Repetitive transcranial magnetic stimulation in neuropathic pain secondary to malignancy: a randomized clinical trial.

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Abstract:

Abstract BACKGROUND: Significant analgesic effects of repetitive transcranial magnetic stimulation (rTMS) have been found in several studies of patients with chronic pain of various origins, but never for malignancy. The objective of this study was to assess the efficacy of 10 sessions of rTMS over the primary motor cortex (M1) in patients suffering from malignant neuropathic pain. METHODS: Thirty-four patients were randomly allocated into one of two groups to receive real (20 Hz, 10 s, 10 trains with 80% intensity) or sham rTMS daily for 10 consecutive days. Patients were evaluated using a verbal descriptor scale (VDS), a visual analogue scale (VAS), Leeds assessment of neuropathic symptoms and signs (LANSS) and Hamilton rating scale for depression (HAM-D) at baseline, after the first, fifth and 10th treatment sessions, and then 15 days and 1 month after treatment. RESULTS: There were no significant differences between real and sham groups in the duration of illness or pain rating scores at the baseline. A significant 'Time × Group' interaction was recorded indicating that real and sham rTMS had different effects on the VDS, VAS, LANSS and HAM-D scales. Post-hoc testing showed that the group of patients treated with real rTMS had greater improvement in all scales that persisted up to 15 days, but were not present 1 month later. Significant positive correlations between the percentage of pain reduction and HAM-D after the 10th session and 15 days later were recorded. CONCLUSION: The results demonstrate that 10 rTMS sessions over the M1 can induce short-term pain relief in malignant neuropathic pain.

Keywords:

rTMS, malignant neuropathic pain, visual analogue scale (VAS), Leeds assessment of neuropathic symptoms and signs (LANSS) and Hamilton rating scale for depression (HAM-D)

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