Keywords: Stroke; Falls; Risk factors

Introduction.-- Falls among post-stroke survivals has been studied in the literature. We investigate the incidence and the risk factors for falls in stroke patients after discharge from PRM inpatients.

Material and methods.-- One hundred and forty-four stroke patients took part in the study. After discharge from PRM department, mean 15.9 months, telephone interview was used to gather information about falls and functionality. One hundred and eleven patients were found and responded.

Results.--Sixteen patients out of 111 (13.5%) reported 57 falls. Seven fallers reported hip fractures (6.3%). Falls were not correlated with discharge FIM score (P = 0.5), with age (P = 0.2) and with the length of stay (P = 0.9), with the delay of initiation of the rehabilitative procedure (P = 0.5) and with the admission FIM scores (0.6) Falls were not correlated with the kind of the stroke (ischemic or hemorrhage) (P = 0.1), with the involved side (P = 0.1), with the sex (P = 0.4) and with neither with the presence of hypertension nor Diabetes mellitus or apnea.

Discussion.--This study reveals that fall risk factors of stroke patients after discharge from PRM unit, can be studied using a multiple environmental, functional and physical approach.

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Neuromuscular electrical stimulation (NMES) in stroke patients with swallowing disorders: State of the art

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Keywords: Stroke; Electrical stimulation; Vitalstim

Introduction.-- Neuromuscular electrical stimulation (NMES) is an electrotherapy system designed for different conditions. Specifically, Vitalstim is a treatment for swallowing dysfunctions. The purpose of this article is to evaluate the outcome of Vitalstim stroke patients through an analysis of the literature.

Observation.-- The literature reviewed was derived using the biomedical database Medline to identify all relevant articles published from the initiation of the different databases up to December 2013. We searched in the Pubmed, Cochrane Library, CINHAL and ACP Journal Club databases. The literature about this condition varies greatly regarding all kinds of dysphagia and is not univocal in conclusions and methods for stroke patients. The only review found regards NMES in general and does not address Vitalstim. The conclusion is univocal in conclusions and methods for stroke patients. The only review found regards NMES in general and does not address Vitalstim. The conclusion is favorable to the effectiveness of NMES for this kind of dysphagia. Specifically, 8 articles were found.

Discussion.--The review not only elucidates the substantive potential benefit of this treatment, but also potential key concerns for patient safety and long term outcome. Five out of 8 trials had effective results, 2 of them an uncertain result and in 1 it was an ineffective method. The discussion within the clinical and research communities, especially toward the Vitalstim stimulator, is objectively explained.

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P449-e

Hemiplegia post-stroke consequences on bone microarchitecture: 3D micro-tomography and magnetic resonance spectroscopy evaluation. Pilot, prospective, single-center study

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Keywords: Hemiplegia; Osteoporosis; Adipocyt bone marrow percentage; MRS; Microarchitecture osseous; Bone microarchitecture; 3D micro-tomography

Background.-- Hemiplegia after stroke is a risk factor for osteoporotic fractures. Several factors are involved, which should be evaluated with other tests than bone densitometry (DXA).

Method.-- We propose, in this comparative (each patient is his own control), prospective study, using Magnetic Resonance Spectroscopy (MRS) and 3D micro-tomography to answer the following questions: 6 months after hemiplegia, does bone marrow adipocyt percentage increase and does trabecular volume (BV/TV) decrease in the tibia distal epiphysis, plegic side compared to healthy side?

Results.-- Nine patients, 55 to 80 years old, were included and recovered a functional walking in less than 2 months. One patient presented with osteoporosis, evaluated with DXA in the femoral neck. Five patients presented with osteopenia, bilaterally. Bone adipocyt percentage and BV/TV were stable within 6 months after stroke and there was no difference between plegic side and healthy side. It was not correlated with patient functional status and bone mineral density.

Discussion.-- The lack of validation of the hypothesis reflects a sample bias. However, this study raises new pathophysiologic hypotheses of bone remodeling after stroke, including the impact of bone vascularization.

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P450-e

Complex physical therapy in hemiplegic shoulder rehabilitation

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Keywords: Hemiplegia; Stroke; Dysfunction; Physical therapy

Introduction.-- Hemiplegia compromises the shoulder complex due to spasticity, contractures, pain, abnormal movement patterns and soft tissues alterations. We are reporting clinical effectiveness of complex physical therapy (CPT) used in shoulder rehabilitation after stroke.

Material and methods.-- Thirty hemiplegic patients with spasticity and upper limb dysfunction after ischemic stroke were divided into two groups. In the CPT group (15), each patient received stretching, myorelaxation laser, ultrasound therapy and electrical stimulation to the deltoid and triceps brachialis muscles, 5 days/week, 4 weeks. The control group (15, CG) received oral medication and stretching. Patients were assessed before, at the end and 2 weeks after treatment using modified Ashworth scale, passive range of motion (ROM), and the Disabilities of the Arm, Shoulder and Hand (DASH) scale.

Results.-- The DASH mean score significantly decreased after CPT (62.1) compared with CG (65.8, P < 0.05). The CPT group demonstrated significant improvement in shoulder abduction (mean difference 5.1 degrees) compared to the CG (2.6 degrees, P < 0.01 w), maintained after 2 weeks (P < 0.01), pectoralis major spasticity (CPT mean value initial 3.1 then 2.4, CG 3.1, then 3.1, P < 0.05).

Conclusions.-- There are different modalities of treatment operating concurrently, but CPT shows significantly better results in reducing dysfunction and motor function improvement.

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