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## Efficacy of repetitive transcranial magnetic stimulation for the treatment of fibromyalgia

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**Background:** rTMS is a neuromodulation technique that has been used to treat FM. Data regarding to its efficacy and safety is lacking.

**Objective:** To assess the efficacy and safety of repetitive transcranial magnetic stimulation (rTMS) for the treatment of fibromyalgia (FM).

**Methods:** Open-label uncontrolled trial where 17 subjects diagnosed with FM were enrolled. The recruitment period was from January 2015 to May 2017. All subjects received rTMS in the left prefrontal cortex. The sessions were performed in a series of 3 to 5 consecutive days with maximum break of 2 days between the series. A minimum of 10 sessions was required. Parameters used: frequency (10 Hz), cycles of 10 stimuli with pause of 20 seconds between them. 20 minutes was the length of each session. Motor threshold was adjusted according to the acceptance of patients. Side effects, widespread pain, Q of L, depressive symptoms, insomnia and fatigue were assessed after each session.

**Results:** Among the 17 patients, 88.2% were women. Mean sample age of 55.7 years (ranging from 31–81 years). 41.2% reported significant improvement of pain after 3rd rTMS session. Improvement of depressive symptoms was observed after 3rd session in 50% of patients. Improvement of insomnia and fatigue was reported after 3rd session in 52.9% in 35.3% of patients, respectively. Increased quality of life was seen in 47.1% of patients after the 3rd session. Three patients report mild and transient symptoms such as tinnitus and headache.

**Conclusions:** In our experience, rTMS had a significant influence on pain reduction in patients with FM. Plus, it showed to be a suitable option for rapid relief of symptoms since most patients reported relief of widespread pain and psychogenic/psychosomatic symptoms after the third session. rTMS was well tolerated with minimal adverse effects. Additional studies are needed to determine optimal protocols for the use of rTMS for the treatment of FM.

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