its superficial location and easier access and safety of harvest. To study donor site morbidity following peroneus longus autograft for Anterior Cruciate Ligament reconstruction.

Methods: Prospective cohort study from August 2022 to January 2024 in B and B hospital after IRC approval 2022-08-27 meeting inclusion criteria using AOFAS score at 3months and 6months follow up.

Result: In this study sample of 40 patient(female-35, male-5) with mean age 30±6 years ,the ankle function of the donor site is grossly preserved, which was analysed by AOFAS score.

Conclusion: This midterm result suggest that removing the peroneus longus doesnot add morbidity in the ankle and foot.

Keywords: Anterior Cruciate Ligament, Peroneus longus , Reconstruction

FREE PAPER

Accuracy of Transportal Femoral Aimer in Placement of Femoral Tunnel during Arthroscopic Anterior Cruciate Ligament Reconstruction

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ABSTRACT

Achieving precise femoral tunnel placement is pivotal for successful arthroscopic anterior cruciate ligament (ACL) reconstruction. The transportal femoral aimer (FA) is a critical tool in this process, aligning the tunnel with anatomical landmarks. This study investigates the effectiveness of the femoral aimer in achieving optimal femoral tunnel placement. This is an observational cross section study. Those with Arthroscopic anterior cruciate ligament reconstruction taken as case and plain radiography done on 2 weeks follow up. The femoral aimer composed of a steel tube assembly with a handle, tongue, and spike, was employed in anterior cruciate ligament reconstruction surgeries. The tongue provided a reference point to the posterior cortex of the intercondylar notch, while the spike secured the femoral aimer in place. Lateral and anteroposterior radiographs were used to assess tunnel placement. The midpoint of tunnel was measured form anterior border and lateral border in lateral view and anteroposterior view respectively. Posterior femoral tunnel placement was assessed using lateral radiographs, with the tunnel's midpoint positioned at a mean of 80.92% with standard deviation of 1.47 posteriorly along Blumensaat's line. Lateral femoral tunnel placement, evaluated via anteroposterior radiographs, indicated that the tunnel was positioned at a mean of 37.71% with standard deviation of 2.01 lateral to the lateral femoral condyle. The transportal femoral aimer proved effective in achieving precise femoral tunnel placement during arthroscopic anterior cruciate ligament reconstruction. This study highlights the importance of accurate tunnel positioning, which aligns with anatomical principles and contributes to successful surgical outcomes. The femoral aimer is a valuable tool for orthopedic surgeons seeking to enhance the accuracy of femoral tunnel placement in anterior cruciate ligament reconstruction.

Keywords: Anterior cruciate ligament, Femoral aimer

FREE PAPER

The Use of Gravity Stress Radiograph to Assess Stability of Supination External Rotation Fractures of Ankle

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ABSTRACT

Considering the concept of stability, non-operative treatment is suitable for stable injuries, whereas achieving and maintaining reduction of unstable fractures without surgical fixation is challenging. Gravity stress radiograph is used as an additional diagnostic tool in case of ankle fracture to differentiate between stable and unstable (SER-II and SER-IV) type of ankle fracture. The objective of this study was to determine the use of gravity stress radiograph to assess stability of supination external rotation fractures of ankle without medial fracture. A cross sectional observational method of study was used by using convenience sampling technique. The study participants were evaluated by comparing of their gravity stress radiograph and conventional mortise view radiograph on the basis of medial clear space, superior clear space and lateral talar shift. The mean MCS on regular mortise view and gravity stress radiograph were 4.033 (2.9-4.7) mm and 4.533 (3.4-5.5) mm respectively which are significantly different (P=0.001) using paired T test. In unpaired T test between the operative and the conservatively treated patient, the mean MCS and LTS on regular mortise view were significant which were p=0.037and p=0.023 respectively. Similarly, on gravity stress radiograph, the unpaired T test showed p value of 0.001 on both mean of MCS and LTS which were significantly different. Gravity stress radiograph is regarded as a safe, fast, and beneficial method to make an accurate distinction between SER II and SER IV as well as stable and unstable SER II ankle fractures without using MRI.

Keywords: Ankle; Gravity Stress Radiograph; Stability; Superior External Rotation Fracture

FREE PAPER

Functional Outcomes of Cervical Fracture Dislocation Managed with Lateral Mass Screw

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ABSTRACT

This study investigates the efficacy of lateral mass screw fixation as a surgical intervention for cervical spine fracture dislocations, aiming to enhance our understanding of its impact on patient outcomes. Conducted at the National Trauma Center, the prospective observational study enrolled 17 patients who underwent surgeries performed by Orthopedic and Spine Surgeons following institutional review board clearance. Pre- and post-operative data, including age, sex, injury details, neurology, radiographic measurements, and neck disability indices, were meticulously collected and statistically analyzed. The results, based on a cohort between April 2022 to October 2023, revealed significant improvements. The pre- and post-operative cervical lordosis angle (CLA) showed statistical significance, as did the local kyphosis angle (LKA). Functional outcomes, assessed through the Neck Disability Index (NDI) and visual analog scale (VAS), demonstrated substantial enhancements, with notable decreases in pain levels. Moreover, improvements in at least one ASIA Impairment Scale were observed in a majority of cases. In conclusion, the study affirms that lateral mass screw fixation is a safe and effective method for managing cervical fracture dislocations. Successful outcomes were achieved in terms of stability, restoration of spinal structure, neurological recovery, and initiation of rehabilitation. The research underscores the importance of meticulous preoperative planning, precise surgical techniques, and timely rehabilitation implementation to optimize positive outcomes while minimizing complications in the management of sub-axial cervical spine injuries.

Keywords: Cervical fracture dislocation, lateral mass screw, radiological outcome, functional outcome

FREE PAPER

Clinical & Radiological Outcomes of Open Versus Percutaneous Pedicle Screw Fixation for Traumatic Thoracolumbar Injuries

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ABSTRACT

This thesis investigates the radiological & clinical outcomes of thoracolumbar fracture cases managed with Open pedicle screw fixation & percutaneous pedicle screw fixation. The study aims to compare the clinicoradiological outcomes of OPSF & PPSF in managing thoracolumbar fracture. Thoracolumbar fracture represent a challenging clinical scenario with potential for significant neurological deficits and impaired quality of life. The research involves a comprehensive analysis of patient data, including preoperative conditions, surgical techniques, and postoperative outcomes. Clinical outcomes are assessed through visual analogue scale & owestery disability index & radiological outcomes through anterior vertebral body height(AVBH) & local kyphotic angle(LKA). Spinal fusion and stabilization surgeries are common interventions for various spinal conditions, and selecting the optimal approach is crucial for patient outcomes and postoperative recovery.Prospective radiographic evaluation of 42 patients between April 2022 to October 2023 was done in the National Trauma Center, of which 29(69%) were male and 13(31%) were female with a mean age of 43 (20-69) years.Both the techniques showed similar radiological outcomes with no statistically significant differences in AVBH & LKA.However, PPSF exhibited superior functional outcomes,with significantly lower ODI & VAS scores,indicating its potential as a favourable surgical approach for spinal stabilization.

Keywords: Clinical outcome, Percutaneous pedicle screw fixation, Radiological outcome, Thoracolumbar fracture.

Physiotherapy Session

FREE PAPER

Extracorporeal Shockwave Therapy for Chronic Plantar Fasciitis: A Case Series

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ABSTRACT

Evidence has shown that extracorporeal shockwave therapy (ESWT) results in a greater improvement rate treating plantar-aspect heel pain. But literature is not evident enough here in our setting. So, the aim of the study was to assess the outcome of ESWT for chronic plantar fasciitis in a private clinical practice. All included patients had heel pain during the first step and weight bearing positions for 3 months or more. Patients who were not better with few episodes of physiotherapy and modalities usage were selected for ESWT. 21 cases from Asoj to Poush, 2079 visited at Anamiwa Hospital were included in the study. 82.35% were female and 17.64% were male. Among them, 17 had undergone unilateral and 4 had bilateral ESWT sessions. ESWT performed by 3 physiotherapists were reviewed for at least three weeks follow-up to six being the maximum. All patients completed five-item pain subscale of the validated Foot Function Index (FFI). Patients were evaluated on baseline, and each follow up. The maximum number of cases were satisfied with 3 sessions of ESWT. The outcome of present case series demonstrated that severity of pain did not determine the number of ESWT sessions required whereas chronicity of symptoms did. During the sessions of ESWT received, patients were advised to continue home-based exercises without supervision. FFI score showed significant improvement up to 3 sessions. No significant side effects occurred in the present series. This series supports the use of ESWT for patients with plantar fasciitis in the selected patient group.

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Evaluation of Functional Outcome of 2nd to 5th Metacarpal Fractures Managed Conservatively with Splinting: A Clinic-based Study

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ABSTRACT

Metacarpal Fractures comprise approximately 33% to 35% of total Hand injuries mostly due to road traffic accidents, falls and assaults. The main Goal of treatment is to attain a strong bony union and minimize the level of functional disability. The purpose of the study was to evaluate the functional outcome of metacarpal fracture managed by non-operative techniques using thermoplastic splinting.

40 patients with 56 metacarpal fractures were managed conservatively with Position of safe Immobilization (POSI) Splints, ulnar gutter or radial gutter splints followed by early mobilization and a regular physiotherapy session. Functional outcome was assessed by using total active movement (TAM) and Disabilities of the arm, shoulder and hand (DASH) scoring System at 6th month follow-up. 49 fractures were united, 4 malunited and 3 were sent for surgical management during the check Xray in 3rd week of the injury. Excellent and good results were achieved in 51 fractures.

The findings of study suggest the conservative management with splinting is a preferable approach for treating stable undisplaced metacarpal fractures.

Keywords: Metacarpal Fractures, Conservative Management, Functional Outcome

FREE PAPER

Functional Outcomes of Hemi Hamate Arthroplasty in Chronic Proximal Interphalangeal Fracture Dislocation

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ABSTRACT

Injuries to the proximal interphalangeal joint having dorsal fracture-dislocation are difficult to treat and often require major reconstruction. Especially in chronic fracture dislocation of the PIP joint, it is an even more challenging task with few treatment options. This retrospective study was designed to analyze the functional outcome in such injuries and to evaluate the clinical and radiographic results of a hemi-hamate autograft for the treatment of chronic dorsal proximal interphalangeal (PIP) joint fracture/dislocations. The fractured middle phalangeal base was removed, which was replaced by a size-matched portion of the dorsal/distal hamate osteoarticular surface and fixed with miniscrews. The average middle phalangeal volar lip involvement on pre-operative X-ray was 60% (range 40% to 80%). The average time to perform surgery was 60 days (range, 30–150 days). ROM, stability, and grip strength were assessed at a mean follow-up of 15 months and radiographs were evaluated for union, graft incorporation, and/or collapse. Subjective data, patient satisfaction, and return to work were assessed in 12 patients at a mean follow-up evaluation of 15 months. The average ROM of PIP joint was 94.5 degrees and DIP joint was 67degrees. Average grip strength as compared to uninjured side was 76.8% and the average VAS score was 1.5. Given the intricate nature of normal anatomy of a PIP joint, the complexity of the injury usually involved and its poor prognosis, the treatment of chronic PIP joint dislocation is very challenging and in such cases, the Hemi-hamate arthroplasty is a very good surgical modality to restore optimal functions.

FREE PAPER

Level of Pain and Physical Function in Patient with Chronic Knee Pain Visiting Dhulikhel Hospital

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ABSTRACT

Background: Chronic knee pain is a common and major health problem in ageing population which is also associated with high levels of disability. So early detection and treatment of pain related functional limitation is likely to have major influence on healthy ageing.

Objective: To quantify the level of pain and physical function in patient with chronic knee pain.

Method: Preliminary screening of population with chronic knee pain was taken and cross sectional descriptive study was done. Questionnaire with inclusion criteria was fulfilled with administration of Nepali version of Numerical Pain Rating Scale and Nepali version of Patient Specific Functional Scale on interview as well as self-report basis. Data was collected, recorded and analyzed using Statistical Package for the Social Sciences (SPSS) version 23.

Result: Chronic knee pain was found in 75.6% of female with the average pain level found to be 5 in Nepali version of Numerical pain rating scale. Sitting function was found to be affected in 82.1% of population with mean score of 2 in Nepali version of Patient specific functional Scale. Similarly 80.8% reported going downstairs to be difficult due to knee pain.

Conclusion: Pain and functional disability are the principle findings in patient with chronic knee pain for which they seek medical treatment. So the treatments should target on functional task with effective strategy to address disability. Focus on function is important for the development of optimal rehabilitation programs in patients with chronic knee pain.

Key words: Assessment, Knee, Osteoarthritis, Pain measurements, Patient outcomes

FREE PAPER

Scope of Pre-Operative Physiotherapy on Knee Function in the Patients Undergoing Total Knee Arthroplasty

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ABSTRACT

Knee osteoarthritis (KOA) is a degenerative joint disease which generally develops due to the gradual erosion of articular cartilage caused by wear and tear over time. The primary debilitating symptom in individuals suffering from osteoarthritis is pain along with morning stiffness, limited joint movement, crepitus, joint instability, swelling, muscle weakness, fatigue, and psychological distress associated with their pain. Total knee arthroplasty (TKA) is a surgical procedure that is used to treat end-stage degenerative knee osteoarthritis. Despite the high success of TKA in relieving pain and improving knee function, preoperative rehabilitation plays a crucial role in improved functional outcome and quality of life. Preoperative physiotherapy includes ROM exercises, progressive strengthening exercises, flexibility exercises, core muscles activation. The purpose of this case report is to highlight the importance of preoperative physiotherapy before elective TKR surgery for success of surgery to reduce pain and improve function.

The patient was 68 years female with bilateral knee osteoarthritis (KL grade 4). She had pain and difficulty in walking and ascending/descending stairs in the last 7/8 years. She was planned for elective TKA of left knee. She underwent TKA and physiotherapy was started immediately from the first post operative day. Postoperative physiotherapy which included range of motion exercises, strengthening exercises, manual therapy and weight bearing mobilization progressing through stages as per the recent protocols. Despite evidence based regular postoperative physiotherapy, the patient didn't respond well functionally. It was difficult for her to bear weight and walk with walker. Although, her left knee was replaced her right knee was also giving problem for ambulation. Outcome measures included Nepali version of numeric pain rating scale (N- NPRS) and Lower extremity functional scale (LEFS).

At the end of a week, it showed very less improvement in LEFS scores and function although pain was reduced. Therefore, we should incorporate pre operative physiotherapy consultation session before planning for the surgery so that it would improve post-operative outcome.

Keywords: Total knee arthroplasty, Physiotherapy

FREE PAPER

Functional Outcome of a Non-Athlete following a Multiligament Knee Surgery: A Case Report

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ABSTRACT

The knee relies on essential static stabilizers like the Anterior Cruciate Ligament (ACL) and Medial Collateral Ligament (MCL), with the Medial Patellofemoral Ligament (MPFL) preventing lateral patellar displacement, and the Posterior Oblique Ligament (POL) acting as a primary internal rotation stabilizer. Additionally, the lateral meniscus (LM) plays a role in proprioception and shock absorption. Injuries affecting all four structures simultaneously are exceptionally rare, and literature lacks reports on rehabilitating such complex cases. This paper presents a unique case involving a 35-year-old non-athlete male with a right-sided complete tear of the ACL, MCL, MPFL, POL, and a partial tear of the LM, undergone arthroscopic ACL reconstruction, open reconstruction for MCL using semitendinosus and gracilis, and open MPFL reconstruction with split quadriceps. A tailored rehabilitation plan was devised that included range of motion exercises, early weight bearing and functional training, progressing through stages based on existing evidence. Outcome measures included the Numerical Pain Rating Scale (NPRS), modified Lysholm system, 30-second chair-stand test, and 40-meter fast-paced walk test. The reported findings revealed improved scores in NPRS, Lysholm system, 30-second chair-stand test, and 40-meter fast-paced walk test after 3 weeks of rehabilitation. While the positive rehabilitation outcomes are promising, ongoing monitoring and long-term follow-up are imperative for evaluating the sustainability of these achievements.

Keywords: Functional outcome, Multiligament injury, Physiotherapy

FREE PAPER

Atypical Shoulder Pain and Stiffness Following Proximal Humerus Fracture Managed with External Fixator; A Physiotherapy Perspective

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ABSTRACT

Background: Shoulder stiffness is a frequent complication after proximal humeral fractures (PHF) treated with or without surgery. Secondary stiffness is characterized by additional extracapsular adhesions, including subacromial, sub-coracoid, and subdeltoid spaces, usually derived from post-fracture or post-surgical extraarticular hematomas. PHFs with secondary stiffness are associated with higher rates of employment absence and higher costs for the healthcare system. The purpose of this study is to assess, critically analyze as per the findings and progress of the interventions, and outcomes of a case with shoulder stiffness.

Methods: The patient was a 61-year-old female with left proximal humerus fracture managed with external fixator for 2 months, who visited physiotherapy after 5 months of fracture. She complained of pain at shoulder with movement, stiffness and difficulty in performing activities of daily living; especially changing clothes and combing hair. Her shoulder range was limited with elevation of 0-120° at supine and 0-50° at sitting. She was managed with mobilization and strengthening exercises but no improvement was seen. After 8 sessions, the deltoid weakness was found and motor control exercises were added to her exercise regimen.

Results: Improved outcome scores on Joint Range of Motion (0-100° in sitting), Numerical Pain Rating Scale (From 6/10 to 1/10) and Patient Specific Functional Scale (PSFS) were reported.

Conclusion: Motor control exercise is useful when treating patients with shoulder stiffness.

Key words: Shoulder stiffness, proximal humerus fracture, physiotherapy, rehabilitation, case report

FREE PAPER

A 12 Year Old Boy with Thoracic Hyperkyphosis with Pain and Difficulties in Functional and Play Activities. A Case Report

Mukesh Pokhrel
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ABSTRACT

Background: This study delves into postural kyphosis, a prevalent issue linked to improper posture, poor muscle habits, and prolonged sitting, particularly affecting young adults and adolescents, leading to a forward bend in the backbone.

Methods: A case report details a 12-year-old male with thoracic hyperkyphosis and associated pain over six months. The patient experienced resting pain, worsened with activities, and encountered breathing difficulties during play. Examination revealed a 70˚ thoracic hyperkyphosis, scapular dyskinesia, right hip mobility deficits, and limb length discrepancy. A six-week tailored rehabilitation plan integrated education, corrective exercises, manual therapy, and functional/play therapy.

Findings: Outcome measures exhibited significant improvement, with Numerical Pain Rating Scale (NPRS) scores decreasing from 8 to 0, Oswestry Disability Index (ODI) improving from 23 to 0, and Patient Specific Functional Scale (PSFS) scores progressing from 1/2 to 10/10 during play and bed mobility. Notably, the kyphotic curvature normalized.

Conclusion: In summary, a comprehensive multimodal physiotherapy approach effectively mitigated back pain and improved posture in the studied case. emphasizing its potential in similar cases.

Key words: Forward head posture, Kyphosis, Thoracic spine, Upper back pain

FREE PAPER

Development of National Clinical Protocol for Management of Common Arthroscopy Procedures: A joint initiation from Arthroscopy Society of Nepal and Nepal Physiotherapy Association

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ABSTRACT

Background: Sports Injuries and Arthroscopy surgeries have exponentially increased worldwide over the last few decades. Nepal is not very far in this development, and now arthroscopy services are available in most of the major cities of our country. Physiotherapy is very crutial before and after any orthopedic surgery, which is even more important after sports injuries and arthroscopy. The Arthroscopy Society of Nepal (ASON) and NEPTA ((Nepal Physiotherapy Association) are national Associations of arthroscopy surgeons and physiotherapists. The executive committee of both societies agreed to develop a national rehabilitation protocol for common sports injuries and arthroscopy procedures.

Methodology: The protocol will be developed in 7 phases. Members from ASON and NEPTA will be divided into 7 sun-groups for literature review and draft preperation. The draft will be sent to experts identified by executives of both the organization for feedbacks. A national level workshop will be conducted for endorsement of the document.

Results: A national protocol will be prepared and tested before implementation. The protocol will be shared in website/social media pages of both the societes. All the members will be informed about and asked to use the protocol in their clinical setting. Patient's will be informed and asked to follow the protocol.

Conclusion: This protocol will homogenize the clinical practice with established literature and help in execution of evidence based practice, which should be a primary aim of professional association like ASON and NEPTA. However, applicabilty of a prototol nationwide in varing population, geography, socioeconomic status might be a limitation to this study. Adoption of such protocol by regulating bodies like Nepal Medical council, Nepal Health professional council and Ministry of Health and Population is highly recommended.

Keywords: Arthrocopy, Guideline, Knee surgeries, Physiotherapy, Rehabilitation

FREE PAPER

Surgical Planning using the Bonesetter Digital Application

Dr. Rahul Vaidya

Trauma Session 4

FREE PAPER

Blast Injuries: Mechanism of Injury and Approach

Dr. Bikash Thapa
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ABSTRACT

Blast and explosions can produce unique patterns of injury rarely seen outside combat. When they do occur, they have the potential to inflict multi-system life-threatening injuries on many persons simultaneously. The injury patterns following such events are a product of the composition and amount of the materials involved, delivery method (if a bomb), the distance between the victim and the blast.

As we are a military based hospital, we encounter such events,though infrequently , due to mishaps during training and accidents during handeling of explosives. Blast-related injuries can present various diagnostic, and management challenges to providers of emergency care and during inpatient treatment.

Blast injuries result from exposure to the shockwave generated by explosive events. These injuries can be categorized into four primary mechanisms: primary, secondary, tertiary, and quaternary. Blast injuries often involve a combination of these mechanisms.

Management includes immediate attention to airway, breathing, and circulation (ABCs). Triage and prioritization based on severity and mechanism of injury andaddressing associated injuries, such as fractures, burns, and traumatic amputations.

While blast injuries have become infrequent post-insurgency, we may still face such incidents resulting from improvised devices like cooker bombs and the explosion of gas cylinders. Over a period of two and a half years, our institution handled five cases of blast injuries. In this case series, we outline the details of these incidents and the management strategies implemented by our institute and describe the mechanics of blast injuries and blast wave injuries.

FREE PAPER

Functional & Radiological Outcome of Segmental Tibial Bone Defect with Soft Tissue Defect Treated with Ilizarov Ring Fixator

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ABSTRACT

Bone defects may be managed with bone transport or acute shortening and lengthening using circular external fixation devices. We performed a single center retrospective Case series to study the outcomes between the Ilizarov frames for the management of bone and soft tissue defects.

This was a retrospective study with prospective follow-up. There were 14 patients (12 males and 2 females) age 18-35 years with segmental tibial loss more than 5 cm.

At the final follow up, according to ASAMI score, bony results were excellent in 9, good in 4, fair in 1 and functional results were excellent in 8, good in 6 of patients.

The Illizarov method can effectively address long bone and soft tissue defects by distraction osteogenesis through bone transport procedure that filling the defect gradually without bone graft and simultaneously enhancing soft tissue closure without tertiary soft tissue procedure subsequently followed with bone lengthening procedure to correct the limb length discrepancy.

Key words: Ilizarov, tibial defect, trauma.

FREE PAPER

Application of Ottawa and Pittsburgh Knee Rules in Acute Knee Injury

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ABSTRACT

Acute knee injuries accounts for 8% of all injuries, which lead to the emergency department visit of six per thousand persons per year. About 30% of knee injuries occur in the 20-35 years age group. Ottawa knee rules (OKR) and Pittsburgh knee rules (PKR) were developed to assess the need for radiographs in acute knee injury.

The objective of this study was to assess if OKR and PKR can rule out fractures in patients with acute knee injury and thus be applied to predict the need for radiographs in our setting. This prospective cross-sectional study included 120 patients presenting with acute knee injury from February 2022 through January 2023. Patients were assessed based on OKR and PKR and radiographs were evaluated for fractures. Sensitivity, specificity, positive predictive value (PPV) and negative predictive value (NPV) of OKR and PKR were calculated along with possible reduction in radiographs. Association of sex and age with outcome of acute knee injury was also analysed.

Among the 120 patients, 74(61.67%) were males and 46(38.33%) were females. Fractures were seen in 50(41.67%) patients. Sensitivity, specificity, PPV and NPV of OKR were 0.94(95% CI, 0.83 to 0.99), 0.4(95% CI, 0.28 to 0.52), 0.528(95%CI, 0.42 to 0.63) and 0.903(0.74 to 0.98) respectively. The possible reduction in radiographs on application of OKR was 25.83% while OKR missed three fractures. Sensitivity, specificity, PPV and NPV of PKR were 0.88(95% CI, 0.76 to 0.05), 0.571(95% CI, 0.45 to 0.69), 0.594(95% CI, 0.47 to 0.71) and 0.869(95% CI, 0.75 to 0.95) respectively. The possible reduction in radiographs on applying PKR was 38.33% while it missed six fractures. Fracture occurring in cases of acute knee injury was significantly higher in males while no significant association was found between age and outcome of acute knee injury.

In conclusion, both OKR and PKR are highly sensitive in ruling out fractures in patients with acute knee injury and more than one-fourth of radiographs can be avoided if these rules are applied. These rules can be used to help guide selective ordering of radiographs in resource-limited settings where radiographs are not readily available.

Keyword: Acute knee injury, Ottawa knee rules, Pittsburgh knee rules

FREE PAPER

Delayed Revascularization of Lower Limb following Popliteal Artery Injury with Intact Collateral Circulation

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ABSTRACT

In developing countries delayed presentation following major vascular injury is common due to limited vascular trauma centers. Delay in diagnosis and time lost in transit pose a major challenge for limb salvage. This study aimed to assess limb survival and complications after delayed revascularization of extremities following major vascular injury.

Successful vascular repair and limb salvage is possible beyond the golden periods if collateral circulation is present. Limb salvage can be achieved with good results in patients with delayed revascularization in selected cases.

FREE PAPER

Efficacy and Safety of Tranexamic Acid for Reduction of Blood Loss in Patients Undergoing Reamed Intramedullary Nailing in Long Bones

Dr. Sandesh Maharjan

FREE PAPER

Functional Outcome of Minimally Invasive Percutaneous Plate Osteosynthesis for Distal Tibia Fracture : A Hospital Based Prospective Observational Study

Dr. Sunil Pun
Resident, PoAHS, WRH, Pokhara

ABSTRACT

Distal tibia fractures are most common fractures in Road traffic accident and in low energy rotational injuries. Owing to it's unique anatomy, subcutaneous in location, precarious blood supply and high rate of complications, treatment of distal tibia fractures are often challenging to orthopedic surgeons. There are various modalities of treatment for distal tibia fractures but each of them has it's own advantages and disadvantages. Recently minimally invasive percutaneous plate osteosynthesis (MIPPO) with locking compression plates(LCP) has gained popularity as an alternative in treatment of distal tibia fractures
So, our objectives was to assess the " functional outcome of minimally invasive percutaneous plate osteosynthesis for distal tibia fracture".

It was a prospective observational study done in PoAHS, WRH from 17June 2022 to 16June 2023. 44 patients with distal tibia fractures, ages 20 to 70, were included and categorized using AO/OTA categorization system. patients were treated with MIPPO technique with locking compression plate and followed up for the duration of 12 month. Statistical significance was established by using chi-square test and T- test, Functional Outcome was assessed by using Teeny and Wiss score.

Mean age of the patients was 47.68+/-2.044 years. Out of which 18 patients were male and 26 were female. Majority of those affected were between 41 to 50 yrs. Right and left tibia were involved in 52.3% and 46.7% cases respectively. 34 patients had associated fibula fracture and 10 patients had intact fibula . In 18 (52.94%) patients fibula was fixed with 1/3rd tubular plates and 16 patients (47.06%) fibula was not fixed. Mean time to union was 18.80 +/-0.197 weeks, with a range of 16 to 22 weeks. Mean range of motion at 12 months was 33.48+/-0.275 degrees of plantar flexion and 12.52+/-0.217 degrees of dorsiflexion of ankle. There were 18 cases (40.9%) with an excellent outcome, 22 cases (50%) with good outcome, and 4 cases (9.1%) with fair outcome according to Teeny and Wiss (TWS) score.

Hence, it was concluded that treatment with distal tibia fractures with MIPPO technique is a reliable and effective method of treatment.

Key words: Distal Tibia Fracture, LCP, MIPPO, TWS

FREE PAPER

To Study Patterns of Ankle Fracture Presenting In Emergency Department In A Tertiary Care Center In Nepal

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ABSTRACT

We aim to find the prevalence of Ankle fracture with their common patterns of presentation and the demographic profile of patients and associated injuries with modes of injury presenting in emergency department. So this study was done at our center with data from 2 years duration. It was a retrospective descriptive cross sectional study with convenient sampling based on the emergency department records with sample size calculated to be 125. There were 155 patients presenting with ankle fractures during the duration. There was predominance of male 106 (68.4%) with mean age of 39.23 and right side commonly being involved and road traffic accident 100 (65.01%) being the common mechanism of injury and isolated lateral malleolus 52 (33.55%) being most frequently involved in the injury .the prevalence of bimalleolar was 35 (22.58%) and trimalleolar was 9 (5.81%). ankle fractures associated with other injuries were 53 (34.2%) with most commonly involving the injuries in lower limb, foot, leg and also serious injuries of pelvis and vascular injury. Open fractures were 16 (10.32%) and 14 (9.03%) cases presented with fracture dislocation. The isolated medial malleolus was 32(20.65%) and posterior malleolus was 2 (1.29%).This shows that males are commonly involved in road traffic accident accounts the greater number of ankle fractures with main mechanism being the inversion injury as suggested by greater number of isolated lateral malleolus fracture. However further studies with larger sample size and multicenter analysis is needed to evaluate further.

Key Words: ankle fracture, foot and ankle , malleolus

FREE PAPER

Functional Outcome Using an Elastic Support Bandage Versus Below Knee Posterior Slab in Management of Acute Mild to Moderate Lateral Ankle Sprain – A Prospective Cross-Sectional Study

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ABSTRACT

Introduction: An ankle sprain is the most common lower limb injury in athletes and physically active individuals. Despite having a high incidence; there are no specific treatment outlines for acute lateral ankle sprain. The suggested management options for acute lateral ankle sprain are functional, immobilization and surgical treatment. Among management options, nonsurgical option is better than surgical management for mild to moderate lateral ankle sprain. For immobilization of acute lateral ankle sprain, we can use either below knee posterior slab or boot cast; here in our center we commonly use below knee posterior slab with using POP (Plaster of Paris). Functional treatment consists of initial external support to the ankle which helps to promote early mobilization of the ankle joint. The functional supports consist of crepe bandage, tape, strapping, lace-up boots, or stirrup braces. Here in our study, we used an elastic bandage (crepe bandage). Regarding the treatment of acute lateral ankle sprain, many researches were conducted with their variable outcomes. The aim of this comparative study was to compare Karlsson's score as an ankle function between management using crepe bandage as functional treatment and below knee posterior slab as an immobilization.

Methodology: This was a hospital based prospective comparative study where we compared functional outcome by Karlsson's score, pain using the VAS score and ankle swelling by measuring ankle girth difference between mobilization using crepe bandage and immobilization using the below knee posterior slab and assessed at presentation and at the end of third week in patient presenting to emergency and OPD of KISTMCTH(KIST Medical College and Teaching Hospital) from 2021-2023 AD. Patients were diagnosed clinically and graded according to expanded classification system given by traces and field for acute lateral ankle sprain. Fracture was excluded by doing the radio-logical examination. A mild (grade I) to moderate (grade II) ankle sprain group were included in our study and was divided into two groups; each group containing 28 patients. Patients with each group were managed using elastic support bandages or below knee slab after randomization on the basis of systemic randomized sampling.

Results: There were twenty-eight patients in crepe bandage as the functional treatment group and twenty-eight patients in the below knee posterior slab group. The mean age of the patients in our study was 32.86 (± 9.97) years ranged between 18 to 58years. The mean age difference was not statistically significant with p value>0.05. The gender and occupation in crepe bandage and slab groups was homologous (P>0.05). The Karlsson's score for the crepe bandage was 83.29(± 2.37) and for the slab group was 72.32 ± 3.88 (p-value: 0.004) at the end of third week. From this data it showed that functional outcome in patient managed with elastic bandage (crepe bandage) was better than managed with slab. The difference in ankle girth at the end of third week was 0.15(±0.25) in crepe bandage and 0.05(±0.14) in patients managed with slab. The VAS score at the end of third week in patient managed with crepe bandage was 0.95(± 0.75) and 0.79(± 0.50) in slab. These data show there was no significant difference in mean VAS score and ankle girth difference between two groups of management with p value >0.05.

Conclusions: Both the functional treatment using elastic support bandage (crepe bandage) and immobilization using below knee posterior slab are effective in the management of acute mild to moderate lateral ankle sprain although the functional outcome of management using elastic support bandage was better compared to slab using Plaster of Paris.

Keywords: Ankle Sprain, Crepe bandage, Below knee slab

FREE PAPER

Pattern of Injuries Due to Wild Animal Attack among Patients Presenting to the Emergency Department of Tertiary Care Hospital of Central Nepal: A Retrospective Observational Study

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Consultant Orthopedic Surgeon, Bharatpur Hospital

ABSTRACT

The escalating global concern surrounding human-wildlife conflicts (HWCs) has heightened due to the increasing incidences of nuisances and injuries. This study aimed to meticulously investigate the demographic profile, mode of injury, injury patterns, and outcomes of individuals subjected to wild animal attacks, as presented in the emergency department.

This retrospective cross-sectional study transpired within the emergency department of a tertiary-care hospital situated in the central region of Nepal. Data pertaining to 257 victims of wild animal attacks were extracted from the medical records covering the period from January 2019 to August 2021. The study encompassed individuals of all age groups and genders who sustained injuries from wild animal attacks, including secondary injuries. Exclusions comprised patients with incomplete data, injuries resulting from the aggression of domestic animals or stray animals, and trauma stemming from alternative causes. Operative and multidisciplinary interventions were undertaken based on the individual requirements. Demographic profiles, mode of injury, injury patterns, Injury Severity Score (ISS), radiological findings, and outcomes were systematically recorded.

A comprehensive analysis of 257 victims of wild animal attacks revealed a distribution of 38.5% rhino attacks, 5.5% each for elephant and bear attacks, 10 % monkey attack 16.7% wild boar attacks, and 10.89% tiger/leopard attacks. Notably, blunt trauma with multiple site fractures, spinal injuries, and rib cage injuries emerged as common patterns in elephant and rhino attack injury cases. Conversely, lacerations and soft tissue injuries were prevalent in wild boar, bear, and tiger animal attacks, with neck and the lower extremities being the most frequently affected anatomical site. The victims of wildlife attacks present with varying injury patterns ranging from simple soft tissue injuries to grievous organ injuries and even death. Most victims had polytrauma, and the pattern of injury mostly specific for each animal.

Hence, the current study aimed at describing the pattern of injuries, mode of injury, and outcome among victims of wild animal attacks presenting to the emergency department (ED). This study helps us to design specific treatment protocol to treat wild animal attack related orthopedic injuries in every health centre of Nepal.

Keywords: Wildlife-human conflict, Polytrauma, Rhino attacks, Multidisciplinary healthcare approach, Preventive strategies

FREE PAPER

Orthopedic Surgeons' Care for the Management of Knee Osteoarthritis in Nepal: A Cross Sectional Pilot Study

Dr. Sajal Manandhar

ABSTRACT

Background: Knee osteoarthritis (OA) is a leading cause of disability and in reducing quality of life. Clinical practice guideline (CPGs) recommended care have better outcome for the people with knee OA. The care provided to patients with knee OA by professionals is often suboptimal in low- and middle-income countries. In Nepal, less than 50% of people with OA seeking care receives the first line management. Thus, this study aims to identify what care orthopedic surgeons provide for people with knee OA in Nepal.

Objective: To evaluate how orthopedic surgeons manage knee osteoarthritis, and exploring the relationship between their work experiences and treatments being provided.

Methods: We developed self-made questionnaire to evaluate management strategies by orthopedic surgeons for management of knee OA. We gathered data from 38 orthopedic surgeons through a combination of online surveys and in-person meetings. For statistical analysis, we employed frequencies and percentage and Pearson's chi square test and regression analysis.

Result: Only 39.5% of participants were aware of CPGs for management of knee. The interventions always recommended included referral to physiotherapy (76.3%), advice for weight management (68.4%), and discouragement of high-impact activities (60.5%). Meanwhile, interventions provided most of the time encompassed NSAID prescriptions (52.9%), patient education (50%), and instruction in self-management strategies (42.1%). Rarely given interventions were, hyaluronic acid (42.1%), insole wedges (34.25%), rest advice (21.1%), and debridement surgery (44.7%). In correlation, 7.3% variability in referring to physiotherapy along with 1%, incorporating patient education, 6.8% advising self-management, 3.1% discouraging high impact activities is explained by work experience.

Conclusion: Many orthopedic surgeons demonstrated adherence to Clinical Practice Guidelines (CPGs) by providing recommended treatments, despite some lacking awareness of the guidelines. Although certain essential treatments were not consistently provided, they were frequently administered. Moreover, surgeons occasionally offered treatments beyond guideline recommendations. Furthermore, this study highlighted that variations in management strategies remained consistent regardless of work experience.

Keywords: Knee osteoarthritis, clinical practice guidelines, survey, orthopedic surgeons

FREE PAPER

Fracture Care in Nepal –AO Alliance

Dr. Sanjit Jha

FREE PAPER

Role of ORP in Orthopedics

Sabita Kafle

Miscellaneous Papers

FREE PAPER

Case Report- Addressing a Difficult Case of Advanced Knee Osteoarthritis with Post Traumatic Deformed of Distal Femur – Concepts and Context

Prof. Deepak Kumar Dutta
National Academy of Medical Sciences, Bir Hospital

ABSTRACT

Leading a difficult life in a rugged terrain like Nepal in absence of adequate health care resources, results in many fractures healing with deformities. We encountered a 76 years male with deformity of Left distal femur, following fracture several years back and seeking treatment for symptomatic Knee Osteoarthritis of ipsilateral knee. Replacement options in this case, has its own challenges in our context, like risk of peri-prosthetic fracture, inability to use intramedullary zig for femur and paucity of computer navigation and lack of extenders for femoral and tibial components.

The patient has to be offered a pain free knee with less of peri-prosthetic fracture against the backdrop of our unique technical challenges, all within their economic compass.

Innovative concepts and ideas are usually helpful in addressing unique barriers affordably.

The presentation is intended to explore ideas, insights, tips, tricks, innovation and concepts in our context.

Tenosynovial Giant Cell Tumor of Forefoot: A Case Report

Dr. Prasamsha Sitaula
Intern, Nepal Medical College Teaching Hospital

ABSTRACT

Tenosynovial giant cell tumor (TSGCT) is a benign, slow-growing solid soft tissue tumor that arises from the tenosynovium of a tendon sheath or the synovium of a diarthrodial joint.

TSGCT occurs infrequently in the foot but can result in significant bone erosion and joint destruction.
A 23-year-old male presented with painless swelling over the dorsum of his left foot with no bony destruction radiologically.

Grossly, lesion was nodular, 4 x 1.5 cm sized tissue with smooth surfaces and yellowish-brown outgrowth of the synovial membrane. Biopsy and total excision of the lesion was done. Microscopic examination revealed round-oval mononuclear cells, hemosiderin-laden macrophages and multinuclear giant cells.
The biopsy report was thus suggestive of TSGCT.

TSGCT should be considered in case of soft tissue tumors around the foot.

A definitive diagnosis is made by histopathological examination and the gold standard treatment is total excision of the lesion.

FREE PAPER

Epidemiology of Developmental Dysplasia of the Hip at a Tertiary Hospital in Nepal

Dr. Ansul Rajbhandari
Consultant Orthopaedic Surgeon, B&B Hospital / HRDC

ABSTRACT

Introduction: At Hospital and Rehabilitation Centre for Disabled Children (HRDC) at Kavre, Banepa different spectrum of hip pathology accounts for 15-20% of all the surgical procedures. Among all hip surgery, DDH is the most common pathology (49.24%) in past 11 years (2012-2022). Locally, no published studies have been conducted to explore the incidence, risk factors, and geographic distribution of DDH cases in Nepal managed at a tertiary hospital. The objective of this study was to evaluate the epidemiological characteristics of DDH in Nepalese population and secondly to investigate if these characteristics are the same as those generally reported in the literature.

Material & Methods: This is a cross-sectional observational study based on the review of medical records and radiographs of patients of DDH who underwent treatment from January 2012 to December 2023 from which epidemiological data such as age, surgery, side, risk factors, degree of dislocation, etc were collected.

Results: 240 patients (266 hips) underwent treatment during study period. The mean age was 37.76 months. Right hip was affected in 125 patients & left in 141. Bilateral hip was involved in 20 cases. 14 patients underwent close reduction, open relocation only in 15, open relocation with femoral osteotomy only in 17, open relocation with pelvic osteotomy in 132 and open relocation with femoral & pelvic osteotomy in 90. There were 13 hips that re-dislocated who underwent re-surgery.

Conclusion: DDH is one of the most common hip pathology that presented to our centre. Most of the child in NEPAL present late (walking age), therefore most of them undergoes surgical intervention (open relocation ± femoral & pelvic osteotomies).

FREE PAPER

Prophylactic Antibiotics in Elective Orthopedic Surgeries

Dr. Shankar Sigdel
Resident, National Trauma Centre

ABSTRACT

Introduction: The routine use of prophylactic antibiotics has long been acknowledged to have preventive benefits in cases of clean Orthopedics surgeries. The dose varies from single dose to several days after surgery. Although the prophylactic medication interval has been shortened, the ideal time frame is still unknown. The majority of the surgeons in this country are quite hesitant to employ prophylactic antibiotics for only 24 hours due to the surrounding environment and theatre conditions, which leads to serious concerns for the risk of antimicrobial resistance and super-infections. The goal of this study was to determine whether, in our context, the rate of infection varied between patients who got IV antibiotics for 24 hours and those who received them for extended periods of time.

Method: A total of 90 closed long bone fractures underwent elective Orthopedics surgery in this observational cross-sectional study. They had been given prophylactic intravenous antibiotic 'Cefuroxime' for 24hr, 3 days, or 5 days, followed by oral Cefuroxime for total antibiotic coverage of 10 days. The patients were followed up on 3rd, 7th, 15th and 30th post-operative days and evaluated for features of SSIs.

Results: Out of the 90 patients, there were four cases with infections. One each infection occurred in 24hr group and 3 days group and two infections occurred in the 5 days group. The rates of SSI in the three groups did not significantly differ from one another.

Conclusion: This suggests that a shorter duration of antibiotic prophylaxis, specifically 24 hours, may be just as effective as longer courses in preventing SSI while reducing the potential risks and costs associated with extended antibiotic use.

Keywords: infection; orthopedics; prophylactic; antibiotics

FREE PAPER

Zero Tolerance to Violence in Healthcare

Dr. Arun Upreti
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ABSTRACT

The Committe for Safe Work-place for Health Care Workers recently submitted a policy paper of "Zero Tolerance to Violence in Health Care Setting" to Ministry of Health. The concept of zero tolerance was endorsed by Ministry's committee on security of health care centers and health care workers.

This policy articulates a fundamental commitment to fostering a secure working environment within the realm of healthcare. The guiding principles underscore the non-negotiable nature of abuse or violence against healthcare workers, emphasizing their entitlement to a dignified, threat-free working environment. Simultaneously, the policy places a significant onus on hospitals, positioning them as responsible entities obligated to safeguard the safety and well-being of their staff. This extends to the provision of complete legal support in cases of abuse or violence. The paper accentuates the reciprocal nature of the patient-provider relationship, emphasizing the rights of patients and their families to dignified healthcare, contingent upon respectful behavior towards healthcare workers. Recognizing the escalating instances of violence against healthcare professionals, the policy proposes the establishment of a distinct security committee within hospitals, specifically dedicated to preventing and responding to incidents of violence and abuse. Importantly, the policy advocates for adequate funding to facilitate the committee's activities effectively.

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Percutaneous Release with Concomitant Steriod Injection Versus Percutaneous Release only in Treatment of Acquired Trigger Finger: A Hospital Based Prospective Comparative Study

Dr. Mahendra Pant
Resident, Pokhara Academy of Health Sciences

ABSTRACT

Trigger finger is a common condition of finger, characterized by pain, clicking, catching, or loss of motion of the affected finger. The symptoms are attributed to inflammation and subsequent narrowing of the A1 pulley. This study is designed to study the advantage, if any, of adding steroid injection to percutaneous release by comparing the outcome of percutaneous release only with that of percutaneous release with concomitant steroid injection in terms of pain, recurrence and complications. This is a non-blinded; hospital based prospective comparative study conducted in the department of orthopedics, Pokhara Academy of Health Sciences (PoAHS), Pokhara, over a period of twelve months from August 2022 to July 2023. Sixty eight patients of age 18 years or older presenting with trigger thumb (Green's type II, III, and IV) to Out Patient Department (OPD) of PAHS were allocated into two groups. Patients in group A underwent percutaneous release only whereas the patients in group B underwent percutaneous release with concomitant steroid injection. Both the groups were followed up for one month and studied in terms of patient demographics, pain, recurrence, complication and patient satisfaction. Of the 68 patients that underwent this study, 38 (55.9%) were female and 30 (44.1%) were male. The mean age of the patients was 52.87 with the standard deviation of 10.51. At the end of final follow up, 94.12% patients in Group A and 97.06% patients in Group B had satisfactory outcome (p=0.555). One patient in Group B had incomplete release and had to undergo open release. At the end of the study, there was no significant difference in outcome between percutaneous release with concomitant steroid injection and percutaneous release only in the treatment of trigger digits.

Keywords: trigger digit, A1 pulley, percutaneous release, steroid injection, Quinnel Staging, Green's Grading

FREE PAPER

Cross Sectional Prospective Observational Study on use of Buffered Versus Non-Buffered Local Anesthesia in Hand Surgery

Dr. Shirish Shrestha
Resident, KIST Medical College

ABSTRACT

Background: Local anesthesia is frequently employed in Emergency and outpatient departments for patients with hand injuries and other conditions, aiming to numb specific body areas, helping healthcare providers in evaluating the condition or performing necessary procedures. They work by blocking sodium channels in the nerves and known to be more acidic than a neutral solution, causing discomfort during injection. Among the various methods employed to reduce the pain associated with injecting lidocaine, buffering is one effective approach. This study is carried out to compare buffered and plain lignocaine for pain control and analgesia for patients undergoing hand surgery.

Methodology: The study involved 101 patients aged 18-60, divided into two groups: one receiving buffered lidocaine and the other receiving non-buffered lidocaine. Various parameters, including pain at the injection site, onset of anesthetic action, duration of analgesia and anesthesia, and the need for intermittent anesthesia, were evaluated.

Results: Results revealed significant differences between the two groups. The Visual Analogue Scale (VAS) pain score at injection was significantly lower in the buffered group, indicating the efficacy of buffering in reducing pain during lidocaine administration. Moreover, the buffered group exhibited a markedly shorter onset of anesthesia, suggesting a faster and more efficient action compared to the non-buffered group. In terms of anesthesia duration, the buffered group displayed a significantly longer period, implying prolonged pain control. The need for intermittent anesthesia was also assessed, with only one patient out of 52 in the buffered group requiring additional anesthesia, as opposed to three out of 49 patients in the non-buffered group. This emphasizes the potential of buffered lidocaine to reduce the necessity for supplementary anesthesia during hand surgery.

Conclusion: The study demonstrated that buffered lidocaine, with sodium bicarbonate, was associated with less pain during injection, a faster onset of action, a longer duration of anesthesia, and a reduced need for intermittent anesthesia compared to non-buffered lidocaine.

Key words: Buffered anesthesia, Sodium bicarbonate, Hand surgery

FREE PAPER

Diagnostic Accuracy of Phalen's Test and Durkan Test in Carpal Tunnel Syndrome

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ABSTRACT

The study aimed to compare the diagnostic accuracy of Phalen's and Durkan tests in detecting Carpal Tunnel Syndrome (CTS). CTS is a prevalent condition characterized by compression of the median nerve in the wrist, leading to various symptoms. Accurate and early diagnosis is crucial for effective management. The Phale's test involves wrist flexion, and the Durkan test employs direct pressure on the carpal tunnel to elicit symptoms. This study sought to determine which test is more reliable for diagnosing CTS, thereby aiding clinicians in their diagnostic approach.

Prospective clinical evaluation of 81 hands of first 72 clinically suspected patients was done in the National Trauma Center, Civil service hospital and Bir hospital of which 31 (43%) were male and 42 (57%) females with a mean age of 46 (SD 13) years. Both Phalen's and Durkan tests were administered to each patient by experienced clinicians. Those clinically suspected cases were also sent for electrodiagnostic test. Clinical result of provocative tests was compared with electrodiagnostic test taken as reference standard. Sensitivity, specificity, PPV and NPV of Phalen's test and Durkan test in carpal tunnel syndrome computed. Statistical analysis was performed using the McNemar test with a p-value < 0.05 and confidence interval 95%.

Phalen's test had a sensitivity of 0.58, specificity of 0.77, PPV of 0.98, and NPV of 0.11. Durkan's test had a sensitivity of 0.78, specificity of 0.68, PPV of 0.96, and NPV of 0.13. The statistical significance of diagnostic accuracy of Phalen's and Durkan's tests in carpal tunnel syndrome was assessed using the McNemar test which revealed a significant difference in sensitivity between the two tests ($p = 0.0009$) while no statistically significance was observed in the specificity of Phalen's and Durkan's tests ($p = 0.31$). Commonly performed provocative tests for suspected CTS differ in sensitivity and specificity. As the examination maneuver becomes more provocative, the test becomes more sensitive and less specific for CTS.

Keyword: Carpal Tunnel Syndrome, Durkan test, Electrodiagnostic test, Phalen's Test

FREE PAPER

Morphometric Variation in the Distal Radius Anatomy in Nepalese Population

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ABSTRACT

Distal radius fractures are common fractures, accounting for approximately 25% of fractures in children and around 18% of all fractures in the elderly population. Among the elderly, distal radius fractures are second most common fracture, and the incidence is higher in females compared to males.

The morphometric measurements of the distal end of radius, including radial height, radial inclination, palmar tilt and ulnar variance vary in people of different races. In clinical practice, the values proposed by Gartland and Werley are used as a standard for treating distal radius fractures. This study aimed at findings the morphometric values of distal radius parameters in epalese population.

This was a prospective cross-sectional study conducted at Kathmandu Medical College from February 2022 to July 2023. Wrist X-rays of all patients who presented with wrist pain were included in the study. Radial height, radial inclination and ulnar variance were measured in the true posterior-anterior radiograph of the wrist x-rays and palmer tilt were measured in the true lateral view with neutral rotation. Demographic data were recorded and morphometric measurements recorded and analyzed.

151 patients (85 males and 66 females) were enrolled in the study. The exclusion criteria were fracture of the proximal and distal end of radius and ulna, X-ray of distal end of forearm in which true PA/true lateral views are not seen. Mean age of the patients was 35.6 ± 13.3 years. Mean radial height, radial inclination and palmar tilt were 11 ± 2.7mm, 22.3 ± 3 degree and 14.4 ± 4.2 degrees respectively. 44.4% negative ulnar variance followed by positive (35.8%) and neutral (19.9%). There was no significant difference in mean radial height (p=0.904) and mean radial inclination (p value=0.690). There was no significant (p=0.336) mean difference in palmar tilt between male and female patients.

In conclusion, radial length, radial height and palmar tilt in Nepalese population were found to be comparable to Orthopaedic Trauma Association reference values except for the ulnar variance. Greater numbers of patients in the present study have negative ulnar variance compared to OTA reference values.

Keywords: Radial height, radial inclination, palmer tilt, ulnar variance

POSTER PRESENTATION

POSTER

Lunate Fracture Dislocation Associated with Trans Radial Styloid Trans Scaphoid Fracture- A Trans Radial Styloid Trans Scaphoid Fracture- A Case Report

Dr. Ram Thapa
Resgistrar, Anamiwa Hospital

ABSTRACT

The purpose of presenting this case is to show the outcome after surgery and also to highlight the importance of timely diagnosis and appropriate surgical management of carpal fractures dislocation. Trans-scaphoid lunate fracture dislocation is a rare injury occurring mainly in high energy trauma. Lunate fracture dislocation is relatively uncommon, representing about 4 percent of all carpal bone injuries. We report a 25- year-old male student, suffering from an unusual radio-carpals fracture dislocation after sustaining motorcycle accident 3 days back , presented after receiving initial management in local center. Closed reduction attempted in local center but not successful, so patient came to us. There was radio-scapho-lunate fracture dislocation with volar dislocation of lunate associated with ulnar styloid fracture. He underwent open reduction through single volar approach and internal fixation of lunate and scaphoid fractures with cortical screws along with soft tissue repair. Scapho-lunate fixed with K-wires, radial styloid fixation with two k-wires which were removed at 6 weeks follow-up. Volar splint was removed and aggressive physiotherapy started. At the successive follow-up at 6weeks, 6months and one year, he regained progressively good range of motion , satisfactory grip strength and radiological outcome. The Mayo wrist score at one year follow-up visit was fair. Overall, lunate fracture dislocation with trans radial styloid tran scaphoid fracture is devastating injury and should be considered as one of the most important differential diagnosis in the patients with history of high energy trauma to wrist. Misdiagnosis or malreduction or delayed treatment often leads to poor outcome.

Cavovarus Deformity Correction: A Case Report

Dr. Prabhav Pokhrel
Lecturer, Patan Academy of Health Sciences

ABSTRACT

24/F presented to our OPD with a complaints of lateral ankle pain for 5 years which increases on walking more so on uneven surfaces. She was evaluated clinically and radiologically. On examination, she had mild swelling over lateral aspect of ankle and tenderness over retromalleolar groove, had a varus heel with high arch, callosity over later aspect of sole, positive Coleman block test and positive Silfverskiold test. Her neurological status was normal. 0n xray, calcaneal pitch was 38 degree, Meary angle was 23 degree and Saltzman view revealed varus alignment. She was diagnosed as having idiopathic cavovarus deformity of right foot. She was put on conservative measures like physiotherapy and orthotics. After 6 months of failed conservative treatment, she was planned for deformity correction. She underwent Strayer procedure, Steindler release, 1st metatarsal Cotton osteotomy, lateral calcaneal sliding osteotomy and Peroneal Longus to Peroneal Brevis transfer. Her surgery was uneventful. She was allowed to weight bear at 6 weeks. After 5 months of surgery she is pain free, her foot arch is normal, and varus heel deformity has been corrected and has a normal gait pattern. Her AOFAS score changed from 69 to 96 postoperatively. Conclusion: Cavovarus foot is a complex deformity which requires meticulous planning and multiple procedures to get a plantigrade and painless foot.

Keywords: cavovarus foot, foot surgery, hindfoot varus, lateral ankle pain

POSTER

Calcaneotibeal Fusion using Retrograde Tibial Nail and Bone Graft for Totally Extruded Talus: A Case Report

Dr. Raju Kumar Gupta
Resident, Nobel Medical College and Teaching Hospital, Biratnagar

ABSTRACT

Totally extruded talus is also known as Pantalar dislocation or Luxatio tali totalis. A compound tri-articular dislocation of talus from Tibiotalar ,Subtalar and Talonavicular Joints.A very rare sequelae of high energy trauma with Incidence of 0.06% of all dislocations and 2% of all talar injuries. Only bone in foot without muscular attachment making it vulnerable to extrusion. Infection and avascular necrosis are the obvious risk of re-implantation of totally extruded bone.

In this article, the authors present a case of 52- year-caucasian gentleman who sustained open ankle injury following Road traffic accident with complete extrusion of talus. The Patient was brought to the hospital after about 24 hours of accident with extruded talus bone wrapped in a unsterile cloth. Initially wound debridement and ankle stabilization done with external fixator in a ankle spanning delta frame configuration. After 2 months ankle fusion was done using a retrograde tibial nail due to unavaibility of calcaneotibial fusion nail and autologous tricortical bone graft kept to gain height .At 6 month after ankle fusion, clinical examination and history indicated satisfactory,painless weight-bearing function of the involved foot and ankle.

With evolving evidence, initial wound debridement and external fixator application followed by calcaneotibial fusion along with bone graft could be an effective treatment method for totally extruded talus with the advantages of avoiding risk of infection which may require repeated wound debridement causing economical and psychological burden to the patient and patient family members.

Case Report: Unicondylar Knee Replacement in a Geriatric Patient

Dr. Amit Ranjan Mishra
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ABSTRACT

Introduction: Osteoarthritis of knee joint primarily involves medial joint with a varus alignment in majority of patients. Unicondylar knee replacement of only the affected compartment is considered less invasive due to preservation of cruciates and collaterals, less invasive, better longevity and fewer early complications.

Methodology: 85 year patient with Left knee pain and difficulty in stair climbing had 5 degree FFD and Range of motion 5 to 120 degree. Xray Standing AP, Lateral, Skyline as well as varus valgus stress views revealed Predominantly medial compartment arthritis. Patient was taken for UKR. Post operatively, patient was able to sit cross legged, climb stairs and carry out activities of daily living even at 8 year follow-up.

Conclusion: UKR is a valid solution for octo-gerian patients and can be done in extremes of age. It carries minimal surgical trauma and hence still an option in medically compromised patients. It thus has a role even in tricompartmental disease in geriatric patients.

POSTER

Proximal Femur Osteoid Osteoma Unveiled, A Case Report

Dr. Rahul Thapa

ABSTRACT

Introduction: Osteoid osteoma are the third most common benign bone tumor, most commonly occurring in patients aged 10–25 years, accounting for 10% to 12% of all benign bone tumors and 3% of all primary bone tumors, with a male to female ratio of 2:1. Patients often present with pain that is worse at night and relieved by salicylates and NSAIDs. In more than 50% of the cases, the lesion occurs in the metaphysis and diaphysis of long bones, especially the femur and tibia.

Material and Methods: A 20 year old male reported with pain in right upper thigh and groin region. A series of radiological imaging revealed an expansile cortical based lytic lesion measuring ~ 1.5 x 1.0 cm with thick sclerotic rim in the right femoral neck and adjacent periosteal reaction noted in the medial aspect of the lesion at the right proximal femur, with a diagnosis of osteoid osteoma.

Result: Patient underwent open surgical resection of osteoid osteoma, extra bony growth identified and using a burr the overgrown bone was excised. Post-operative histopathology confirmed features of osteoid osteoma showing irregular thickening of bony trabeculae rimmed by osteoblasts admixed with thin delicate multiple blood vessels with fibrocollagenous tissue. Postoperative pain score and joint function score improved significantly compared with preoperative with no complications.

Conclusion: Open surgical resection constitutes an effective treatment for proximal femoral osteoid osteoma by accurately and completely removing the nidus to reduce morbidity and recurrence of osteoid osteoma.

Synovial Sarcoma of the Right Foot

Dr. Vinod Kumar K

ABSTRACT

Introduction: The fourth most frequent soft tissue sarcoma, synovial sarcoma, accounting for 8- 10% of all soft tissue sarcomas. This tumour is most commonly discovered in the distal extremities, particularly the lower limb.

Methodology: 23 year old male who presented 3 years after injuring his right foot and experiencing pain and swelling in that area. Radiographs and MRI revealed a large lobulated heterogeneous intensity mass lesion along the plantar and dorsal aspect of the medial midfoot extending into the first and second web spaces suggestive of soft tissue malignancy.

Results: Histopathology confirmed the diagnosis of primary synovial sarcoma(Monophasic variant, spindle cell variant). Syme's amputation was performed. The patient was symptomatically better on regular follow-up, with an improved range of motion of the affected limb.

Conclusion: Treatment is primarily surgical excision, with radiation therapy used in high-risk tumours. Chemotherapy appears to improve high-risk cancers in children, while adult studies are equivocal.

POSTER

Finger Tip Replantation Tamai Zone II – A Case Report

Dr. Niresh Shrestha

POSTER

Aneurysmal Bone Cyst of Vertebrae

Dr. Akshay P

ABSTRACT

Introduction: An aneurysmal bone cyst (ABC) is a benign, locally proliferative vascular condition of non-neoplastic osseous lesions in children and young adults (75% < 20yr) accounting 1.4% of all primary bone cancers and typically found in long bones. Spinal ABCs are less common.

Methodology: A 7-year-old female reported with pain in the left upper thigh and groin region not been relieved by analgesics for 7 days. Radiographs of spine were normal and MRI revealed hyperintense lesion with multiple thin-walled cystic cavities showing fluid-fluid levels epicentered left half L2 vertebra showing peripheral & septal enhancement.

Results: Histopathology confirmed Blood-filled cystic spaces separated by a spindle cell stroma with osteoclast like giant cells and osteoid production in the L1 vertebral body. Patient underwent Posterior spinal stabilization D12-L2 vertebrae with interbody expandible cage. Patient's symptoms improved upon regular follow up.

Conculsion: Patient specific evaluation and meticulous surgical technique for debulking(curetting) and stabilizing the spine to reduce morbidity and recurrence of ABC.

POSTER

Avascular Necrosis of the Navicular after Ponseti casting and one-stage Posteromedial Release for Clubfoot

Dr. Pramod Kaintwal

POSTER

Exceptionally Large Multilobed Synchronous Osteochondromas of Scaphoid, Trapezium in a Four Year Female Child

Dr. Pramod Kaintwal

ABSTRACT

Introduction: Osteochondromas arising from the carpal bones are unusual, and when they occur they usually arise from the scaphoid. But synchronous origin from Scaphoid and Trapezium carpals is an extremely rare situation. We are presenting a case of exceptionally large multilobed Osteochondromas of Scaphoid, Trapezium and a smaller one in the APL tendon in a four-year female child. Materials and Methods: A four-year child presented to the outpatient department with gradually progressive huge swelling over the radial and palmar aspect of the left wrist for 2 years. No associated constitutional symptoms of infective as well as neoplastic pathology were present. The swelling was firm in consistency and not adhered to the skin and was expected to be originating from radial side carpals and traversing tendons of the first dorsal compartment of the wrist. The swelling was persisting for 2 years and deformed the wrist severely into fixed dorso-radial deviation with impaired function of the wrist and fingers. The swelling was not comprehensible precisely on digital radiographs. So, MRI and CT scans were advised which showed multilobed, size around thrice of the original carpal bones, sessile exostoses originating from Scaphoid and Trapezium and a smaller osteochondroma in the Abductor Pollicis Longus tendon sheath. So, surgery was planned and executed in the form of marginal resection of all three osteochondromas and gradual deformity correction using the JESS distractor. The patient tolerated surgery very well and was followed until complete deformity correction and recovery of all hand and wrist functions and movements. Results: At the period of 8 months, there was no sign of recurrence or other complication. The entire treatment protocol resulted in excellent outcomes. Full range of motion at the wrist joint and hand functions were achieved completely and the patient was able to do all activities independently.

Key Words: Osteochondroma, Multilobed, Sessile, Carpals.

POSTER

Successful Replantation of the Amputated Thumb in Tertiary Hospital of Nepal: A case Report

Dr. Sujan Sharma

POSTER

Langenskiold Procedure for Congenital Pseudoarthrosis of Fibula

Dr. Subarna Poudel
Resident, TUTH, IOM

ABSTRACT

Isolated congenital pseudoarthrosis of distal fibula with neurofibromatosis type 1 is a rare case characterized by fibular lesion that gradually progress to pseudoarthrosis resulting in valgus deformity at the ankle joint. Approximately only 40 cases have been reported in literature and treatment modality is not well established due to its rarity. We are reporting a case of a 5-year-old male with neurofibromatosis type 1 who presented with valgus deformity of the ankle following a history of minor trauma which came out to be isolated congenital pseudoarthrosis of fibula after evaluation in our center. ICPF is diagnosed mainly through clinical presentation and x-ray examination. Early treatment with excision of pseudoarthrosis and tibiofibular synostosis (Langenskiöld Procedure) helps in satisfactory outcomes and preventing deformity, but a well-designed study should establish treatment protocol.

Keywords: Langenskiöld; Neurofibromatosis; Pseudoarthrosis

POSTER

Mother's Fibula in Daughter's Tibia: A Challenging Case of Aneurysmal Bone Cyst

Dr. Krishna Jung Shah

POSTER

Osteoplastic Reconstruction of the Thumb

Dr. Lok Raj Chaurasia

POSTER

Combined Fractures of the Hip, Acetabulum and Pelvis: A Case Report

Dr. Bibek Banskota

POSTER

Surgical Management of Congenital Bilateral Coxa Vara - A Case Report

Dr. Rajendra Aryal

POSTER

Massive Osteolysis of Femoral Head Following Missed Acetabulum Fracture

Dr. Rajendra Aryal

POSTER

Modified Pauwel's Osteotomy for Salvaging Neglected Neck of Femur Fracture: A Case Report

Dr. Sijan Bhattachan

POSTER

Unveiling the Hidden Intricacies: A Schwannoma Mimicking a Benign Lipoma - A Compelling Case Report

Dr. Manoj Kandel

POSTER

Successful Salvage of Chronic Osteomyelitis in the Calcaneum Through Iterative Debridement: A Case Report Demonstrating Prevention of Amputation

Dr. Manoj Kandel

POSTER

Multidisciplinary Management of a Complex Pelvic Injury in a 15-Year-Old Female: A Comprehensive Trauma Case

Dr. Nitesh Raj Pandey

POSTER

Cauda Equina Syndrome Secondary to Iliopsoas Abscess: A Case Report on an Unusual and Rare Presentation of Iliopsoas Abscess

Dr. Saroj Kumar Bhagat

POSTER

Corticosteroid Induced Bilateral Avascular Necrosis of Hip in a Young Patient with Long COVID: A Case Report

Dr. Surya Prakash Joshi

POSTER

Management of Vertebral Hemangioma at a Tertiary Care Center and Current Trends

Dr. Jagadish Thapa

POSTER

Chronic Thumb Carpo-Metacarpal Instability Managed Using Eaton-Littler Technique – A Case Report

Dr. Abhishek Kumar Thakur

POSTER

Acute Multifocal Haematogenous Osteomyelitis with Sepsis in a 10 Years Old Child Caused by Methicillin-Resistant Staphylococcus Aureus: A Case Report

Dr. Sachindra Raj Joshi