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**Rehabilitation efficacy evaluation of the spinal disorders**Irina Samoilova<sup>1</sup>, Evgeniya Ekusheva<sup>2</sup> and Vladislav Voitenkov<sup>1</sup><sup>1</sup>Pediatric Research and Clinical Center for Infectious Diseases, 127022, St-Petersburg, Russia<sup>2</sup>Advanced Training Institute of the Federal Medical Biological Agency, 125371, Moscow, Russia.

**Statement of the Problem:** due to costs and length of neurorehabilitation treatment, objective evaluation of its efficacy is important.

**Purpose:** our aim was to assess and compare efficacy of differentiated methods of neurorehabilitation of somatosensory disturbances in patients with spinal cord lesions.

**Method:** 68 patients with spinal cord lesions were enrolled: 38 with vascular myelopathy, 18 with extramedullary meningioma surgery sequelae, 12 with sequelae of acute transverse myelitis. There were 55 controls. All patients underwent rehabilitation which included robotized mechanotherapy, stabilography, neuro-muscular stimulation, kinesiotherapy, physical therapy, ergotherapy, massage etc. Before and after the therapy TMS and SSEP parameters were evaluated in all patients using magnetic stimulator Neuro-MS-D and Neuro-MVP-8 EMG, NCS and EP system. Typical TMS findings were seen in some cases.

**Results:** In those patients who received personalized therapy significant changes of TMS parameters (central motor conduction time at rest and in facilitation probe), but not SSEP ones were registered. Those who underwent personalized therapy better clinical results were seen.

**Discussion and conclusions:** Thus, neurorehabilitation was more effective in treatment of motor disturbances; sensory were more resistant to therapy. Our data suggests that taking into the account of the sensory deficit have to be mandatory in neurorehabilitation planning. TMS and SSEP must be utilized for the objective evaluation of the central part of the nervous system in spinal cord lesions rehabilitation.