

0521PP033

EFFECT OF 45° RECLINING SITTING POSTURE ON SWALLOWING IN THE PATIENT WITH DYSPHAGIA

Jeong-Hwan Seo, Myoung-Hwan Ko, Sung-Hee Park, Soo-Youn Son, Soon-Won Yook

Department of Physical Medicine and Rehabilitation, Institute for Medical Sciences and Research Institute of Clinical Medicine, Chonbuk National University Medical School, Korea

Purpose: To find the effect of 45° reclining sitting posture on swallowing in the patient with dysphagia. **Materials and Methods:** Twenty-five patients with dysphagia were evaluated. Videofluoroscopic Swallowing Study (VFSS) was done for each patient in 90° erect and then 45° reclining sitting posture. Patients swallowed 5 kinds of boluses twice: sequentially 2 ml thin liquid, 5 ml thin liquid, thick liquid, yogurt and cooked rice with barium to provide contrast. Penetration-Aspiration Scale (PAS), Oral Transit Time (OTT), Pharyngeal Delay Time (PDT), Pharyngeal Transit Time (PTT), residue in valleculae and pyriform sinuses, premature bolus loss and nasal penetration were analyzed. We compared the results of VFSS in 45° reclining sitting posture with those in 90° erect sitting posture. **Results:** The mean PAS on 2 ml thin liquid in 45° reclining sitting posture was 2.92 ± 2.69 and that in 90° erect sitting posture was 1.28 ± 0.67 . The mean PAS on 2 ml thin liquid decreased significantly in 45° reclining sitting posture ($p=0.007$). And the mean PAS on 5ml thin liquid in 45° reclining sitting posture showed decreasing tendency. The residue in valleculae decreased significantly on all kinds of boluses in 45° reclining sitting posture ($p=0.000, 0.002, 0.003, 0.000, 0.020$, respectively). And, the residue in pyriform sinuses increased significantly on 5ml thin liquid, thick liquid and yogurt ($p=0.031, 0.020, 0.002$, respectively). There were no significant differences in OTT, PDT, PTT, premature bolus loss and nasal penetration in both postures. **Conclusion:** In this study, PAS on 2 ml thin liquid and residue in valleculae on all kinds of boluses were decreased in 45° reclining sitting posture. So, we suppose that 45° reclining sitting posture on swallowing is beneficial for the patient with penetration or aspiration on small amounts of thin liquid and large amount of residue in valleculae.

0521PP034

THE EFFECT OF POSITION OF IMMOBILIZATION UPON THE TENSILE PROPERTIES IN INJURED ACHILLES TENDON OF RAT

Yong Min¹, Jeong-Hwan Seo¹, Young-Bae Kwon¹, Minho Lee²
¹Department of Physical Medicine and Rehabilitation, ²Pharmacology, Institute for Medical Sciences and Research Institute of Clinical Medicine, Chonbuk National University Medical School, ³Department of Dental Biomaterials, School of Dentistry, Chonbuk National University, Korea

Purpose: To examine the effect of the posture upon the tensile properties in injured Achilles tendon of rat for an initial period of immobilization. **Materials and Methods:** Forty-two male Sprague-Dawley rats (Taconic Laboratories; 8 weeks old, 240–300 g) were used. Eighteen rats received a total transection of the right Achilles tendon to mimic a total tendon rupture and divided into three groups of 3 rats each. Ankle of group A was immobilized at 60° of plantarflexion posture with a synthetic cast. Ankle of group B was immobilized at neutral posture with a cast. Ankle of group C was immobilized at 60° of dorsiflexion posture with a cast. The other 18 rats received a hemi-transection of the right Achilles tendon to mimic a partial tendon rupture and divided into three groups as above. Another 6 rats were kept free as control. After 14 days, we dissected the Achilles tendon of each group. We analyzed maximum force (N), stiffness (N/mm), energy uptake (J) using a testing machine (Universal testing machine 5569, Instron, USA). For histological assessments of collagen organization, The Achilles tendon of 6 rats from each groups were reserved for histologist evaluation. Hematoxylin-Eosin and Picrosirius staining was done for the collagen fiber status. **Results:** Compared to the control group, the other 3 groups showed significantly decreased values of maximum force, stiffness and energy except the energy of group C in total tenotomy. There were no significant differences among the other three groups. In comparison among test groups A, B, C, Maximum

force of Group C was significantly higher. **Conclusion:** Dorsiflexion posture in partial ruptured Achilles tendon showed better healing effect than other immobilized postures. However, in total ruptured, dorsiflexion posture showed better healing tendency only. Further study considering the duration of immobilization or the effect of new treatment is needed.

0521PP035

REHABILITATION IN TYPE V (SCHATZKER) TIBIAL PLATEAU FRACTURE POST OPEN REDUCTION AND INTERNAL FIXATION: A CASE REPORT

Dyah Gita R.K., I. Made Widagda

Physical Medicine and Rehabilitation Department Dr. Kariadi Hospital, Medical Faculty of Diponegoro University, Semarang, Indonesia

Background: Tibial plateau fracture involves the proximal aspect or metaphysis of the tibia and frequently the articular surface as well. They are subdivided into six types by Schatzker. Type V is a bicondylar fracture involving both plateaus. It is also known as an inverted Y fracture and usually associated with an articular injury. **Case:** A 24-year-old male was referred to Rehabilitation Department from Orthopedic Department two weeks ago after an Open Reduction and Internal Fixation on his right tibial plateau. He had a history of motorcycle accident 8 months ago. He felt pain on the right knee with restricted right knee range of motion. The rehabilitation program consist of strengthening exercise, range of motion exercise, gentle stretching exercise on hamstring and quadriceps muscles and gait training with bilateral crutches. The prescription is given based on the time after surgery and the stage of bone healing that can be seen in the x-ray examination. **Results:** After 8 months the range of motion increased, the pain was decreased, but still getting worst when he lift heavy weight. Now, he was able to walk full weight bearing without crutches, and able return to work. **Conclusion:** Rehabilitation program could improve functional outcome of patient with Type V (Schatzker) Tibial Plateau Fracture post Open Reduction and Internal Fixation.

0521PP036

EFFECTS OF ELECTROACUPUNCTURE ON RECENT STROKE WITH INCOMPLETE BLADDER EMPTYING – A PRELIMINARY STUDY

Kuo-Wei Yu, Li-Wei Chou, Chien-Lin Lin, Chun-Chuang Hung, Eric Chieh-Lung Chou, Yueh-Ling Hsieh, Te-Mao Li
Department of Physical Medicine and Rehabilitation, China Medical University Hospital, Taichung, School of Chinese Medicine, College of Chinese Medicine, China Medical University, Taichung, Graduate Institute of Acupuncture Science, China Medical University, Taichung, Department of Urology, China Medical University Hospital, Taichung, Taiwan and Department of Physical Therapy, China Medical University, Taichung, Taiwan

Purpose: Incomplete bladder emptying (IBE) was defined as having a post-void residual (PVR) urine volume greater than 100 ml on two consecutive days. IBE is common among patients with stroke and might necessitate indwelling or intermittent catheterization. IBE is correlated with urinary tract infection, which could impede progress in rehabilitation and increase medical costs. The treatment of patients with IBE included bladder retraining and biofeedback, medication, or botulinum toxin injection, but none of these managements is completely effective. **Materials and Methods:** All patients with acute stroke admitted to the rehabilitation ward between August 2010 and April 2011 were included to check for PVR urine volume. Electroacupuncture (EA) (1Hz, 20 min) on the acu-points including Sanyinjiao (SP6), ciliao (BL32) and Pangguangshu (BL28) were selected to treat stroke patients with IBE for a total of ten times of treatment (five times/week). Bladder diaries including the spontaneous voiding volume and PVR urine volume were recorded during the treatment course. **Results:** Nine of 49 patients (18%) had IBE. Seven stroke patients with IBE were treated with EA. Increased spontaneous voiding volume and decreased PVR urine volume were noted after 10 times EA. **Conclusion:** EA may have beneficial effects on improvement in stroke survivors with IBE and could be another safe modality to improve the urination function.