

PREDICTORS OF RECOVERY IN PATIENTS WITH CEREBRAL STROKE IN RYTHMICAL TRANSCRANIAL MAGNETIC STIMULATION

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Rhythmical transcranial magnetic stimulation (RTMS) is a promising method of treatment for cerebral stroke (CS) patients. This contributes to plastic reconstruction of motor cortex, formation of new synaptic links, transitory raising of cerebral blood flow.

Purpose of the study: to evaluate the possibility of using different clinical scales and neurophysiological indicators as predictors of efficiency of recovery in CS patients as a result of RTMS.

Materials and methods: data analysis was carried out for 92 CS patients in the rehabilitation of whose RTMS and multilevel MS was applied together with kinesis therapy. Comprehensive analysis conducted before and after treatment course included using of special clinical scales along with neurological examination (R. Braddom scale, Ashwort scale, D. Barthel scale, MMSE scale) and neurophysiological methods of study (TMS and electroneuromyography (ENM)).

Results: MS on both methods used contributed to the improvement of motor functions, positive dynamics of indicators on the scales of R. Braddom and Ashwort, improving of life quality, increasing of activity in a daily life, increase of Bartel index both in mild and moderate and severe paresis. Regress of cognitive impairments was not apparent. In neurophysiological studies more apparent dynamics was seen in the indicators, characterizing condition of motor structures (evoked motor potential and peripheral M-potential). The dynamics of clinical and neurophysiological indicators was apparent in the patients who received multilevel MS.

Conclusion: The main predictors of efficiency of RTMS in cerebral stroke include clinical indicators of motor impairments, neurophysiological indicators of motor cortex activity, also induced M-potential of segmental-peripheral neuromotor system.