

Results: Postural stability training in balance system has shown statistically significant improvement in clinical scale & parameters assessed using balance system

Conclusion: Balance system is a useful tool in rehabilitation of individuals with postural instability.

O43

Study to evaluate the effectiveness of the new method of circumtibial transfer of tibialis posterior tendon for the treatment of foot drop

Singh Govind

Objective: To evaluate the effectiveness of the new method of circumtibial transfer of tibialis posterior tendon for the treatment of foot drop.

Methods: The study included ten patients who underwent tendon transfers for correction of foot drop. Seven patients had foot drop due to leprosy and in remaining three patients, it was due to traumatic nerve injuries. In all the patients, tibialis posterior was split into two tails and one tail attached to tibialis anterior and other tail to peroneus brevis. The patients were assessed according to the Stanmore scoring system and were follow-up for a period of six months.

Results: According to Stanmore scoring system, the results were fair in two patients, good in three patients and very good in six patients. The mean foot dorsiflexion was 3.4 degrees (range -2° to 9°). All the patients were satisfied with the final outcome. Apart from adhesion of tendon to suture line in one patient, no other complications were seen during post operative period.

Conclusion: Circumtibial transfer of the tibialis posterior tendon to tibialis anterior and peroneus brevis for the correction of foot drop yields highly successful results in the restoration of active dorsiflexion and also allows for fine adjustment of foot position.

Key words: foot drop, leprosy, tibialis posterior.

O44

Ulnar neuropathy at elbow (U.N.E) in people with haemophilia attending a multi-specialty clinic in a tertiary care centre in South India: an observational study

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Aim: To study prevalence of Ulnar Neuropathy at Elbow (UNE) in people with hemophilia.

Place: Christian Medical College Vellore.

Abstract: According to WHO prevalence of hemophilia globally is 1 in 10000. Elbow is the second most common joint to bleed in patients with hemophilia after the knee joint. Recurrent bleeding around the elbow joint leads to destruction of joint cartilage and reduced range of motion of the elbow joint. The Ulnar nerve's anatomical course behind the elbow joint axis places it at a risk of developing compression neuropathy called Ulnar Neuropathy at Elbow (U.N.E) more commonly known as cubital tunnel syndrome. UNE is the second most common nerve entrapment syndrome after carpal tunnel syndrome. Absence of a data about prevalence of UNE in hemophiliacs prompted us to do the study. 50 subjects with hemophilia were recruited after informed consent. The history of

severity of hemophilia, bleed frequency of elbow joints, stage of hemophilic arthropathy etc were taken. Clinical examination and Ulnar nerve conduction study was done and presence or absence of UNE was determined based on criteria by AAEM Quality Assurance Committee. Out of 50 hemophilia patients 24 patients showed UNE. Among 100 elbows and ulnar nerves studied, positive correlation was found between increased bleed frequency, presence of chronic synovitis and UNE.

O45

Efficacy of modified constraint induced movement therapy in hand functions of hemiparetic patients due to stroke

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Objectives: To study the efficacy of modified Constraint Induced Movement Therapy (mCIMT) in the management of upper extremity weakness in hemiparetic patients due to stroke.

Design: Prospective randomised case control study in the PMR department, VMMC and Safdarjang hospital.

Method: Thirty patients received conventional rehabilitation programme (control group) and thirty patients participated in a mCIMT programme in addition to the conventional rehabilitation programme (study group). The mCIMT included three hours therapy sessions emphasizing the affected arm use in general functional tasks, three times a week for four weeks. Their normal arm was also constrained five days per week for five hours.

Outcome Measures: The Fugl-Meyer Assessment (FMA) score for upper extremity and Motor Activity Log (MAL) scale comprising Amount of Use (AOU) score and Quality of Use (QOU) score.

Results: The study group exhibited greater motor recovery on the FMA score at 1 month (13.43) and 3 months (15.9) than the control group (10.7 and 12.23). The mean improvements in AOU scores in the study group at 1 month (6.57) and 3 months (8.2) were better than that of control group (5.47 and 6.63). With respect to QOU scores, mean improvement at 1 month and 3 months in the study group were 6.37 and 7.77 and in the control group were 5.3 and 6.53 respectively. The differences in improvements were statistically significant as shown by their p values.

Conclusion: This study reaffirms the efficacy of mCIMT in improving the motor recovery and functional use of affected hand of stroke patients.

O46

Evaluation of mirror therapy for upper limb rehabilitation in stroke patients

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Introduction: Trials have shown modest clinical improvement in disabilities after stroke with the use of different techniques, however most of the treatment protocols for the paretic upper extremity are either expensive or labor intensive, which makes the provision of intensive treatment for many patients difficult. It has been suggested that mirror therapy is a simple, inexpensive and, most importantly

patient-directed treatment that may improve upper-extremity function.

Methodology: A prospective randomized case control study was done on 60 patients of both the sexes in the age group of 19 to 82 years having stroke for the first time. This study was conducted in Department of Physical Medicine and Rehabilitation, of a tertiary care hospital. All the patients who fulfilled the criteria were enrolled for study; patients were randomly allotted in study or control group. Study group was given mirror therapy in addition to the conventional stroke rehabilitation program. Patients were assessed in terms of motor recovery (Brunnstrom stages), spasticity (Modified Ashworth Scale), and the self-care items of the Barthel index. These indices were measured at 0 months (pretreatment), 1 month (posttreatment), and 6 months (follow-up).

Results: There was a statistically significant difference in spasticity improvement between the study and control group, however no significant difference was seen in motor recovery and self care items between the groups. The patients had significant improvements within the groups after the therapy for one month.

Conclusion: Mirror therapy can be useful intervention supplement in rehabilitation of patients, it provides a simple and cost effective therapy for recovery of hand function.

O47

Study of effectiveness of shoulder elbow wrist hand orthosis in the management of gleno-humeral subluxation in post-stroke hemiplegic patients

Singh Y Nandabir

Objective: To study the effectiveness of Shoulder Elbow Wrist Hand Orthosis in the management of gleno-humeral subluxation in post-stroke hemiplegic patients.

Method:

Design: Randomized Control Trial

Setting: Department of PMR, RIMS, Imphal.

Participants: Post stroke hemiplegic (N=120) having GHS as confirmed by X-ray.

Duration: One and half years (August 2010 to January 2012).

Intervention: Control group (N=60) received Routine Rehabilitation programme for hemiplegic practice in dept. of PMR, RIMS while the experiment group (N=60) received Shoulder Elbow Wrist Hand Orthosis in addition to Rehabilitation programme.

Outcomes: Grade of GHS using X-ray

Results: Experiment group showed reduction in the GHS which is statistically significant when compare to control group (P =0.001).

Conclusion: Used of Upper limb orthosis in addition to routine rehabilitation programme can effectively reduce GHS in post stroke hemiplegic patients.

Keywords: Gleno-humeral subluxation (GHS), Shoulder elbow wrist hand orthosis (SEWHO), Post-stroke hemiplegic patients

O48

Study of somatosensory evoked potentials in traumatic brain injury

Patil Swapna

Objectives: To study changes in Somatosensory evoked potentials

at different time intervals following Traumatic brain injury and their role in prognosis.

Methods: 21 patients with TBI underwent SSEPs (Median and Tibial) studies and assessment of outcome measures (Mini Mental Status Examination, Modified Barthel Index, Rancho Los Amigos, Disability Rating and Glasgow Outcome scales) initially and at 3 months after the TBI. SSEPs were graded as I – normal, II – absent/prolonged unilaterally, prolonged bilaterally, absent on one side and prolonged on the other side, and III - absent bilaterally. Descriptive statistics for continuous data and univariate analysis for co-relation between SSEPs and outcome scales was done.

Results: The mean age at presentation and duration of TBI were 33.4 years and 19.33 days respectively. The initial mean GCS, RLA and DRS scores were 7.90 (SD-0.77), 3.1 (SD-0.63) and 21.76 (SD-1.95) respectively. Median SSEPs improved in 27% and worsened in 11% patients. Tibial SSEPs improved in 22% and worsened in 25% patients. Patients with normal/ impaired initial Median SSEPs significantly improved in all the outcome measures ($p < 0.05$) at 3 months, compared to those with absent potentials. Median SSEPs at 3 months co-related with RLA, MBI and DRS at 3 months. Initial Tibial SSEPs co-related with MMSE and 3 month Tibial SSEPs co-related with MBI scores. Changes in SSEPs did not co-relate with outcome.

Conclusion: In addition to clinical examination and neuroimaging, SSEPs can be useful for prognostication after TBI.

O49

Rehabilitation potentials following RCS in thumb deformity in leprosy cured patients

Pan Soumya Santa

Purpose: All PMR Institutes and the PMR Departments have been designated as Tertiary Care centre, by the Ministry of Health, for achieving goals on Disability prevention and Medical Rehabilitation in leprosy cured patients suffering with hand deformities. Hand problems are of major concern. Leprosy neuritis affects nerves where they are close to the skin and pass through a narrow fibro-osseous canal. In the hand this involves mainly the ulnar and median nerves, leading to claw hand and thumb deformity.

In the hand, median nerve supplies the intrinsic muscles of the thenar eminens including Opponens pollicis which is responsible for opposition of thumb. When median nerve is involved in leprosy, it results in failure of opposition of thumb, leading to thumb deformity. The purpose of RCS is to achieve *opposition of thumb* and thereby correcting the thumb deformity. The tendon transfer procedure appears to be useful in such situation.

Materials and Methods: A total of 57 leprosy cured persons presenting with thumb deformity underwent the RCS procedure. The tendon of Flexor digitorum superficialis of ring finger was re-routed over the palm and was transferred then to the thumb followed by vigorous tendon re-education upto next four weeks.

Results: The hand functions were evaluated at the end of three and six months. Most of them were able to achieve *proper opposition of thumb* and reasonably good hand function.

Conclusion: Such Reconstructive procedures must be taken up by the *Physiatrists* in larger numbers to achieve proper & complete Rehabilitation of thumb deformity.