Effect of Repetitive Transcranial Magnetic Stimulation on Malignant Visceral Pain

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Abstract:

Abstract Background and objectives. To assess the efficacy of 10 sessions (once daily for 10 days) of repetitive transcranial magnetic stimulation (rTMS) on primary motor cortex (M1) in patients suffering from malignant visceral pain. Materials and methods. Thirty-four patients were included in the study. They were divided randomly into two groups (17 patients for each, using closed envelopes): real rTMS (20 Hz, 10 trains with intertrain interval of 30 s with total pulses 2,000, intensity 80% of motor threshold) and sham rTMS (coil elevated and angled away from the head). Stimulation was applied over M1 everyday for ten consecutive days. Patients were evaluated using a verbal descriptor scale (VDS), visual analog scale (VAS), and Hamilton rating scale for depression (HAM-D) at baseline; after the 1st, 5th, and 10th sessions; and then at 15 days and one month later after the end of the treatment sessions. Serum human dynorphin (Dyn) was measured at baseline, and after the 5th and 10th sessions. Results. Fifteen patients from each group completed the study. There was no significant difference between real and sham groups in the duration of illness, or any rating scales at baseline. Compared with the sham group, the VAS/VDS scores decreased more in patients who received real rTMS over the course of the treatment and at 15 days follow-up than in those who received sham stimulation. Scores were the same at one-month follow-up. There were no significant changes in serum human Dyn in either group. Conclusion. The results confirm that 10 sessions of rTMS over the M1 can induce pain relief in malignant visceral pain for at least 15 days but the effect is not maintained at one month (PDF). Effect of Repetitive Transcranial Magnetic Stimulation on Malignant Visceral Pain. Available from: https://www.researchgate.net/publication/286489057_Effect_of_Repetitive_Transcranial_Magnetic_Stimulation_on_Malignant_Visceral_Pain [accessed Oct 15 2018].

Keywords:

VAS; VDS; visceral pain; malignancy; rTMS; motor cortex; analgesia

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