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Maintenance Repetitive Transcranial Magnetic Stimulation (rTMS) in Relapse Prevention of Depression

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Introduction

Depression is the most prevalent mental health condition with high morbidity and mortality. rTMS is an alternative treatment of acute depression validated in controlled trials. rTMS was approved by FDA for treatment of unipolar non-psychotic depression in patients who have failed one adequate antidepressant trial (Lisanby, 2009). Maintenance application of rTMS in depression remains under – researched.

Objectives

To investigate published evidence of maintenance rTMS in unipolar and bipolar depression.

Methods

Systematic review of maintenance rTMS studies in unipolar and bipolar depression was conducted. An electronic search was carried out including The Cochrane Library, MEDLINE (1988-2014), EMBASE (1974-2014), and Psych Lit (1980-2014). References of selected articles were searched manually. English-language case reports, case series, cohort studies and controlled trials were selected. Studies reporting maintenance rTMS equal or less than 3 months were excluded.

Results

8 case reports, 5 case series, 1 retrospective cohort study and 4 prospective open-label studies were critically appraised. No RCTs were available. Most patients reported had prolonged treatment-resistant depression. Considerable heterogeneity in maintenance rTMS frequency and parameters was observed. All studies reported short-term prolongation of remission period or preservation of acute treatment gains. Few rTMS studies reported longer-term maintenance treatment.

Conclusions

rTMS appears to be a viable well-tolerated option for maintenance treatment of unipolar and bipolar depression either as monotherapy or as an adjunct to maintenance pharmacotherapy. Absence of consistent stimulation parameters makes it difficult to discuss rTMS relapse prevention effectiveness in systematic way. Large sample long-term sham control studies are needed.