P2-022 The Stroke Rehabilitation Potential Screening Test as a Stroke Outcome Predicting Tool

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Background: An accurate assessment is important in order to predict goals and execute planning in stroke rehabilitation. An ideal screening test should be user-friendly and not time-consuming. *Methods:* A prospective study was conducted from 1 August 2004 to 31 July 2005 at Thai Red Cross rehabilitation center. A stroke rehabilitation potential screening test (SRPS) and Barthel ADL index were performed within 72 h after admission. Correlation between the SRPS score and the Barthel ADL index level (mildly severe, moderately severe, severe, and dependent) on admission (adm) and discharge (dc) were determined using chi-square. *Results:* 101 stroke patients participated in this study. Mean age was 62.1 ± 11.5 years. Fifty-six were men. Mean SRPS score was 36.7 ± 14.8. They were divided into group 1 (SRPS 0-30) and group 2 (SRPS 35-50). Mean score of adm Barthel ADL index of group 1 and 2 were 5.6 ± 3.7 and 13.5 ± 3.6, respectively. Mean score of dc Barthel ADL index of group 1 and 2 were 9.2 ± 5.9 and 17.8 ± 2.7, respectively. Barthel ADL index of group 1 were significantly lower than group 2 ($P < 0.01$). Seventy percent of patients in group 2 and 10% in group 1 were mildly severely disabled when discharged. Fifty-four percent of patients in group 2 and 5% in group 1 were supervised to total independent ADL and ambulation. *Conclusion:* The stroke rehabilitation potentials screening test is an easy tool for predicting rehabilitation outcome. It has high correlation with the Barthel ADL index on admission and discharge.

P2-023 Passive Repetitive Movement Therapy of the Paretic Hand in Patients after Stroke

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Background: Restitution of the upper extremity with severe paresis after stroke is one of the major goals in neurologic rehabilitation. Prognosis for recovery is often poor. Since repetitive movements and robot-assisted therapy have shown to be effective for motor recovery of the paretic arm, we developed a robotic-assisted trainer for passive repetitive finger movements. *Methods:* 22 patients were allocated in 2 groups, one group receiving standard therapy (control group), and the other group receiving additional passive movement therapy. Patients were instructed to use the apparatus at least 60 min each day. The patients were tested at take up (T0), after 4 weeks (T1), and when discharged (T2). Spasticity was determined with spasms frequency scale and modified Ashworth-Scale; strength and dexterity was tested by MRC-Scale, grip strength, Nine Hole Peg Test, and Frenchay Arm Test. *Results:* Mean time of passive therapy was 22 min each day. None of the patients was able to execute testing for grip strength, Frenchay Arm Test, and Nine Hole Peg Test. Extension and flexion of the fingers measured with MRC-Scale improved in both groups; however, no difference was found between control and study group. Two patients in the study group and 1 patient in the control group were tested for grip strength at T2. *Conclusion:* No significant benefit of robot-assisted repetitive passive movement of the fingers in stroke patients was found. Any long-term effect has to be further evaluated.

P2-024 Effect of a Single Dose of the SSRI Fluoxetine on motor Activation Patterns of the upper Extremity in Chronic Stroke Survivors

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Background: Clinical studies indicate that the use of selective serotonin reuptake inhibitors (SSRIs), amphetamine, or methylphenidate may be beneficial to increase motor output. Using SSRIs, it is possible to modulate cortical excitability. The objective of the present study is to explore the effect of a single dose of the SSRI fluoxetine on muscle activation patterns, i.e., muscle output and cocontraction. *Methods:* 10 chronic stroke survivors were included in a double-blind crossover trial. Patients were given 20 mg fluoxetine or placebo after baseline assessments on day 1 and 2, respectively. Follow-up assessments were performed 5 h after intake of fluoxetine. The order of drug administration was randomized. Outcome measures used were isometric EMG output of both wrist flexors and extensors. Clinical outcome measures were the motricity index and grip strength. *Results:* RMS of both wrist flexors and extensors of the impaired limb increased significantly ($F = 8.052$, $P < 0.01$). Delay times were not different after intake of fluoxetine. Cocontraction appears to be slightly less after fluoxetine, but the difference was not significant. Grip strength of the paretic arm was lower after fluoxetine. *Conclusion:* Although motor output increased significantly, no improvement in delay in initiation and termination was found. Neither did we see a significant reduction in cocontraction. The findings suggest that it is possible to enhance motor output using a single dose of fluoxetine, but that selectivity is not improved.

P2-025 Usage of a Method of Dynamic Propriocorrection in Rehabilitation of Patients after Brain Injury

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Background: We estimate the effectiveness of usage of dynamic propriocorrection in the rehabilitation after brain injury. *Methods:* The course includes 15 procedures. Eighty-five patients were under our observation after brain injury. The age was 20 to 57 years. The illness was from 1 month to 2 years. The duration of the observation was from 3 weeks to 15 months. Forty-six patients in the 1st group (54%) received exercises in the reflex-oriented device in addition to the basic course of a recreation treatment. Thirty-one patients in the 2nd group (46%) recieved only the basic course. To compare the effectiveness of the treatment given, we used biomechanical method of stabilometrics (estimation of patient's vertical pose and balance) on a complex biomechanics. *Results:* After treatment, the speed of average square declined with the pressure center coordinates (mms) of 27.5 before treatment and of 21.3 in group 1 and 23.4 in group 2 after treatment. The length of the stabilogram (mm) was 985.6 before and 759.5 in group 1 and 836.4 in group 2 after treatment. The square of the stabilogram (mm^2) was 724.7 before and 644.2 in group 1 and 689.4 in group