

THE VALUE OF THE CENTRAL SILENCE PERIOD IN THE REHABILITATION OF PATIENTS WITH POSTINSULT MOTOR DISORDERS

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Introduction: Transcranial magnetic stimulation (TMS) plays an important role in the evaluation of flexibility and restoration of the nervous system, objectification of the condition of interhemispheric motor ties and inhibitory processes after cerebral stroke.

Goal: To study and evaluate the condition of cortical silence period (SP) and transcallosal inhibition (TI) in the patients with post insult motor disorders (PMD).

Material and methods: Studies were conducted on 41 patients with PMD, who received multilevel magnetic stimulation on cortex-cervix-paretic muscles. Clinical and neurophysiological studies were conducted with registration of SP and TI. In the analysis of findings comparison was made with control group data. When TMS was applied, significant increase in the duration of contralateral SP ($p<0,01$) and TI ($p<0,05$) was found prior to treatment in patients with right-side insult in comparison with control group and intact part. In patients with left-side insult and on intact hemisphere changes of contra- and homolateral SP were not significant. This was caused by apparent disorders of inhibitory interactions of hemispheres.

After treatment course, together with positive dynamics of clinical symptoms, significant decrease of the average value of SP was observed (with $181,5\pm 19,6$ to $142,1\pm 15,6$ ms; $p<0,05$). Study carried out on the duration of SP after treatment did not show positive dynamics of this indicator with regard to both reference value and control value.

Conclusion: Findings show significant role of activation and inhibitory processes between hemispheres in the rehabilitation of patients with PMD. Evidently, recovery of disturbed functions is based on the activation of processes of neuroplasticity and improvement of interhemispheric balance.