Article: 1799
Topic: 66 - Psychosurgery & Stimulation Methods (ECT, TMS, VNS, DBS)

DEEP TRANSCRANIAL MAGNET STIMULATION IMPROVES DEPRESSION AND FATIGUE IN MULTIPLE SCLEROSIS

G. Gaede[1], *M. Tiede*[2], *I. Lorenz*[2], *C.F. Pfueller*[1], *J. Doerr*[1], *J. Bellmann-Strobl*[1], *A. Zangen*[3], *S. Schippling*[2], *F. Paul*[1]

[1]NeuroCure Clinical Research Center, Charité University Medicine Berlin, Berlin, [2]Institut für Neuroimmunologie und Klinische Multiple Sklerose Forschung, Klinik und Poliklinik für Neurologie, Universitätsklinikum Hamburg-Eppendorf, Hamburg, Germany, [3]Department of Life Sciences, Ben-Gurion University, Beer-Sheva, Israel

Introduction: Fatigue and depression are among the most frequent symptoms in multiple sclerosis (MS), affecting up to 90% of patients at onset or during the course of the disease. Repetitive transcranial magnetic stimulation (rTMS) has proven safe and efficacious for treating depression.
Objective: To perform a randomized, sham-controlled pilot study to evaluate effects of deep rTMS on fatigue and depression in patients with multiple sclerosis.
Methods: 28 MS-patients underwent 18 sessions of deep rTMS over 6 weeks. 10 patients underwent sham stimulation, 9 patients stimulation of the left prefrontal cortex (PFC) (18Hz, 120% motor threshold (MT)) and 9 patients of the motor cortex (MC) (5 Hz, 90% MT). Following the treatment, patients were observed for further 6 weeks. Effects on fatigue were evaluated with the Fatigue Severity Scale (FSS) Depression was assessed by Becks Depression Inventory (BDI).
Results: There was no significant change of BDI or FSS in sham group, as well as in PFC group over all time points. However BDI in MC group showed a significant decrease already in early treatment phase (-25.74%±24.36%, p=0.013) and continued decrease over treatment period with maximum in follow up phase (-39.23%±21.57, p=0.001). In FSS, MC group showed a trend to decrease during treatment period and the effect becomes significant in follow up phase (-26,72%±16.30%, p=0.001).
Conclusion: Our data suggests that deep rTMS may have positive influence on depression and fatigue. Intrestingly, comparable effects on both symptoms were observed in MC group but not in PFC or in sham group.

https://doi.org/10.1016/S0924-9338(13)76769-5 Published online by Cambridge University Press