Methods Used: 170 children with GMFCS V & IV (mean age 9.68±4.77) participated in this study. The surgical procedures were performed by a single Orthopaedic Surgeon which included Intramuscular Release and Controlled Tendon Lengthening using the principles of Orthopaedic Selective Spasticity Control Surgery and simultaneous restoration of lever arm dysfunctions and was followed by protocol based, sequenced multidisciplinary rehabilitation for an average of 6 months. The outcome measures such as component of GMFM-88, Functional Mobility Scale (FMS), Physicians Rating Scale (PRS), Manual Ability Classification System (MACS) were used to compare the functional status of the child before and after the surgery and rehabilitation.

Results: The results showed a significant improvement in all GMFM-88 components. The result of Pre-Post PRS evaluation showed a significant improvement for both sides (Right: t-8.60, (P<0.001); Left: t-9.21, (P<0.001). The improvement in the MACS (Right: t-4.05 (P<0.001); Left: t-5.74 (P<0.001) and FMS (t-5.46 (P<0.001) were also significant among both GMFCS V and IV.

Conclusion: A well-planned and executed SEMLARASS, followed by intensive protocol based rehabilitation, in the context of a multi-disciplinary team, provides the person with GMFCS levels IV and V a significant functional improvement.

O33

Study of correlation between neurological level of spinal injury and bladder functions as detected by urodyanamic study

Aggarwal Mahima

Study design and subjects: Analytical study

Objectives: To study the correlation between neurological level of spinal injury and bladder functions as detected by urodyanamic study.

Methods: Seventy individuals with traumatic spinal cord injury (SCI) admitted to the department of Physical Medicine and Rehabilitation, S.M.S. medical college and hospital, Jaipur, were include in the study. Detailed clinical, neurological evaluation as per American Spinal Injury Association Classification (ASIA) and radiological assessment were done along with clinical examination of bladder and urodyanamic study for evaluation of bladder behavior.

Results: Out of sixty five patients with suprasacral injuries, 53(81.5%) demonstrated hyperreflexia with or without detrusor sphincter dyssynergia, 6(9.2%) detrusor areflexia, and 6(9.2%) had normal bladders, 28(43.1%) had low compliance (less than 12.5ml/cm H2O) and 47(72.30%) had high detrusor leak pint pressures (greater than 40 cm H2O). Of the 5 patients with sacral injuries, 1(20%) had detrusor hyperreflexia, 4(80%) had detrusor areflexia, 1(20%) had low bladder compliance and all 5(100%) had high detrusor leak point pressures.

Conclusions: The correlation between somatic neurologic findings or spinal imaging studies and urodyanamic findings in patients with spinal cord injury is not exact. Therefore, bladder management should not completely rely only on clinical bladder evaluation and neurological examination alone, but should always include Urodyanamic studies.

Keywords: Dyssynergia, Detrusor, Bladder, Spinal cord injury (SCI), Urodyanamic study

O34

Study to assess non-invasively the cardiac autonomic dysfunction in patients with chronic spinal cord injury (SCI)

Naveen B P

Abstract: The objective of the study was to assess non-invasively the cardiac autonomic dysfunction in patients with chronic spinal cord injury (SCI). 14 male patients with chronic SCI and a neurologically complete lesion with a neurological level of T6 or above were included. An equal number of age and sex matched healthy individuals were the controls. Short term ECG recording for a duration of 5-min was done followed by offline analysis of the data. Mann-Whitney test was used to compare the patients with the controls and Wilcoxon matched-pairs signed-ranks test for within the group analysis. Heart rate variability analysis showed a significantly decreased absolute power in the low frequency and high frequency components in the SCI group in sitting position as compared to that of controls. No significant differences were noted in the frequency domain between SCI patients and controls in supine position, as well as within the SCI patients on changing of position from supine to sitting. The controls showed a significantly increased LF:HF (low frequency:high frequency) ratio on change of position from supine to sitting. The autonomic dysfunction in SCI patients was appreciated on provocation.

O35

Effectiveness of breathing exercises on pulmonary function of traumatic quadriplegic and high paraplegic patients

Sajeena A S[1], Sreekala V K[2], Surendran A[3]
[2]Professor & Head, [3]Additional Professor
Dept. of PM&R, Medical College, Thiruvananthapuram.

Aims and objectives: The ***primary*** objective of the study is to test the effectiveness of breathing exercises in improving the pulmonary function of traumatic quadriplegic and high paraplegic patients.

The ***secondary*** objective is to assess the basal pulmonary function of traumatic quadriplegic and high paraplegic patients.

This is a ***hospital based interventional study*** conducted in a population of Traumatic Spinal Cord injured patients with lesions at/above neurological level-T_6, diagnosed clinically and/or radiologically(six weeks after the injury). Study population of sample size n=10, consisted of patients attending the Department of PM&R, MCH, TVM, during the period from July2012 to December 2012. Informed consent obtained.

Initially the patients are evaluated by *history (using a proforma) &Clinical Examination usingBed side Pulmonary tests* (*Single Breath Count, Incentive Spirometer, Candle test)&*

-Objective assessment with Pulmonary Function Test (using Spirometer): the most important parameters used include FVC(Forced Vital Capacity), FEV_1 (Forced Expiratory Volume in one second) & MVV (Maximum Voluntary Ventilation)

Inspiratory breathing exercise using the Incentive Spirometer will be given to the study population (15 minutes thrice daily for 6 weeks). The change in the clinical and objective parameters of PFT will be assessed after 6 weeks.

The results will be analysed using the values of *Mean, Median and Standard Deviation (Quantitative variables)* & using *proportion (Qualitativevariables).* The study is under progression now.

O36

Pregabalin, gabapentin or oxcarbazepine in neuropathic pain?

Sumalatha K B

Neuropathic pain affects more than 2-3% of general population. Pain as described by IASP is "initiated or caused by a primary lesion or dysfunction in the nervous system". Even though there are various groups of drugs available to treat neuropathic pain; and only a few direct comparison studies between these drugs are available which puts us in a dilemma as to which drug to prefer. In this study, we have tried to assess the efficacy and tolerability of the commonly used neuropathic analgesics like Pregabalin, Gabapentin and Oxcarbazepine. The neuropathic pain can be acute onset or chronic nature; we have included neuropathic pain of PIVD or LCS origin to avoid many confounding factors. This is a prospective study done on OPD patients in Dept. of PMR, AIIMS, New Delhi. The primary outcome measure is pain intensity (0-10 on a numerical rating scale) at baseline and at 2 weeks of starting the drug, and secondary outcome measure is maximum tolerated dose of study drug and short form McGill pain questionnaire (SF-MPQ). Though Pregabalin is effective with simple dosing titration, Gabapentin is more cost effective and Oxcarbazepine is found to have similar clinical efficacy with lesser side effects than Pregabalin.

O37

Study of effects of botulinum toxin – A injection on spastic upper limb

Ranjan Amit

Objective: To study the effects of Botulinum toxin-A injection on spastic upper limb.

Method: A prospective follow up study was conducted on consecutive 10 patients with upper limb spasticity attending PMR OPD of VMMC & Safdarjang Hospital. Detailed assessment was done before & after injection Botulinum toxin A, including detailed medical history, assessment of hand functions and grade of spasticity. Follow up was done at 1 month and 3 months. Regular exercise therapy and use of suitable orthosis were continued and encouraged.

Result: There was significant reduction in spasticity of treated muscles and improvement in range of motion in the 12-week period. In addition,7 out of 10 patients reported improved 'comfort' with comparatively 'lighter limb' and increased ease in many activities of daily living including dressing, putting on orthosis, cleaning/drying palm, cutting fingernails, releasing object after grasping. There were no significant side effects of the injection.

Conclusion: Role of Botulinum Toxin A inection is well established for anti-spastic use. Along with decreased spasticity and improved range of motion, other useful effects observed were improved comfort with 'lighter limb' and easier maintenance of hand hygiene.

\O38

Clinical and imaging evaluation of efficacy of hyaluronic acid in osteoarthritis knee

Nandi Jaydeep

Objective: To review the clinical as well as disease modifying efficacy of injection hyaluronic acid in osteoarthritis knee.

Method: 30 patients with OA knee (total 55 knees) were given weekly injections of HA for 3 weeks at Safdarjang Hospital, New Delhi. Patients were followed up for 6 months. Symptomatic efficacy parameter was **WOMAC**(Western Ontario and McMaster Universities Index of Osteoarthritis)index assessed on baseline (day 0), day 45, day 90 and day 180. Disease modifying efficacy parameter was MRI based **WORMS** (Whole-organ Magnetic Resonence Imaging Score**)** criteria assessed at baseline (day 0) and at the end of trial (180 days).

Result: Mean **WOMAC** scoreimproved from 97.67±21.37 at baseline to 61.03±24.79 at 6 months (p=0.0001). The mean **WORM Scartilage score** in MFTJ (medial femoro-tibial joint), LFTJ (lateral femoro-tibial joint) and PFJ (patella-femoral joint) remain close to baseline. But, mean **WORM Sbone marrowedema** and **bone cystscores** showed significant improvement in all 3 zones described.

Conclusion: Cartilage integrity score at 6 months remains close to baseline value, which implies a reduced rate of cartilage destruction after injection of HA though there is no regrowth of cartilage as such. Bone marrow edema and bone cyst scores showed significant improvement in all zones, which might be the reason behind the improvement in pain per se in most of the patient on visco-supplementation. Also, x-ray grading appears to be correlating well with the MRI. Cartilage destruction was more among overweight persons and improvement in cartilage score was significant only in grade II OA knee.

O39

Efficacy of lateral wedging in footwear in medial compartment osteoarthritis knee

Badhal Suman

Introduction: In Knee osteoarthritis (OA) Shoe modifications, such as lateral-wedge insoles or shock absorbing shoes with insoles, have been recommended for conservative therapy of mild knee OA but with little objective data.

Objective: this prospective study was done to study the effect of lateral heel sole wedging (insole) in the patients of OA of knee (medial compartment) and its relation to function, pain and stiffness parameters status on VAS and WOMAC scale and to see the requirement of the number of NSAIDS tablets.

Methods: 54 patients fulfilling the inclusion criteria after Informed consent of patients were enrolledand divided intointervention group A (29) and nonintervention or control group B (25) with random allocation. Paired t-test, WILCOXON SIGN RANK TEST and MAN WITENEY U test were applied at significant p-value of <0.05%.

Results: the reduction of mean difference in pain on VAS and Likerts scale, improvement *in mean difference in function parameters*the mean reduction of pain in standing/ walking, bending and ascending/ descending at WOMAC scale wassignificantly higher in intervention group. Alsothe mean reduction in the need for NSAIDS was