Short- and long-term effect of rTMS on motor function recovery after ischemic stroke.

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Abstract:

Abstract This review discusses the clinical results that were obtained by applying rTMS in acute and chronic ischemic stroke patients. These studies included only the recovery of motor disability and dysphagia. In summary, two approaches have been used when employing rTMS as a potential therapy for the treatment of stroke. The most direct approach involves applying rTMS directly over the affected hemisphere in an attempt to increase excitability and plasticity of damaged circuits to improve motor function. The second approach has taken advantage of the concept of interhemispheric balance in which damage to the stroke hemisphere is exacerbated by increased inhibition from the intact non-stroke hemisphere. In this case, inhibitory rTMS is applied to the non-stroke hemisphere with the intention of reducing interhemispheric inhibition and restoring the balance of excitation between the motor cortices. The overall procedure remains to be optimized, in particular regarding the number of rTMS sessions, frequency and intensity of stimulation and the exact timing of rTMS application after stroke. Cortical stimulation is an effective method for improving functional recovery of acute and chronic stroke.

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