

Transcranial Magnetic Stimulation is a promising therapeutic method which allows non-invasive reduction of schizophrenia symptoms. The main imperfection of this technique had been the impossibility of precise targeting of the rTMS coil at the given cortical area. This can be achieved by using neuroimaging techniques and stereotactic neuronavigation, which enables to target the coil with a high degree of anatomic accuracy.

The aim of the study was to investigate the relationship between excitability of motor and visual cortex. Using neuronavigated single-pulse (SP) and paired-pulse (PP) transcranial magnetic stimulation (TMS, Magstim Rapid) over right visual cortex, the phosphene thresholds were measured in 11 subjects. Motor threshold (MT) was identified by using standard methodology.

In all subjects the phosphenes were induced by both SP (median = 48 %, IQR = 44,5–52,0) and PP (median = 44 %, IQR=39,5–48,0) TMS. PP phosphene thresholds were lower than SP thresholds ($U = 28,0$, $p \leq 0,05$). We found the positive correlation between MT and SP phosphene threshold ($r = 0,597$, $p \leq 0,05$) but not for MT and PP. The distance of coil position from the brain surface did not correlate with MT, SP nor PP phosphene threshold.

Our findings confirm the relationship between MT and phosphene threshold measured by the use of single-pulse technique over right occipital cortex with horizontal position of coil. The proposed methodology should be used in experiments measuring cortical excitability of visual cortex. SP phosphene threshold is proposed as a potential standard for inter-individual

comparison in visual TMS experiments in patients.