



Indian Journal of Physical Medicine and Rehabilitation

IJPMR

Archives

IJPMR 2014 Jan: 25 (Supple)

IJPMR 2014 Jan; Volume 25 (Supplementary)

Special issue:
Book of Abstracts
IAPMRCON 2014
Chennai, India

Contents

Oral Presentations

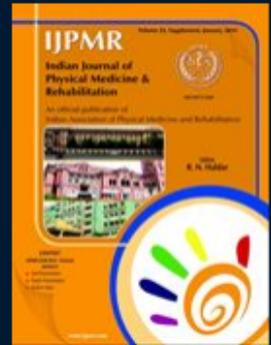
All the abstracts have been clubbed into one file.
To view or download, please [click here](#)

Poster Presentations

All the abstracts have been clubbed into one file.
To view or download, please [click here](#)

[IJPMR Editorial Board](#)

[IAPMR Executive Committee](#)



Print Edition

Editor:

Prof RN Haldar

ISSN

0973-2209

Disclaimer: The contents of this journal are not for the consumption of general population and are also not intended to help the public use this information to treat any medical condition or indulge in practice of rehabilitation of the persons with disability, themselves. The public in its own interest is advised to consult their doctor for advice on the management of their medical conditions.

Web administration and designing: Dr U Singh. First built: April 15, 2004. Last updated: January 16, 2014

IJPMR EDITORIAL BOARD

EDITORIAL BOARD : 2013 – 2015

EDITOR : Dr. R. N. Haldar

- EMERITUS EDITORS** – Dr. A.K. Agarwal, Dr. Suranjan Bhattacharji, Dr. U. Singh
ASSOCIATE EDITORS – Dr. Mrinal Joshi, Dr. Rajesh Pramanik, Dr. S.L. Yadav
ASSISTANT EDITORS – Dr. Anupam Gupta, Dr. Anil Gaur, Dr. N. Romi Singh
MEMBERS – Dr. N. George Joseph, Dr. Asim Palit, Dr. S. Sunder, Dr. Rajendra Sharma,
Dr. Ajay Gupta, Dr. George Zacharia, Dr. P. Ray, Dr. Avishek Srivastava
EX-OFFICIO – Dr. K. B. Wangjam, Dr. P. Thirunavukkarasu

ADVISORY BOARD (NATIONAL)

Dr. A.B. Tally	Dr. Abdul Gaffor	Dr. Ajit Kumar Varma	Dr. A.K. Joy Singh
Dr. A.K. Mukherjee	Dr. Ambar Ballav	Dr. B.D. Athani	Dr. B.G. Dharmanand
Dr. B.K. Choudhury	Dr. C. Ramesh	Dr. Feroz Khan	Dr. Ganesh Arun Joshi
Dr. George Tharion	Dr. K. Sunder S	Dr. M.K. Mathur	Dr. Nonica Laisram
Dr. Nirmal Surya	Dr. P.K. Mandal	Dr. R.K. Ghatak	Dr. R.K. Srivasthava
Dr. Sanjay Wadhwa	Dr. S. Hariharan	Dr. S.K. Jain	Dr. S.Y. Kothari
Dr. T.J. Renjanathan	Dr. T. Sreedhar	Dr. U.N. Nair	Dr. V. K. Sreekala

ADVISORY BOARD (INTERNATIONAL)

Dr. Joel A DeLisa (USA)	Dr. Walter Frontera (USA)
Dr. Andrew Haig (USA)	Dr. John L Melvin (USA)
Dr. Jianan Li (China)	Dr. John Olver (Australia)
Dr. Marta Imamura (Brazil)	Dr. Linamara Battistella (Brazil)
Dr. Germano Pestelli (Italy)	Dr. Alessandro Giuestini (Italy)
Dr. Gerold Stucki (Germany)	Dr. Gulseren Akyuz (Turkey)
Dr. Chang-il Park (Korea)	Dr. Tai Ryoan Han (Korea)
Dr. Apichana Kovindha (Thiland)	Dr. Areerat Supputtitada (Thiland)
Dr. Md. Taslimuddin (Bangladesh)	

**INDIAN ASSOCIATION OF PHYSICAL MEDICINE & REHABILITATION
EXECUTIVE COUNCIL 2013 - 2015**

President	:	Dr. Kunjabasi Wangjam	
Vice President	:	Dr. S.L. Yadav	
Hony Secretary	:	Dr. P. Thirunavukkarasu	
Joint Secretary	:	Dr. N. Romi Singh	
Treasurer	:	Dr. Ajay Gupta	
Members	:	Dr. K. Rajendran	Dr. Anupam Gupta
		Dr. Abhishek Srivastava	Dr. M.C. Jayaram
		Dr. Srikumar V	Dr. Pankaj Kr. Mandal
		Dr. Saumyajit Guha	Dr. Gita Handa
Editor IJPMR	:	Dr. R. N. Haldar	
Editor IAPMR Bulletin	:	Dr. S. Sunder	
Chairman Academic Committee	:	Dr. U. Singh	
Chairman Membership Committee	:	Dr. Rajendra Sharma	
Immediate Past President	:	Dr. George Joseph	
Immediate Past Secretary	:	Dr. B. Ramachandran	

Frequency : Quarterly

ISSN0973-2209

Full text of the Journal and Guidelines to the contributors are available on website.

Subscription :

Annual subscription is Rs 2000/- (India) and US \$ 200 (other countries). Kindly send your request for subscription to the editor along with DD/ Cheque at par in favour of "Indian Journal of PMR" payable at Kolkata. Overseas per hardcopy 50\$.

The journal is despatched in India by surface mail and abroad by sea mail.

Disclaimer :

Indian Association of Physical Medicine & Rehabilitation and Editors can not be held responsible for errors or any consequences arising from the use of information contained in this journal; the views and opinion expressed do not necessarily those of the IAPMR and Editorial Board, neither does the publication of advertisements constitute any endorsement by IAPMR and Editor.

Correspondence :

Editorial Office :

Prof (Dr) Rathindranath Haldar

Department of Physical Medicine & Rehabilitation,

Institute of Post Graduate Medical Education & Research & SSKM Hospital,

244, AJC Bose Road, Kolkata - 700020.

E-mail:indianjournalofpmr@gmail.com Phone no : 00 91 9830152173

Visit us :

www.ijpmr.com and www.iapmr.org/ijpmr

Oral Abstracts

01

Bilateral Facial Nerve Palsy – A Case Report

Ningthoujam Jungindro Singh

JN Institute of Medical Sciences, Imphal - 795005 (Manipur)

Introduction: Facial nerve palsy of one side is somewhat a commonly seen neurological condition constituting an incidence rate of around 25 per 100,000 populations. Bilateral facial nerve palsy is a rare condition and therefore represents a diagnostic challenge. Literature shows an incidence of 1 per 5,000,000 populations with multiple causes of bilateral facial palsy ranging from idiopathic Bell's palsy to infections like Lyme disease, tuberculosis and neoplastic conditions (leukemia, acoustic neuroma). Hence, it becomes a diagnostic dilemma and requires a large number of diagnostic investigations.

Case Report: A 24-year female presented with headache and bilateral facial nerve palsy of House-Brackmann(HB) stage V. On taking history she had headache and vomiting at the onset followed by facial paralysis of left side next day. After 7 days she developed paralysis of the right face. Routine laboratory investigations (complete blood count, LFT, KFT, RBS, Urine RE) were normal. Oral steroid therapy was initiated. Antibody detection test for typhus, malarial parasite, retrovirus were negative. Chest x-ray did not reveal any diagnostic clue then we go for computed tomography (CT) of chest which showed only old healed granuloma and calcified lymph nodes. CT and MR of brain showed normal study. Audiogram did not reveal any defect. Without able to find a definite cause we treated her as bilateral Bell's palsy and in a one year follow-up she recovered to HB stage II. Differential diagnoses of facial diplegia are worth to discuss.

02

Electrophysiologically Silent Carpal Tunnel Syndrome: Is Surgery the Only Answer? – A Case Series

Mohit Kataruka, Rajesh Pramanik, R.N Haldar

Dept of PMR, IPGMER, Kolkata

Objective: To find out clinical and electrophysiological improvement due to conservative care including local infiltration of methylprednisolone in electro-physiologically silent carpal tunnel syndrome.

Inclusion criteria: 1.clinically confirmed electro-physiologically silent CTS. 2. Waiting time of surgery more than 2 months. 3. Age > more than 18 years.

Exclusion criteria: 1 Consent not given 2.Contraindication of local injection like bleeding diathesis etc. 3. Contraindication of steroid like poorly controlled diabetes mellitus

4. Rheumatoid arthritis, Pregnancy, acromegaly, tophaceous gout.

Methodology: 16 hands of patients, who fulfilled the above criteria, have been included in the study after ethical committee clearance. Initially patients have been assessed clinically and electro physiologically and injection methylprednisolone given aseptically.

They are also advised to use static wrist hand orthosis, nerve gliding exercise, vit B12. Follow up of symptoms and repeat electro physiological study have been done at 2, 4 and 8 weeks post intervention.

Results: Data were analysed by statistical version 6 and Graph Pad prism version 5 software. Age was normally distributed as per Shapiro-Wilk test. Comparative analysis by Friedman variance showed a statistically significant (p value <0.001) improvement of Phalen score and VAS of pain. Interestingly Dunn's multiple comparison test revealed immediate improvement of VAS due to injection with sustained effect up to 2 months. On the other hand phalen score actually improved with statistical significance (p value <0.05) after 2nd week of conservative care.

Interestingly motor amplitude of median nerve were improved statistically (p<0.001) especially after 2nd week of conservative management as per Dunn's multiple comparison test. But neither motor nor sensory latency of median nerve were improved as per the analysis. Sensory amplitude of nerve was improved with lower statistical significance (p=0.008).

Implication: Although the series is small with short follow up period, it is evident that conservative rehabilitation regimen has some minimal role even in electro-physiologically silent CTS.

03

TBTS an Innovative Device to do Self Stretching of Equinus Deformity

Tufail Muzaffar, Rahil Muzaffar, Ali Mohammad Buhroo, Shahid Hussain

Introduction: Various methods have been used for management of Equinus Deformity. However stretching this muscle and tendon is difficult task. It is labour intensive, which makes the provision of intensive treatment for many patients difficult.

Mechanism of Action: To stretch a powerful muscle like GS or a strong tendon like TA by conventional methods the lever action arm is in the ratio of 1:2 however the lever action arm ratio increases to 1:10 using TBTS so 5 times lesser power is needed to generate same amount of stretch with TBTS. It is a self directed stretch by the patient that generates more stretch than can be achieved with the conventional stretching techniques.

Methodology: A prospective stratified randomized case control study has been started in SKIMS. Patients are randomly allotted in study or control group. Study group is given TBTS therapy in addition to the conventional stretching exercises. Patients are assessed in terms of ankle ROM, spasticity (Modified Ashworth Scale), Long sitting angle and need for surgery. The patients will be assessed at 0 months, 1 month, 6 months, 2 years and 5years.

Results: There is significant stretch achieved by the subjects using the TBTS as compared to conventional stretching techniques alone however statistical significance is yet to be determined.

Conclusion: TBTS can be an effective tool in rehabilitation of patients having equinus deformity; it provides a simple and cost effective therapy.

04

Comparative Efficacy of Platelet Rich Plasma Injection with Ultrasonic Therapy and Corticosteroid Injection on the Treatment of Plantar Fasciitis

Preeti Soni, S.Y. Kothari, Diganta Borah, Nonica Laisram
VMMC and Safdarjang Hospital, New Delhi

Objective: To determine the effectiveness of Intralesional autologous Platelet Rich Plasma (PRP) injection compared to local ultrasonic therapy and corticosteroid injection for treatment of chronic plantar fasciitis in terms of improvement in pain and function.

Method: This prospective, randomized, controlled study was conducted in Physical Medicine and Rehabilitation department of V.M.M.C and Safdarjang hospital, New Delhi from September 2011 to January 2013. Total 91 patients were randomly allocated in to either PRP (n=31), ultrasonic therapy (n=30) or corticosteroid treatment group (n=30). All patients were assessed for pain in Visual Analogue Scale (VAS) and for pain and function on Foot Ankle Disability Index (FADI) scale at three, six and twelve weeks after treatment. A *p* value of less than 0.05 was considered significant. Pre and post treatment assessment was done by a person other than the one instituting the randomized treatment to avoid bias.

Result: In PRP and corticosteroid groups, statistically significant improvement was seen at three, six and twelve weeks in both VAS and FADI scales, but improvement was more marked in PRP as compared to corticosteroid group. In ultrasonic therapy group, statistically significant improvement was not seen at twelve weeks. There was no any adverse event reported.

Conclusion: Local injection of autologous PRP proved to be a promising form of therapy for plantar fasciitis. It is both safe and effective in relieving pain and improving function and superior to local corticosteroids.

Key words: Plantar fasciitis, Autologous Platelet Rich Plasma.

05

Community Based Rehabilitation- A Practical Model

Shehadad K
Govt Medical College, Kottayam, Kerala

According to W.H.O Community-based rehabilitation (CBR) focuses on enhancing the quality of life for people with disabilities and their families, meeting basic needs and ensuring inclusion and participation. CBR was initiated in the mid-1980s but has evolved to become a multi-sectoral strategy that empowers persons with disabilities to access and benefit from education, employment, health and social services. CBR is implemented through the combined efforts of people with disabilities, their families, organizations and communities, relevant government and non-government health, education, vocational, social and other services. Palliative care is an area of healthcare that focuses on relieving and preventing the suffering of patients. Palliative medicine is appropriate for patients in all disease stages, including those undergoing treatment for curable illnesses. Palliative medicine is a recognized sub speciality of PM&R in the United States.

A well developed CBR project is functional under the aegis of Institute of Palliative Medicine, Kozhikode, Kerala. This institute has been recognized by W.H.O. as the demonstration project in palliative care for the developing world. Almost 60% of the patients under the palliative care project are having neurological diseases like spinal

cord injury and stroke who are more in need of rehabilitation than mere pain control. To provide rehabilitation for these individuals a CBR program with the help of Physiatrists is functional. It includes an outreach rehabilitation program where the patients are assessed in their natural environment and practical and effective rehabilitation measures are taken with the help of a network of community volunteers. Another important aspect of the program is a vocational rehabilitation program named 'footprints'. At present beneficiaries of this program include around 100 disabled individuals who are given training in various trades. The back bone of the project is an organized group of college students of around 1000 named S.I. P.C (Students in Palliative Care). The marketing aspect of the project is mainly taken care by them. This project helps the patients to earn Rupees 3000- 15000 per month. Moreover the project is effective in boosting the morale of the patients and instrumental in materializing the necessary social integration. This paper is aimed to provide sensitization towards CBR and this project can be replicated anywhere in India by interested physiatrists.

Take home message: All physiatrists must take it as their duty to be involved in CBR programs in one way or the other because they are the professionals who has to support the under privileged disabled population of our country.

06

Relationship of Knee Specific Lifelong Daily Activities with Radiographic Grading and Functional Disability in Patients Suffering from Osteoarthritis of Knee

C.Zonunsanga, Hmingthanmawii, N.Romi Singh
Regional Institute of Medical Sciences, Imphal

Aim: To identify the relationship of knee specific lifelong daily activities with radiographic grading and functional disability in knee osteoarthritis (OA) patients

Study design: Cross sectional study

Settings: Physical Medicine and Rehabilitation (PMR) Department, Regional Institute of Medical Sciences (RIMS), Imphal

Study population: OA knee patients, who fulfilled American College of Rheumatology (ACR) criteria for classification of idiopathic OA knee, attending the department.

Materials and Methods: Functional disability status of the patients was assessed using a WOMAC questionnaire, Kellgren and Lawrence grade was used for radiographic grading. Life-long daily activities involving the knee in regards to occupation and leisure activities were recorded using a pre-structured, validated format.

Results: A total of 80 patients were studied. The mean WOMAC score was 38.74 ± 14.36 . Majority of the patients (52.5 %) had a grade II OA. There was statistically significant association between WOMAC score and squatting ($P < 0.01$), WOMAC and kneeling / knee bending activities ($P < 0.05$), WOMAC and VAS pain ($P < 0.01$). Multivariate regression showed significant association on the WOMAC score with squatting (OR 0.09, 95 % CI 0.01-0.83) and knee bending activities (OR 0.25, 95 % CI 0.05 - 1.27). None of the knee activities were found to be associated with radiographic grades.

Conclusion: More time spent on knee activities such as squatting and kneeling activities caused higher functional disability in OA knee patients. No direct association was established between knee specific activities and radiographic grades.

Key words: Knee specific lifelong daily activities, Osteoarthritis,

WOMAC, Kellgren and Lawrence grading

07

Intra-articular Steroid Injection in the Management of Adhesive Capsulitis of Shoulder: A Comparison of the Anterior and Posterior Approaches

Tamphaleima Kh, G. Sonachand Sharma, N. Bimol, Y. Nandabir Singh
RIMS, IMPHAL

To compare the anterior and posterior blind intra-articular steroid injections approaches in the management of adhesive capsulitis of shoulder.

Method: *Design:* Randomized Control Trial

Setting: Department of PMR, RIMS, Imphal.

Participants: The patients (N=60) having adhesive capsulitis of shoulder attending PMR department, RIMS during the study period.

Duration: One year (August 2012 to July 2013).

Intervention: After randomization, 60 patients were allocated in three groups (A, B and C). Group C (N=20) received physical therapy practice in the department of PMR, RIMS. Group A (N=18) and B (N=22) received intra-articular steroid (Methylprednisolone 80mg each) by anterior and posterior approaches without imaging guidance respectively in addition to physical therapy.

Outcomes: 1) Visual analogue scale (VAS) for pain, 2) Shoulder pain and disability index (SPADI) and 3) Passive range of motion of affected shoulder using goniometer.

Results: All the three groups showed improvement with statistically significant ($p < 0.005$) findings in all the outcome variables except in shoulder flexion range ($p = 0.085$). Improvement in outcomes namely VAS, SPADI, shoulder rotation and abduction range were more mark in Group A when compared with Group B which was found statistically significant ($p < 0.05$).

Conclusion: The blind anterior approach intra articular steroid injection is more effective than posterior approach in improving shoulder rotation and abduction range of movements, reducing shoulder pain and disability in patient having <3 months duration adhesive capsulitis of shoulder.

Key words: Adhesive capsulitis, intra articular steroid, visual analogue scale, Shoulder pain and disability index, Passive range of motion.

08

Placement Accuracy of Anatomical Landmark Guided Injections in and around Shoulder Joint

S.Ngampa Sangme.S.Mohes, Th.Khelendro Singh, Th. Bidyarani, L. Geetanjali, L. Nilachandra Singh, AK. Joy Singh
Regional Institute of Medical Sciences, Imphal

Shoulder pain is common in the general population. Corticosteroid injections are widely used to treat this condition. The injections are commonly performed via anatomical landmark guided procedures.

A cross sectional study was conducted in 163 subjects who were suffering from different shoulder ailments to find out the accuracy of needle placement by the landmark guided injection procedures. Study subjects consisted of 129 (79.14%) patients with adhesive capsulitis, 13 (7.97%) hemiplegic shoulder pain, 12 (7.36%) patients with subacromial bursitis and 9 (5.52%) bicipital tendinitis.

Accuracy rate by anatomical landmark guided procedures were 63.38% for glenohumeral joint injection, 77.77% for bicipital

injection and 16.66% for the subacromial bursitis. Overall, 62.5% of the injections were found to be correctly placed by landmark guided injection procedures as confirmed by ultrasonography.

This study found that significantly high proportion of injection in and around the shoulder joint does not reach the actual targeted structure with anatomical landmark guided procedures. The needle length of 24G, 1 inch (0.55X25mm) of 2ml and 5ml disposable syringe which are commonly used was found to be deficient in length particularly in obese and subjects with thick subcutaneous fat.

The optimal needle length selection (minimum of 3.8 cm {1.5 inch}), acquaintance of skills and expertise in the procedure, correct positioning of the patients and proper counselling of the patients regarding the procedures prior to the intervention are recommended. Use of musculoskeletal ultrasound imaging is recommended for increasing the accuracy, reducing the complications and overall enhancing the efficacy of the injection procedure.

09

Benign Joint Hyper Mobility Syndrome with Mental Retardation

MS Chongreilen Chiru, Mingam Pertin, Hmingthanmawii, Zonunsanga, N. Romi Singh

Regional Institute of Medical Sciences, Imphal

Benign joint hypermobility syndrome (BJHS) is a musculoskeletal disorder characterized by excessive movement of the joints (Hypermobility) without any systemic rheumatological disease. Speech impairment, learning disabilities, poor coordination, delayed walking and problems with handwriting are common in BJHS. Hypermobility and mental retardation usually occur only in chromosomal and genetic abnormalities. Here, we report a case of BJHS in a 10 year old boy presented with delayed developmental milestones and moderate mental retardation. Hypermobility score as assessed with Beighton criteria was 7/9. Psychiatrist consultation with Vineland social maturity scale revealed moderate mental retardation. His social age was only 3½ year and social intelligence was only 35. He also had impaired communication, language deficit and difficulty learning. This case report highlights the rare association of BJHS with mental retardation.

Key words: Benign joint hypermobility syndrome, Mental retardation, Beighton score, Vineland social maturity scale.

10

ATI Sarvatra Varjyet (Too much of anything is good for nothing)

Ramit Sardana, R Tripathi

RML Hospital and PGIMER, New Delhi

Aim of presentation: To create awareness regarding prescribing, explaining and monitoring Vitamin D.

Case: A 60 year old female presented with a history of lethargy, mild confusion, anorexia and gait imbalance for 2 weeks. There was no history of any fever, trauma, focal weakness, tremors, decreased sensation or head injury.

On examination: There were no signs suggesting neurological involvement. All blood investigations were normal except for raised serum calcium levels (13.8mg/dl). On further investigation all other causes were ruled out. MRI brain was found to be normal. To find aetiology of hypocalcaemia, all previous investigations and

prescriptions of patient were checked thoroughly. A follow up orthopaedic prescription revealed that she was prescribed cholecalciferol sachet 60,000IU /wk. On asking, patient told that she was taking that sachet daily for past 3 months. On investigating she was found to have very high Vitamin. D level.

Diagnosis: Hypervitaminosis D leading to hypercalcemia

Treatment: Calcium and vitamin D supplements were stopped immediately and she was given i/v fluids for few days. Calcium restricted diet was prescribed. Condition of patient and serum calcium levels improved in 2 weeks and after 8 weeks vitamin D level was found to be normal.

Patient is on regular follow up in PMR OPD of Dr. RML Hospital and is doing well.

Conclusion: It is always a physician's duty, not only to diagnose and write a prescription but also to check and monitor the previous prescription on every follow up.

Key words: Hypervitaminosis D, Hypercalcemia, Vitamin D supplements, Excessive intake.

11

Urine Culture and Antimicrobial Sensitivity Patterns in Traumatic Spinal Cord Injury Patients

Minggam Pertin, C Zonunsanga, Hmingthanmawii, N Romi Singh
Regional Institute of Medical Sciences, Imphal

Objectives: To determine the urine culture and sensitivity profile in traumatic spinal cord injury patients during admission in Physical Medicine and Rehabilitation setting in a tertiary care hospital

Study design: A retrospective descriptive study

Setting: Department of Physical Medicine and Rehabilitation, Regional Institute of Medical Sciences, Imphal

Study Duration: 1st January 2012 to 31st December 2012.

Materials and Methods: All the traumatic spinal cord injury patients admitted in the department, whose urine samples were sent for culture and sensitivity were included in the study. There were a total of eighteen patients. Urine culture revealing a bacterial colony count of 10⁵ colony forming units (cfu)/ml was taken as significant bacteriuria.

Results: Of all 18 patients, 15(83.3%) patients had significant bacteriuria showing only Gram negative bacteria and 3(16.6%) patients had sterile urine. All the positive urine samples showed growth of only single bacteria except in 1(5.5%) patient. The most common organism isolated was E. coli which was found in 10(55.5%) urine samples This was followed by 1(5.5%) each for Klebsiella, Pseudomonas, Providentia, Enterobacter and one with combination of Klebsiella with Pseudomonas. Amikacin and Nitrofurantoin were the most sensitive antibiotics encountered in majority of the Gram negative isolates. All the organisms were sensitive to Imipenem.

Conclusion: Only gram negative bacteria were isolated from the urine samples of traumatic spinal cord injury inpatients with E coli as the most common organism. Amikacin and Nitrofurantoin were the commonest sensitive antibiotics.

Key words: significant bacteriuria, urine culture and sensitivity, antibiogram, traumatic spinal cord injury.

12

The Orthotic Effect

Kirti Mishra

Christin Medical College

Objectives: To evaluate orthotic effectiveness of a user controlled peroneal stimulator (PS) and compare it with an Ankle Foot Orthosis (AFO) in rehabilitation of foot drop in hemiplegic patients following Cerebrovascular Accident (CVA).

Method: 20 patients with unilateral foot drop following CVA within 1 year were randomized into intervention and control group.

The intervention group received 1 hour of ambulation training with indigenously designed, user controlled PS along with conventional therapy. The control group received ambulation training with AFO and walking aids.

The outcome measures included 6 minute walk test, 10 meter walk test and dynamic ankle angle change during the ambulation. A pre-intervention analysis and a post intervention analysis after 3 weeks were done.

Results: For 6 minute walk test and 10 meter walk test, the difference between the AFO and Peroneal Stimulator group at the end of 3 weeks was not statistically significant (p-value: 0.423 and p-value: 0.456 respectively). Mean ankle angle change of 11.31 ± 3.56 degrees (between pre-swing to mid-swing phase) was noted which was nearly two-third of the normal ankle angle change of 18 ± 2 .

Conclusion: The orthotic effect of PS measured in terms of dynamic ankle angle change showed a significant change with nearly two-third of normal angle change during the swing phase of the gait phase. The orthotic effect in terms of walking speed and endurance, in comparison to an AFO, was inconclusive.

13

Rehabilitation of Bilateral Shoulder Disarticulation Amputee with an Innovative Prosthesis

Sahoo

SVNIRTAR, Bairoi, Orissa

Introduction: Rehabilitation of a bilateral shoulder disarticulation amputee is a great challenge for a physiatrist especially when dealing with pediatric amputee from rural community. Whatever conventional prosthesis available for such patients, none of them fulfills their expectations. Myoelectric prosthesis are out of reach of a common man. Facility of repair and maintenance are not available in all the places. In shoulder disarticulation adequate motor points are also not available for providing myoelectric signals for smooth function of myoelectric prosthesis. Hyper innervation nerve transfer surgery is required to create additional sites of motor points.

Objective of the study: Designing a simple innovative prosthesis for bilateral shoulder disarticulation amputee which will simplify his activities of daily living

Material and method: 13 year boy had bilateral shoulder disarticulation due to electric burn injury. The boy is from a very poor family of rural area. A simple innovative prosthesis has been devised with multiple attachments to do his activities of daily living with minimal assistance

Conclusion: Prosthesis available for shoulder disarticulation amputee are either very costly like myoelectric prosthesis or other conventional prosthesis which could not meet the expectations of the patients. Some simple modifications of the prosthesis can make the patient

independent of his activities of daily living.

References:

1. Targeted reinnervation for improved prosthetic function. Kuiken T. *Phys Med Rehabil Clin N Am.* 2006 Feb; **17(1)**: 1-13.
2. Prosthetic principles in bilateral shoulder disarticulation. Neff G. *Prosthetics and Orthotics International*, 1978, 2, 143-14.

14

A Journey From Stick to Chalk

Chethan.C, Junis Ali, Diganta Borah, S Y Kothari, Nonica Laisram
Safdarjang Hospital, New Delhi

Abstract: Primary osteoarthritis of the elbow is a relatively uncommon condition mainly affecting middle-aged men. It is characterized by wear of the articular cartilage together with new bone formation at the joint surfaces. The condition is normally progressive, although the speed of progression is variable. The dominant extremity is usually involved, presenting with elbow pain, stiffness, reduced range of motion, weakness and signs of ulnar nerve irritation.

In this case report we are presenting a 46 year old male, school teacher a known case of post polio residual paralysis (PPRP) of both lower limbs and right upper limb. He presented with right elbow pain, stiffness, weakness, tingling and numbness of right forearm; absence from work. Patient was evaluated and diagnosed to have elbow arthritis and ulnar neuropathy secondary to PPRP and use of long stick as a walking aid. He was treated conservatively with NSAIDs, physical therapy; KAFO and one side axillary crutches were prescribed. Patient's symptom subsided and was back to work.

15

Comparative Study of Functional Outcome of Correction of Spastic Equinus Deformity by various Surgical and Non-Surgical Techniques

Ganesh Yadav, Sharma VP, Agarwal AK, Gupta AK, Kumar D
King George Medical University, Lucknow

Back Ground: Spastic equinus contracture is the most common deformity of the lower extremity in children with cerebral palsy. The optimal treatment of the ankle equinus is a widely debated topic and procedure selection is often based on surgeon preference due to lack of consensus regarding the superiority of a single procedure.

AIM of the Study : To assess the outcome parameters of correction of equinus deformity by Conservative method (serial casting), Gastrocnemius Recession (GR) and Tendoachilles Lengthening (TAL).

Materials and Methods: A total of 50 legs were included in the study (GR- 11, TAL-8, and Conservative - 31) with mean follow up of five months. The parameters being evaluated were popliteal angle, ankle dorsiflexion and plantarflexion range, Modified Ashworth score, GMFCS, motor power, pain score.

Result and Conclusion: The results of surgical treatment were found better than conservative treatment. Differences in results in TAL and GR groups were found less striking. Mean popliteal angle increase significantly in GR (4.4%) followed by Conservative (1.9%) and TAL (1.7%). Mean Passive ankle dorsiflexion increased significantly after the treatment in all three groups being highest in TAL 22.25° followed by GR 17.18° and conservative group the least 11.71°. Evaluation of spasticity showed reduction of at least one grade in

3.22% in conservative group, 18.18% in GR group and 12.5% in TAL group. GMFCS level showed insignificant change in all three groups ($p>0.05$). Mean pain score was lesser in GR group (2.27) than TAL (2.88) at day 1. The current study reports good short-term results following both TAL and GR in appropriately selected children with spastic equinus deformity.

Keywords: Equinus; Spasticity; Cerebral palsy; Tendon lengthening.

16

Spinal Tuberculosis–The Changing Trend

Annada Sankar Mohes, Ngampa Sangme, Th. Bidyarani, L. Nilachandra Singh, Ak. Joy Singh
Regional Institute of Medical Sciences, Imphal -795004

Tuberculosis is called the disease of poverty. The global incidence of tuberculosis is declining as a result of improved quality of life and introduction of multi drugs regimes. But developing countries are still under the claws of this disease. Spinal tuberculosis is a form of destructive extrapulmonary tuberculosis secondary to primary lesions in the body. It is commonly found among children and young adults. Constitutional symptoms, back pain, spinal tenderness, paraplegia and spinal deformities are the common manifestation of this condition.

We here in report a case-series consisting 8 subjects conducted from November 2012 to October 2013 in the Department of Physical Medicine and Rehabilitation, Regional Institute of Medical Sciences, Imphal, which shows a disparity in the usual presentation of the disease.

In 6 (75%) out of 8 patients, no primary lesion could be detected; 7 (87.5%) patients were from older age group; 5 (62.5%) patients presented with paraplegia, remaining presented with mid back pain; 2 (25%) patients had bilateral psoas abscess; 6 (75%) patients presented with vertebral compression fracture; six patients presented with involvement of lower dorsal spine (75%); two patients presented with involvement of lumbar spine (25%); one patient presented with 7th cervical vertebral involvement along with dorsal spine (12.5%). This case series shows an increase in number of spinal tuberculosis without manifestations of primary disease and affecting mainly older age groups.

17

Role of Antibiotics During Change Over from Continuous Bladder Drainage to Intermittent Clean catheterization in Spinal Cord Injury Patients

Antony Sebastian D'Cruz
Christian Medical College, Vellore

Background : There are no systematic studies done to date regarding the prophylactic use of urine culture specific antibiotics during the starting of ICC in patients with Spinal cord injury.

Setting : Department of PM&R, Christian Medical College, Vellore.

Study Design : Randomised Control Trial

Objective : Test the hypothesis that the initiation of ICC in spinal cord injury patients, who have been on indwelling urethral catheter for a long time, under antibiotic cover is not superior to initiation of ICC without antibiotics.

Method: SCI patients on indwelling urinary catheter admitted in the department of PMR were recruited in the study according to the inclusion & exclusion criteria and randomized into 2 groups. One group received Urine culture sensitive 1st/2nd generation oral/

parenteral antibiotics for 5 days & the other group did not receive any antibiotic. Both the groups were observed for symptomatic UTI for a period of 1 week.

Criteria for symptomatic UTI was a positive urine culture of e^{105} colony-forming units (CFU)/ml with no more than 3 species of microorganisms and at least 1 of the following signs or symptoms with no other recognized cause: fever ($>38^{\circ}\text{C}$), urgency, frequency, dysuria, suprapubic tenderness, or costovertebral angle pain or tenderness.

This is a preliminary report of the ongoing study. The results of 33 patients included in the study will be analysed statistically & presented.

Key Words: SCI (Spinal cord injury), ICC (Intermittent clean catheterization).

18

Comparative Study on Various Guides Advocated for Evaluation of Impairment and its Constraints

Janaki Ballav Dash

Objectives Of Investigation: This subject is propitious of the multifactorial, elaborate, complicated, and comprehensive study based on various guides advocated by different authors in different times and the latest followed as advocated by expert group India (1981, 1989) and Macbride (1955) USA.

The sequence of events under scanner are

- Disease
- Injury
- Impairment (Temporary/Permanent)
- Disability
- Handicap

Methods Followed: Guides by various authors including expert group India (1981,1989) deals on percentage rating based on Kessler's method (1931) on permanent physical impairment (PPI) whereas Macbride, USA (1955) deals on PPI+Loss of earning capacity (LEC) taking 75% from PPI + 25% from lec for total evaluation / rating(%) declaring PWD(S) as handicap. Hence equitable adjustment has been made by giving relative weightage to PPI & LEC.

Although several guides are their in review of literature but this comparative study is based on only three guides viz:

1. Methods Advocated by Expert Group Expert Group (India) 1981,1989 based on Kessler's Method
2. Macbride Method : $Formula- PPI*75/100 + LEC*25/100$.
3. American Academy of Orthopaedic surgeons guidelines on PPI (% rating).

Results: Nine case records are to be highlighted for a comprehensive study to scale the various guides on their success ratio, hence indicative of the best adhering one.

Conclusion: Time and again impaired people are presumed to be cursed but its high time to gather our efforts to make them feel blessed.

19

Clinical Profile and Assessment of off Loading in Treatment of Non Healing Plantar Ulcers in Anaesthetic Foot

Siddharth Rai

KGMU, Lucknow

Aim: To determine the outcome of non-healing plantar ulcers in anaesthetic foot treated with off-loading (total contact casting) in terms of rate and duration of healing and percentage of ulcers healed based on improvement of Wagner's grading with respect to the clinical profile of the patient.

Methodology: All the patients with anaesthetic foot and having trophic ulcers up to grade 2 of Wagner's classification system were included in the study. Ulcers were surgically debrided to take off all the necrotic tissues and infected material down to viable tissues. For infected ulcers, appropriate antibiotics were given according to culture and sensitivity. Once the ulcer became clean, total contact cast was applied. TCC was renewed every two weeks. Main outcome measures included the rate and duration of healing and the percentage of the ulcers healed.

Result: 80% healed within eight weeks, rest six cases (20%) did not heal completely within time frame of eight weeks; healing defined by complete re-epithelisation of wound. Average duration of healing of an ulcer was 6.73 ± 1.92 weeks.

Conclusion: It was found that Off-loading with total contact casts is believed to be the gold standard method with better and faster healing rates, and its superiority to other treatment modalities is related to excellent compliance. The treatment of choice for an established trophic ulcer is the application of serial, light total contact plaster casts with relief from weight bearing.

20

Assessment of Scores and Parameters are Done Using Visual Analogue Scale

Raman Yadav

Safdarjang Hospital, New Delhi

Background: Lateral epicondylitis (tennis elbow) is the most frequent type of myotendinosis and can be responsible for substantial pain and loss of function of the affected limb. Corticosteroid injection is one of the most common interventions for lateral epicondylitis. Platelet rich plasma (PRP) has showed promising outcome and further research is needed. Hence we conducted a study to compare the effectiveness of methyl prednisolone and PRP in management of lateral epicondylitis.

Methods: A prospective randomized clinical study, including patients with lateral epicondylitis attending PMR OPD, VMMC & SJH is in progress from October 2012. 60 patients have been enrolled randomly into two groups, 30 in each group. Group A received single injection of methylprednisolone acetate (40mg) and group B received single injection of PRP (1ml) over point of maximum tenderness 1cm distal to lateral epicondyle.

Statistical Analysis: Observations are recorded in standard proforma and entered on excel sheet. The data will be analysed using SPSS 21 software taking $p < 0.05$ as significant.

Outcome Measures: Assessment of scores and parameters are done using visual analogue scale (VAS), quick DASH (Disability of arm, shoulder and hand index) score and grip strength assessment using

Jamar hand dynamometer.

Results & Conclusion: Till date 60 patients were enrolled, out of which 42(70%) were females and 18(30%) were males. The outcomes in these assessments will be presented in this study.

21

Percutaneous Release of Trigger Finger – A RIMS Experience

Naorem Bimol

Trigger finger or stenosing tenosynovitis is characterized by pain, swelling and limitation of finger motion and a triggering sensation. The primary pathology is thickening of the A1 pulley with resultant entrapment of the flexor tendon thus forming a triggering mechanism. It generally involves the thumb or the middle finger, but can affect any digits. The primary treatment is cortico-steroid injection. If not successful surgical release is usually done. Percutaneous release of trigger finger and thumb has recently gained popularity. The aim of this study was to determine the clinical results and safety of percutaneous release. Percutaneous release of trigger finger was performed in 41 patients as OPD case using a 24G needle. Steroid mixed with 1 ml of 2% xylocaine was injected which was followed by percutaneous release using the same needle. Free finger movement with loss of triggering was observed while the needle was still in place. Outcome measurement was done according to Oveinell's criteria. On follow up of the patients at three months, there was complete recovery in all the digits (95.1%) except for the thumb where 4.9% cases showed poor outcome. There were no major complications. We concluded that this technique is simple, easy and effective procedure with a low rate of complications.

Key words: Trigger finger, stenosing synovitis, percutaneous release, Oveinell's criteria

22

Complex Form of Trauma Along With Almost No Recovery is The Rule in Cases of Electric Shock Associated Spinal Trauma

Ravi

Aims and Objectives: The primary objectives of this investigation were 1) To study the epidemiological data and demographic characteristics associated with spinal trauma injuries secondary to electric shock 2) Impact of dual injury of spine trauma and electric injury to the vertebral column and spinal cord in terms of the neurological recovery patterns.

Methods: A Longitudinal prospective study among the patients attending tertiary care rehabilitation hospital was conducted from 1st October 2008 to 30th June 2010.

Results: 45 out of 2,358 admissions of spinal cord injury (SCI) were related to SCI secondary to electric shock. Site of entry wound in tetraplegic were hands (11/12) and tongue (1/12) with exit sites were in opposite hand (41.67%), legs (33.33%) or not defined (25%). In paraplegia, 16 of 26(61.53%) showed sign of entry in hands and site of exit in legs. Most common type of vertebral injury are dorsal spine injuries (28/45; 62.22%) followed by cervical injuries (10/45; 22.22%). 34 of 45 patients (75.55%) were ASIA 'A', 2 were ASIA 'B' (4.44%), one each in ASIA 'C' and 'D' and ASIA 'E'. Patients of ASIA 'A' showed no improvement. Only 2 patients out of 45 showed signs of partial recovery. One patient improved from ASIA 'B' to 'C'

where as one another patient improved from ASIA 'D' to 'E'. Mortality was 24.44% which suggest that it is a grievous type of injury.

Conclusion: Complex form of trauma along with almost no recovery is the rule in cases of electric shock associated spinal trauma. Polyneuropathies found in such cases are not affecting the outcome as spinal injuries are severe and almost showing no recovery. Multiple level vertebral fractures were almost present in half of the cases suggestive of severity of trauma.

23

Spectrum of Post Burn Deformity in Hand

Shadab, B.D. Athani, Nonica Laisram, Srikumar. V, Karoon Agrawal

Aims and Objectives: To study 1) the spectrum of hand deformities in post burn patients, 2) to assess the impairment and function of hand following burn injury.

Methodology: A cross sectional study among the patients with post burn attending Dept. of PMR OPD in VMMC & SJH was conducted from 1st October 2012 to 30th October 2013. Assessment was done using Michigan Hand Questionnaire for hand function and Total Active Motion of hand for impairment.

Statistical Analysis: Observations were recorded in standard proforma and entered on excel sheet. The data shall be analyzed using SPSS 21 software.

Results: Assessment of 72 patients (37 Males and 35 Females) with hand burn for residual hand function and range of motion shows thermal burn is the most common cause (66%), followed by electric burn (31%) and chemical burn (2%). Complete data will be presented at the time of presentation.

Conclusion: Burn contractures of the hand can produce a significant impact on quality of life by reducing a patient's ability to perform activities of daily living. Appropriate hand therapy combined with timely surgical release will give a much more functional hand.

24

Goltz Gorlin Syndrome: A rare syndrome – A Diagnostic and Rehab Challenge

Piyali Basak

Goltz Gorlin Syndrome is a rare x-linked dominant multisystem disorder with cutaneous, ocular, dental and skeletal abnormalities. Incidence is 1 in 1, 50,000 population. Female groups are more commonly affected than male (9:1). The present unusual case is a 2 years 3 months old boy with craniofacial dysmorphic features, limb abnormalities with limb length discrepancy and central hypotonia, skeletal abnormalities, cutaneous manifestations with developmental delay presented to PMR department of Dr. B.C. Roy Post Graduate Institute Of Paediatric Sciences, Kolkata. These all features are consistent with G G Syndrome. Various investigations also support diagnosis. This case is presented because of its extreme rarity together with an unusual presentation of male sex and cutaneous manifestations with unilateral CTEV. Rehabilitation of such a patient with multiple deformities is a challenge to physiatrists.

Keywords: G G Syndrome, Craniofacial dysmorphism.

25

Treatment of Plantar Fasciitis with Foot Orthoses like UCBL Shoe Insert

Chethan.C

Safdarjang Hospital, New Delhi

Background: Plantar fasciitis is one of the most common causes of heel pain, management of which continues to challenge physiatrists. This study was conducted to evaluate the effectiveness of three foot orthoses (University of California and biomechanics laboratory [UCBL] shoe insert, Silicone heel cup, Medial arch support with heel pad foot orthoses) in treatment of plantar fasciitis.

Methods: A prospective randomized clinical study was conducted from October 2011 to January 2013. 105 patients with plantar fasciitis were enrolled and were randomly assigned into three groups. Group A received UCBL shoe insert, group B received silicone heel cup, group C received medial arch support with heel pad as therapeutic method and were followed up at 1, 3 and 6 months.

Statistical Analysis: Multivariate ANOVA, Kruskal-Wallis test, chi square tests was used and results were considered significant at 5% of significance ($p < 0.05$).

Outcome Measures: Assessment of scores and parameters were done using Foot Health Status Questionnaire (FHSQ) and Foot Function Index (FFI).

Results: Age of the patients 39.8 ± 9 years. Duration of disease 11.3 ± 2 months. Foot pain scores showed significant improvement with all three orthoses using FHSQ and FFI scale during 1 and 3 month following which improvement plateaued at 6 month follow up. Foot function scores showed significant improvement using FHSQ and FFI (disability) scales at 1 month follow up in all three foot orthoses. General foot health status domain scores showed significant improvement at 1 and 3 month follow up and scores plateaued at 6 month follow up in group A & C.

Conclusion: Treatment of plantar fasciitis with foot orthoses like UCBL shoe insert, pre fabricated silicone heel cup, medial arch support with heel pad; along with stretching exercises of plantar fascia and tendo Achilles is an effective method to relieve pain, improve foot function and to improve the general foot health condition.

26

Effect of Rehabilitation Program on Functional Outcome in Paraplegic Patients

Amol Khade

This prospective study was conducted to assess the functional improvement in paraplegia patient, admitted at AIIPMR Mumbai secondary due to various etiologies. 22 numbers of patients were included in study & divided into two groups, first group consisted patient with spinal cord injury with less than one year onset of paraplegia, second group consisted duration more than one year. Detailed history and clinical examination Modified Barthel Index & FIM score were drawn at the time of admission. Both groups then exposed to comprehensive rehabilitation program for average of three months. At the time of discharge functional score were again drawn paired t-test was applied to compare admission & discharge score. Both study groups showed significant improvement in both Modified Barthel Index & FIM score. Thus comprehensive rehabilitation program has significant impact on functional outcome. Comprehensive rehabilitation program can be started at any stage of

SCI but it is desirable to start early rehabilitation program to prevent morbidity.

27

Multiple Amputee - Which way to Go?

Sudhil TR, Sooraj Rajagopal, Sreedevi Menon P

Government Medical College, Kozhikode

A 38 year old lineman of the KSEB who had lost both his upper limbs and his right lower limb following electrocution injury one year previously, presented at the PMR OPD. Records revealed a failed attempt to salvage his limbs. Multiple amputations were done on his upper limbs serially. The final levels on both upper limbs were high transhumeral, resulting in very short stumps almost like shoulder disarticulations. The end of the right stump was covered by a split skin graft.

The right lower limb was fitted at PMR with a Transtibial PTB type of prosthesis with neoprene sleeve suspension. For the upper limbs we gave him light weight cosmetic upper limb prostheses. With a palmar pouch added on the right, the patient could scribble with a pen. However, the patient wanted functional transhumeral prostheses. Due to the short stumps and scar we decided on deepening the axillae to achieve more of abduction, with which the Department of Plastic Surgery concurred.

Which way are we to go? Options before us are - 1) To tell the patient to be satisfied with the current prostheses 2) To work towards better prostheses. But none of the leading firms providing modern prostheses came up confidently to take up the challenge. Still, taking into consideration his age, ambition and determination we have chosen the second option and are working towards it in collaboration with NIT, Calicut.

Keywords: High transhumeral amputation, short stumps, scar, split skin graft, functional transhumeral prostheses, transtibial prosthesis.

28

Prevalence of fatigue in Guillain-Barre Syndrome in Neurological Rehabilitation Setting

Meeka Khanna, PrajnaRanjani M, Anupam Gupta, MadhuNagappa, Arun B Taly, Partha Haldar

National Institute of Mental Health and Neurosciences, Bangalore

Context: Fatigue contributes significantly to the morbidity and affects the quality of life adversely in Guillain-Barre Syndrome (GBS).

Objective: To determine the prevalence of fatigue in GBS in Neurological Rehabilitation setting and to study clinical correlates of fatigue in GBS.

Setting and design: The study involved secondary analysis of data of patients with GBS admitted in Department of Neurological Rehabilitation, NIMHANS, Bangalore.

Material and methods: Fatigue was assessed by Fatigue Severity Scale, disability status by Hughe's Disability Scale, functional status by Barthel Index, anxiety/depression by Hospital Anxiety Depression Scale, sleep disturbances by Pittsburgh Sleep Quality Index and muscle weakness by Medical Research Council sum scores; at both admission and discharge.

Statistical analysis: Was performed by Stata 11. The significance of p value was adjudged against an alpha of 0.05.

Results: Ninety patients (62 men) with mean age 34 (95% CI 32.2,

37.7) years were included. The median duration of symptoms was 18.5 days and the median duration of stay was 30 days. Fatigue (FSS ≥ 4) was present in 35 (38.9%) patients at admission and in 11 (12.2%) at discharge. Fatigue did not correlate with age, gender, antecedent illness, muscle weakness, disability status, and depression and sleep disturbances ($p > 0.05$). Fatigue at admission correlated with ventilator requirement ($p = 0.021$) and presence of neuropathic pain ($p = 0.03$). Fatigue persisting at discharge correlated with disability, HDS (e^3) ($p = 0.008$) and presence of anxiety ($p = 0.042$).

Conclusion: Fatigue is prevalent in GBS during early recovery phase of illness. Despite motor recovery fatigue may persist.

Key message: Fatigue is under recognized in GBS. Knowledge about fatigue as burden of disease in these patients will improve patient care.

29

Identifying Rehabilitation Challenges in Persons with Traumatic Brain Injury (TBI) in a Tertiary Rehabilitation Set-up: A Retrospective Study.

H. Sankaranarayanan

St. John's Medical College Hospital, Bangalore

Objective: To delineate the rehabilitation profile of persons with TBI.

Setting: Department of PMR, St. Johns Medical College Hospital, Bangalore.

Study design: Retrospective analysis.

Methods: Information was collected from discharge summaries of persons with TBI ($n = 33$) admitted from January 2012 to December 2012.

Results: Most of the persons with TBI were men (88%). Mean age of the group was 36. TBI were mainly from RTA (85%), falls (12%), and assault (3%). 49% of the RTAs involved a two-wheeler. 58% had severe brain injury. 45% of the persons had other fractures and 36% had other injuries (cranial nerve palsies, pneumothorax, lacerations, SCI). 30% had undergone a cranial surgery. Mean delay from injury to rehabilitation was 120 days. The mean duration of stay in PMR was 19 days. The mean cost of inpatient stay was 31,506 rupees. 67% had a Tracheostomy after their TBI and 23% had it decannulated while in PMR. The following complications were noted: Seizures (15%), Spasticity (46%), Dystonia (12%), Heterotopic Ossification (3%), Hyponatremia (15%), DVT (6%). At the time of discharge, 51% were in RLA Stage 5 or less, 45% were non-ambulant, 30% had a tracheostomy and 24% were not eating by self. 64% did not have any anti-epileptic drug (AED) on discharge. Levitracetam was the common AED (18%).

Conclusion: TBI appears to be mostly in men in their third decade involving a two-wheeler RTA. Seizures, spasticity, dystonia, heterotopic ossification, hyponatremia, and DVT seem to be the significant considerations in the management of TBI. Adequate emphasis needs to be given early for avoiding the preventable complications. The care burden and expenses in the post discharge setting also appear to be considerable.

30

To Determine the Relationship between Pressure Ulcer(S) and Depression in Spinal Cord Injury Individuals in A Tertiary Rehabilitation Centre: A Prospective Study

Priyanka Tiwari, Kurian Zachaiah, Johnson Pradeep

St. John's Medical College Hospital, Bangalore

Background: Pressure ulcer (PU) and depression are two of the most common secondary complications post spinal cord injury (SCI). Both these complications have been proven to be inter-dependent. Depression has been proven to be one of the indirect risk factors for PU formation. PU, once formed, might lead to a poor self-image, inferiority complex and ultimately depression. Hence early screening of patients for depression is imperative.

Objective: To determine relationship if any between depression and PU in SCI individuals

Setting: Department of PMR, St Johns Medical College Hospital, Bangalore

Study design: Prospective study

Methods: 60 SCI patients in PMR Department (inpatients and outpatients) were included in the study. They were evaluated for depression by using validated scales. Follow-up assessments were done for presence of depression and PU at the time of discharge and at 6 months.

Results:

- The association between depression at discharge & PU at follow up was statistically significant.
- Patients diagnosed with depression at discharge were found to be at 5% increased risk of having PU at the 6 month follow up.

Conclusion:

- The incidence of PU at the 6th month follow up was more in those diagnosed with depression at discharge.
- Those who were diagnosed with depression at the time of discharge were more prone to develop PU later than those who were non-depressed.

31

Needle Aponeurotomy in Dupuytren's Contracture

Tojo P.Joy, Roy R Chandran, T K Vasudevan, Sreedevi Menon P

Govt. Medical College, Kozhikode

Dupuytren's Contracture is a proliferative fibroplasia of the subcutaneous palmar tissue occurring in the form of nodules and cords that may result in secondary progressive and irreversible flexion contractures of the finger joints. Mainstay of treatment is surgery. Standard surgical methods include fasciotomy, fasciectomy, dermofasciectomy. Needle Aponeurotomy (NA) is a new non-surgical procedure for the treatment of Dupuytren's Contracture. It is a minimally invasive procedure done under local anesthesia and lasting about 10-15 minutes. The physician uses a small hypodermic needle to divide and sever the contracting bands in the diseased areas of the palm and fingers.

In surgical correction, incidence of scarring is more, there is a need for in-patient care, 3 to 4 weeks of rest and post-surgical rehabilitation. NA is less time consuming, inexpensive, without scarring with a low incidence of post-operative stiffness and the patient can resume his/her activities in a week. The disadvantage is that recurrence is slightly more after NA as shown by some studies

but repeat procedure is easy after NA. Ten patients with Dupuytren's contracture underwent NA from our department and they are under follow up.

Key words: Dupuytren's Contracture, Needle Aponeurotomy, minimally invasive, less scarring.

32

Bifid Median Nerve in Carpal Tunnel - Two Case Reports

Arunram M.V, Sreejith K, T K Vasudevan, Sreedevi Menon P
Govt. Medical College Kozhikode, Kerala

Carpal tunnel syndrome (CTS) is the most common nerve entrapment syndrome and it may be associated with anatomical variations of the median nerve. As shown by review of the literature, variations of the median nerve in the carpal tunnel are not uncommon, but the practitioners rarely think of it in CTS diagnostic and therapeutic approach. We present case reports of two patients with CTS having bifid median nerve and persistent median artery, along with correlation of the clinical, electrophysiological and ultrasonography findings.

Key words: Bifid median nerve, persistent median artery, carpal tunnel sonography.

33

Neuro-Rehabilitative Measure

Soumya Santapan

Objectives of investigation: Stroke is one of the leading causes of morbidity. It is grossly categorized into two groups- Ischemic and Hemorrhagic. Incidence of ischemic stroke is greater than hemorrhagic. In majority of the hemiparetic patients, the upper extremity is usually more involved than the lower. The functional recovery of upper extremity is less and delayed as compared to the lower. The purpose of this study is to compare the functional recovery in upper extremity of stroke patients belonging to both the ischemic and hemorrhagic categories following neuro-rehabilitative measures.

Methods: From the stroke patients admitted in Rehab. Dept.(Patna Medical College), 11 ischemic and 11 hemorrhagic stroke patients satisfying the inclusion criteria were randomly chosen after taking consent. They were divided into two groups- A and B respectively. Patients of both the groups received the same neuro-rehabilitative measures- upper extremity splints, proper positioning of upper extremity, gentle passive ROM exercises twice daily, suspension therapy of shoulder, anti-spasticity medication, anti-platelet and antihypertensive drugs accordingly, etc. Upper extremity function was measured using FUGL-MEYER ASSESSMENT UPPER EXTREMITY (FMA-UA) scale at 0 week (pre-treatment) and 12 weeks (post-treatment) in both groups.

Results: Majority of the patients in both the groups showed satisfactory improvement of upper extremity functions at the end of 12 weeks of treatment. Group-B patients showed better improvement as compared to Group-A patients.

Conclusion: Neuro-rehabilitative measure are beneficial for recovery of upper extremity function in both categories of stroke patients- ischemic and hemorrhagic. Early implementation of these measures leads to better outcome.

34

A Comparative Study of Steroid Injection with Ultrasound Therapy Versus Oral Medications in Tennis Elbow

Madhusree Sengupta, Ameen Equebal, Prasanna Lenka, Abhishek Biswas, Ambar Ballav

National Institute For The Orthopaedically Handicapped, Kolkata

Tennis elbow is a tendinopathy caused by repetitive strain to the extensor origin of muscles at the lateral epicondyle.

Objective: Comparison of two treatment protocols, steroid injection followed by ultrasound therapy versus oral medications in tennis elbow. Patients from the outdoor of NIOH hospital, were included. The inclusion criterias were- Patient of tennis elbow of either sex and age between 18-60 years with duration of symptoms less than 6 weeks. Patients having other medical conditions were excluded.

Method: In the first visit all patients were advised to follow therapeutic lifestyle changes(TLC) for eight weeks. Age, Sex, Profession, Type of pain (constant or intermittent) Dominance of hand , Pre treatment pain by VAS score(subjective), tenderness by Tenderness Score (subjective) and Pain Pressure Threshold by Algometer (objective) were assessed. 32 patients were treated by (triamcinolone) injection followed by ultrasound therapy(IU) and 29 patients were treated by oral medications (tablet M) containing Collagen Peptide 1,Sodium Hyaluronate, vitamin C, Chondroitin Sulphate and then followed up using the same parameters at 2 , 4, 6 and 8 weeks.

Result: Analysis of data using 'paired t test' revealed a statistical significance in the differences of results of the two treatment regimes at 2 weeks, however at 8 weeks the differences were not statistically significant. The study is ongoing.

Conclusion: Treatment of tennis elbow with tablet M could be a viable option for patients unsuitable for or denying treatment by injections or unable to come regularly for ultrasound therapy sessions.

Key words: Tennis elbow, therapeutic lifestyle changes, steroid injection, ultrasound, VAS, algometer, tenderness score, collagen peptide, sodium hyaluronate, vitamin C.

35

Bivariate Analysis of Fasting Lipid Parameters and Anthropometry in People of North Kerala

Bineesh, Roy R Chandran, Krishnaprasad, Sooraj Rajagopal, Sreedevi Menon P

Govt Medical College, Kozhikode, Kerala

It is commonly perceived that obese people have deranged lipid parameters. Laymen & many clinicians assume that an obese person has high Cholesterol, high Triglycerides, & reduced HDL. In this study 500 patients who attended the Lifestyle Diseases Clinic were studied. Bivariate analysis of the following parameters was done:-

- (1) BMI & Total Cholesterol
- (2) BMI & LDL
- (3) BMI & HDL
- (4) BMI & VLDL
- (5) BMI & Triglycerides
- (6) BMI & Total Cholesterol/HDL
- (7) Body weight & Total Cholesterol
- (8) Body weight & LDL
- (9) Body weight & HDL
- (10) Body weight & VLDL

- (11) Body weight & Triglycerides
- (12) Body weight & Total Cholesterol/HDL
- (13) Waist Circumference & Total Cholesterol
- (14) Waist Circumference & LDL
- (15) Waist Circumference & HDL
- (16) Waist Circumference & VLDL
- (17) Waist Circumference & Triglycerides
- (18) Waist Circumference & Total Cholesterol/HDL
- (19) Waist Circumference & BMI
- (20) Waist Circumference & Body weight.

A recent study conducted in 100 patients revealed no significant correlation between anthropometry and lipid parameters exploding some popular myths. So the study was extended to 500 patients to clarify further and the results are being analyzed. They will be presented in the final paper.

Key words: BMI, Lipid parameters, anthropometry, bivariate analysis.

36

Comparison of Efficacy of Phenol Neurolysis in Spastic Equinus of Brain Origin (Stroke and Tbi) with that of Spinal Origin

Soumya Viswanath, T.K. Vasudevan, Krishnaprasad .I.N, Abdul Gafoor. S
Govt Medical College, Kozhikode, Kerala

Spasticity is one of the most challenging issues confronting rehabilitation clinicians in the case of patients with neurological disabilities. Various treatment options, both general and focal are available with different functional outcomes. Among the treatment modalities available for spastic equinus, phenol chemoneurolysis appears to be the cheapest option. It provides a temporary motor nerve block that allows passive limb mobilization and prevents soft tissue contractures, facilitating smoother nursing care. Although it is a reversible procedure, it is clear that this 'old technique' will provide a better quality of life for patients and care givers, resulting in a significant reduction in pain and spasticity.

The present study was an attempt to evaluate and compare the effectiveness of phenol neurolysis in spastic equinus of brain origin (stroke and TBI) with that of spinal origin. It was a cohort study carried out over a period of 1 year. It included 40 subjects. Among these, 20 were SCI patients, 15 stroke and 5 TBI. Spasticity was measured using the Modified Ashworth Scale. MAS was assessed before motor branch block and at 1, 4, 8, 12, 18 and 24 weeks. Side effects of phenol neurolysis were also noted. To conclude, phenol neurolysis was found to be effective in reducing plantar flexor spasticity. Effects were comparable in patients with brain injury and spinal injury. Duration of efficacy ranged from 18 to 24 weeks. Clonus and PROM of ankle improved after neurolysis. No serious side effects were observed.

Key words: spasticity, phenol chemoneurolysis, spinal cord injury, acquired brain injury.

37

All OA Knee are not OA – A Case Series

Rajesh Pramanik

IPGME&R, Kolkata

Osteoarthritis is one of the prevalent conditions affecting primarily the knee joint in India in contrary to the Hip OA in western world.

This presentation is based on the clinical data and observations from a speciality clinic in a tertiary care centre over last two years. This is a case series consisting of patients referred for management of OA who actually suffering from some other diseases. The spectrum of case series is really huge ranging from uncommon conditions like synovial chondromatosis, osteopoikilosis etc. to common condition like tubercular infections.

Interestingly some of the patients who were presented with severe knee pain precipitated by trivial trauma, were diagnosed initially cases of OA. Further assessment showed different aetiologies of pain like patellar haemangioma, chondroblastoma etc. Most important aspect of this series is a significantly high number of cases with patella-femoral joint pain syndrome were initially treated as patello-femoral OA knee. As per our observation uncared hamstring and/ or hip flexor tightness is one of the major cause of patello-femoral joint pain syndrome in this of the world.

Last but not the least this presentation is also consisting of the data representing that all primary OA are not primary osteoarthritis as per our observation in our clinic. This is a humble attempt to share our experiences about a bit of preoccupied ideas and biasness for OA knee.

Key word: osteoarthritis knee, primary OA, patella femoral joint pain syndrome.

38

Awareness of PMR among Health Care Professionals: A Cross Sectional Study

Shigy Francis, Kurian Zachariah, Naveen Mathew Jose, H. Sankaranarayanan
St. John's Medical College Hospital, Bangalore

Background: Physical medicine and rehabilitation is an established medical specialty that aims to enhance functional ability and restore quality of life to those with physical impairments and disabilities. Unfortunately, there is a huge shortage of PMR departments in our country. This paper presents finding from a survey of health care professionals regarding their awareness of PMR.

Objective: To assess the awareness about PMR facilities among hospital administrators.

Methods: Validated questionnaire was mailed to the Administrators and Medical superintendents in 924 hospitals across India. A total of 67 responses were obtained and only 60 were included for analysis.

Results: The physiatric skills correctly identified by a majority of respondents were limb prosthesis evaluation (68.3%), trigger point injections (58.3%), and Nerve conduction and Electromyography studies (51.7%). Skills correctly attributed to PMR by significantly fewer respondents included Motor point block (48.3%), Urodynamics (33.3%), Surgery-amputation, tendon lengthening, skin grafting (30.70%) and Epidural injection (26.7%). Correctly identifying the skills possessed by a subspecialist is integral to making a decision to refer.

55% of the respondents agreed physiatry is a synonym for PMR and 83.3% recognized it as specialty recognized by Medical Council of India. 91.7% believed that they understood the Difference between Physiatrist and Physiotherapist. Only 43.3% of the respondents reported that they referred patient to PMR with an average of >3 patients per month.

Conclusion: Hospital Administrators and Medical superintendents should be educated about the benefits of referring patients to physiatrists. Even though their knowledge about the specialty is good,

the actual referral status is inadequate. This points to the fact that the respondents are unable to refer people with disability because of the lack of PMR Departments for rehabilitation. This emphasize the need of more PMR departments and more Physiatrists in India for the people with disabilities.

39

Surgical Intervention in Management of Diplegic Cerebral Palsy and its Rehabilitation Outcome

Sabir P. Ajit Kumar Varma

Patna Medical College, Patna

Objective of investigation: Cerebral palsy is the term for a range of non-progressive syndrome of posture and motor impairment that result from an insult to the developing central nervous system. The aim of this study is to observe the result of surgical intervention in diplegic patients and also to compare the efficacy of surgery with that group of patients who were not operated and are simply put on conservative treatments.

Methods: 30 diplegic cerebral palsy patients admitted in rehab dept (Patna medical college) were included in this study. Patients were divided into experimental and control group and each group comprised of 15 patients irrespective of age and sex. Inclusion criteria being spastic diplegia, popliteal angle more than 40, presence of knee standing balance. Both groups were kept under conservative management whereas only experimental group were also subjected to surgical intervention like adductor tenotomy, Fractional Hamstring release or both in the same individual.

Result: Patients were assessed at the end of 2nd month and 4th month for noting decrease in popliteal angle, improvement in hip abduction and improvement of balance.

Conclusion: This study showed that patients undergone surgery in addition to conservative management had a better outcome in walking and improving balance in comparison to the conservatively treated control group.

40

Injections: The Saviour in Painful Shoulder

Roy. R. Chandran

Govt. Medical College, Kozhikode, Kerala

The shoulder has been traditionally known as the unanswered joint and shoulder pain is bread and butter for a rehabilitation specialist. The shoulder is the site of multiple injuries and inflammatory conditions that lend themselves to diagnostic and therapeutic injection. Joint injection should be considered after other therapeutic interventions such as nonsteroidal anti-inflammatory drugs, therapeutic exercises and activity-modification have been tried. Indications for glenohumeral joint injection include osteoarthritis, adhesive capsulitis, crystal arthritis and rheumatoid arthritis. For the acromioclavicular joint, injection may be used for diagnosis and treatment of osteoarthritis and distal clavicular osteolysis. Subacromial injections are useful for a range of conditions including adhesive capsulitis, sub-deltoid bursitis, impingement syndrome, and rotator cuff tendinosis. Scapulothoracic injections are reserved for inflammation of the involved bursa. Persistent pain related to inflammatory conditions of the long head of the biceps responds well to injection in the region.

In this new era of fast life; patients need faster recovery from pain

and disability; the interventional pain management has an upper hand rather than traditional methods including physiotherapy. All rehabilitation specialists should be well equipped with interventional pain management techniques. Adequate knowledge about proper technique, choice and quantity of pharmaceuticals, and appropriate follow-up are essential for effective outcomes. Corticosteroids still continued to be the main player among injectables. Newer additions like hyaluronic acid and platelet rich plasma are now increasingly in use. An active rehabilitation program, along with these interventions significantly, reduces the need for surgery, fastens recovery and will save money and time.

41

Significance of Early Mobilisation of The Upper Limb in Stroke Survivors in The Prevention of Complex Regional Pain Syndrome (CRPS)

Sabeela P.P. T.K. Vasudevan, Sreedevi Menon P

Govt Medical College, Kozhikode, Kerala

Complex Regional Pain Syndrome (CRPS) of the upper limb is common in stroke survivors. This increased incidence in stroke survivors is attributed to immobilization coupled with changes in muscle tone. This can lead to restriction of Activities of Daily Living (ADL).

This is a study on the significance of early mobilization of the shoulder and the hand of stroke survivors in prevention of CRPS. 30 stroke survivors have been included in the study, from July to November, 2013. They are divided into two groups- A & B with 15 patients in each group. Range of Motion (ROM) of shoulder was measured by goniometry and recorded; pain, if any, was measured by the Visual Analogue Scale (VAS). They were reviewed on the 3rd and 7th days and at the end of the 2nd, 4th and 8th weeks. Gentle passive ROM exercise and positioning of the shoulder and hand were advised. Recording of ROM and VAS were done at each review. Patients in Group B were those who presented at various durations post stroke. They were examined to note whether they had associated CRPS. The incidence of CRPS in Group A (with early rehabilitation measures) was compared with that in Group B (without early rehabilitation).

In Group A, nobody has developed CRPS. In Group B, 60% of the patients developed CRPS of upper limb on the affected side.

It is concluded that early rehabilitation in stroke survivors may play an important role in preventing the development of Complex Regional Pain Syndrome.

42

Use of Ultrasound Scan-guided Supraclavicular Brachial Plexus Block in Complex Regional Pain Syndrome

Farhana K.M.P. Sabeela P, Sreejith K, Reeba Mary Mani, Sreedevi Menon P

Govt. Medical College, Kozhikode

A 61 year old female presented with complaints of pain and stiffness of both hands and both shoulders following lightning and was diagnosed as having Complex Regional Pain Syndrome (CRPS). Pharmacological and physical modalities of treatment were given. There was not much relief. Then we tried repeated Ultrasound Scan-guided supraclavicular brachial plexus block. After each block, the patient was given Passive ROM exercises. She had significant

improvement. This case is to highlight the use of Ultrasound Scan-guided regional blocks in the management of CRPS.

Key words : CRPS, supraclavicular brachial plexus block, Ultrasound Scan-guided regional blocks.

43

Rehabilitation Issues in Breast Cancer Survivors

Sruthi.K.T., Sooraj Rajagopal, Sreedevi Menon. P
Govt. Medical College, Kozhikode, Kerala

Breast cancer is one of the most common malignancies affecting women worldwide. India is in the grip of a breast cancer epidemic. Based on National Cancer Registry Programme [NCRP], breast cancer constitutes 32% of all female cancers in India, of which about 48% occur in women below 50 years of age.

With the advent of modern treatment options in surgery, radiotherapy, chemotherapy and hormone therapy, more breast cancer-affected women are being cured and survival rates have increased. Survivors face physical, financial and psychosocial issues. Rehabilitation can help to maximize the functional status of breast cancer survivors.

A study was conducted among 35 women treated for breast cancer & rehabilitation issues in their physical, work & financial domains were studied, in the Department of Physical Medicine & Rehabilitation, Govt. Medical College, Kozhikode, Kerala. The study showed that more than half of these patients had physical issues-lymphoedema (70%), restricted shoulder ROM (65%), brachialgia (60%), sensory symptoms of upper limb(30%) and autonomic disturbances(15%). 75% of survivors were adjusted to carrying on their normal work. 50% had financial issues due to the disease & its treatment.

Poster Abstracts

P-1

Ultrasound Guided Aspiration of A Ganglion Causing Carpal Tunnel Syndrome

Shadiya Beegum PV, Sudhil TR, Sreejith K, Sooraj Rajagopal, Sreedevi Menon P

Department of Physical Medicine And Rehabilitation, Government Medical College, Kozhikode.

A 57 year old male presented with pain and numbness over the right 3 lateral fingers. On examination, a swelling was found over the volar aspect of the right wrist. An ultrasonographic examination of the swelling revealed it to be a ganglion compressing the median nerve, which was aspirated. Intralesional triamcinolone was given, following which patient had complete resolution of symptoms.

Key words : Carpal tunnel syndrome, ganglion, ultrasound-guided aspiration, intralesional triamcinolone.

P-2

A Sinister Cause for Cervical Brachialgia

Prakash KV, Sreejith K, Vasudevan TK, Sreedevi Menon P
Department of PMR, Government Medical College Calicut

A 55 year old lady presented with 4 years' duration of radiating paresthesia and occasional pain of the left upper limb. Detailed examination showed a small swelling on the left side of the neck in the supraclavicular area. Tinel's sign was positive. There was no motor or sensory involvement. The patient was treated on an outpatient basis. USG was done which showed normal brachial plexus on the right side. The left side showed an oval swelling lying lateral to the subclavian artery with a hypoechoic area with hyperechoic septations.

MRI Report: Well-defined, altered-signal intensity lesion, posterosuperior to clavicle in relation to brachial plexus shows hypo-intense in T2 and T1WI, hyper-intense in T2& STIR images, showing heterogenous contrast enhancement. A neurogenic tumour in relation to brachial plexus is most likely at level of lesion.

Key words: Brachial Plexus, Tinel's Sign, Swelling, Supraclavicular area.

P-3

An Unusual Presentation of Foot Drop

Reshmi PV, Tojo P Joy, Reeba Mary Mani, Krishnaprasad, V R Rajendran, Sreedevi Menon P

Department of PMR, Govt. Medical College, Kozhikode

A 27 year old agricultural worker presented with weakness of the right lower limb with distal involvement more than proximal, but ambulating unassisted. He was previously diagnosed to have a right iliac fossa mass from which biopsy was done which showed caseating granulomatous lesion. He was on ATT when he reported at PMR.

While in the rehabilitation ward, the weakness of his right lower limb progressed rapidly. The patient was showing a high stepping gait with footdrop and weight loss. Abdominal palpation showed a fixed firm mass in the right iliac fossa and right lumbar region. Re-

investigation of the abdominal mass was done with USG and CT. The possibilities of Multidrug Resistant TB or a coexistent retroperitoneal mass (like lymphoma) were considered. The previous histopathology slides were reviewed and diagnosis of tuberculosis was reconfirmed. Further investigation with MRI showed a retroperitoneal mass compressing the lumbar plexus. Repeat open biopsy showed a Peripheral T cell lymphoma confirmed by immunohistochemistry. An AFO was given for the right lower foot. The patient was then referred to surgical oncology. Now the patient is receiving treatment for lymphoma and the ATT has been completed as per the DOTS schedule.

Keywords : Foot drop, Peripheral T Cell Lymphoma, Tuberculosis.

P-4

Do Pressure Ulcers Need A Second Look?

Bibin.T. Roy, R Chandran, Tk Vasudevan, Sreedevi Menon.P

Department of Physical Medicine & Rehabilitation, Government Medical College, Kozhikode, Kerala

A 30 year old male who is a known case of traumatic paraplegia (ASIA-A) following fracture of T3 & T4 spine of 8 years' duration, was referred to PMR from palliative care for management of chronic pressure ulcer on the right trochanteric area. History revealed occurrence of recurrent fever, headache, profuse sweating, fluctuations in blood pressure for all of which he was being managed as having autonomic dysreflexia. Examination showed 8 x 5 cm sized ulcer over the right trochanteric area, with profuse discharge. The hip capsule was visible. Increased external rotation of hip was noted on the right side. X ray pelvis with both hips showed destruction of the right femoral head. CT showed chronic psoas abscess on the right side, which was aspirated under USG guidance & sent for AFB culture which turned out to be positive. MRI showed granulomatous lesion in the spine. The patient was started on ATT & he became symptomatically better. This case shows the importance of detailed evaluation in patients presenting with chronic pressure ulcer along with systemic features and recent worsening of symptoms.

Key words: chronic pressure ulcer, caries spine, detailed evaluation.

P-5

Low Back Pain – A Pandora's Box

Sonu Mohan, Roy R Chandran, Tk Vasudevan, Sreedevi Menon P

Department of Physical Medicine & Rehabilitation Government Medical College, Kozhikode, Kerala.

A middle aged female who was under treatment for Chronic Low Back Pain which was diagnosed as Degenerative Disc Disease by various other departments for more than 10 years, was sent to PMR for physical modality (deep heat therapy). Detailed clinical examination showed no significant findings. Her X-ray showed a lytic lesion in the sacral area which on MRI showed Sacral Chordoma which was excised en bloc, and this finally resulted in relief of symptoms.

Key words: low back pain, chordoma, resection, rehabilitation.

P-6

Rehabilitation Challenges in A Quadruple Amputee – A Case Report

Madhusree Sengupta, Prasanna Lenka, Rakesh Jhalani, Ameer Equebal, Abhishek Biswas, Ambar Ballav

National Institute For The Orthopaedically Handicapped, Kolkata

Mrs K presented to the OPD of NIOH, Kolkata with quadruple amputation to obtain artificial limbs. History revealed she had undergone hysterectomy (TAHBSO) which lead to sepsis followed by distal symmetrical progressive gangrene leading to amputations. Examination revealed that she had right wrist disarticulation, left transradial, and bilateral transtibial amputation. There was restriction of ROM in both upper limbs and bilateral genu valgum. She was fully dependant in mobility, transfers and ADL.

Objective: To take the challenges of making the patient functionally independent and socially acceptable.

Method: Rehabilitation programme was initiated where she was provided medical management, psychological and social support

with intervention from physiotherapy, occupational therapy, prosthetics and orthotics.

Result: At three months there was significant improvement with an increase in her FIM score and ROM of the joints of the residual limbs. She was provided assistive devices and temporary prosthesis with PTB socket with supracondylar suspension with soft inner lining with adjustable uprights with rocker bottom foot and cosmetic exoskeletal BE prosthesis with mechanical hand, flexible elbow hinges, Bowden cable system and figure of 8 harness. But after repeated surgical exploration there was a persisting ulcer of the right residual limb causing hindrance to prolonged prosthetic use. A wedge osteotomy has been planned following which a definitive lower limb prosthesis may be given. Conclusion - quadruple amputation is a catastrophic event that cripples an individual psychologically and functionally. With a well designed rehabilitation programme we can restore the person to her optimal place in the society.

Key words: quadruple amputation, distal progressive symmetrical gangrene, dependence in ADL, prosthesis.