

Corticomotor Excitability after Two Different Repetitive Transcranial Magnetic Stimulation Protocols in Ischemic Stroke Patients

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Abstract : This study is to compare the motor evoked potential (MEP) changes using different settings of repetitive transcranial magnetic stimulation (rTMS) in the post-haemorrhagic stroke patient which treated conservatively. The goal of the study is to determine changes in corticomotor excitability and functional outcome after repetitive transcranial magnetic stimulation (rTMS) therapy regime. 20 post-stroke patients with upper limb hemiparesis were studied due to haemorrhagic stroke. One of the three settings; (I) Inhibitory setting, or (II) facilitatory setting, or (III) control group, no excitatory or inhibitory setting have been applied randomly during the first meeting. The motor evoked potential (MEP) were recorded before and after application of the rTMS setting. Functional outcomes were evaluated using the Barthel index score. We found pre-treatment MEP values of the lesional side were lower compared to post-treatment values in both settings. In contrast, we found that the pre-treatment MEP values of the non-lesional side were higher compared to post-treatment values in both settings. Interestingly, patients with treatment, either facilitatory setting and inhibitory setting have faster motor recovery compared to the control group. Our data showed both settings might improve the MEP of the upper extremity and functional outcomes in the haemorrhagic stroke patient.

Keywords : Barthel index, corticomotor excitability, motor evoked potential, repetitive transcranial magnetic stimulation, stroke

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