



Letter to the Editor

Relevance of extended protocol and maintenance TMS in obsessive-compulsive disorder: A case report



To the Editor,

Obsessive-compulsive disorder (OCD) is a common psychiatric disorder that follows chronic course and many patients with OCD are often difficult to treat. Various pharmacological, psychological (e.g: Cognitive Behaviour Therapy) as well as somatic treatments (e.g: transcranial magnetic stimulation and transcranial direct current stimulation) have been used in the treatment of OCD (Arumugham et al., 2013; Shivakumar et al., 2019). Various transcranial magnetic stimulation (TMS) strategies (different cortical sites, different number of sessions, frequencies and pulses) has been used in the treatment of OCD, of which low frequency (1 Hz) rTMS over supplementary motor area is found to be associated with better outcome (Lusicic et al., 2018; Shivakumar et al., 2019). The effects of rTMS are sustained for long (as long as 12 weeks) as found in a recent meta-analysis (Rehn et al., 2018). However, evidences are scarce regarding long term outcome of rTMS in OCD and role of maintenance rTMS in OCD. We discuss here a case of resistant OCD, who had shown improvement with rTMS augmentation and needed repeat rTMS sessions for sustained improvement.

A 29 year old young adult male presented with recurrent, repetitive thoughts of contamination, doubt, aggression and blasphemy along with recurrent, repetitive acts of washing and checking for last 10 years. There was significant distress experienced by the patient due to these symptoms. Due to his illness, he used to spend most of the time of the day involving in the washing and checking activities. The patient had been taking treatment for past 5 years with use of Fluvoxamine (upto 350 mg/day), Sertraline (up to 100 mg/day) and Escitalopram (30 mg/day) with augmentation of Risperidone. He was adherent to treatment. There had been no improvement on the above medications; however the patient had reported partial improvement on Exposure and response prevention therapy but the effects were not long lasting. As the symptoms were causing significant impairment, he was planned for repetitive Transcranial Magnetic Stimulation therapy (rTMS). The baseline Yale-Brown Obsessive Compulsive Scale (YBOCS) score was 31/40 (Obsession – 16, Compulsion – 15). rTMS was delivered on the Supplementary Motor Area (SMA) with the protocol of 1200 pulses/session, 6 days a week for 20 sessions at 100% resting motor threshold. The YBOCS score after the sessions was found to be 20/40 (Obsession – 10, Compulsion – 10) with improvement being around 35% leading to an appreciable change in the quality of patient's life. The patient reported no adverse effect during or after the therapy. During the course of rTMS treatment, the patient was receiving escitalopram 30 mg/day. The benefits obtained after rTMS sessions were sustained for a month. There after he reported worsening of his symptoms despite being adherent to pharmacological treatment. There was no obvious stressful life event that might attribute to worsening of his symptoms. At six weeks follow up, his YBOCS score was found to be 26, indicating severe obsessive compulsive symptoms. It was planned to give extended

sessions of rTMS (more than 20 sessions) and more number of pulses per session. He was given low frequency rTMS (1 Hz) over supplementary motor area with 1600 pulses/session for 24 sessions (30 session of rTMS was planned, but due to some personal reasons, he could not continue rTMS after 24th session) at 100% resting motor threshold, after which the YBOCS score was reduced to 11. The patient was maintained well at this level in three months follow up period. He had started doing job in a clerical post and had minimal distress due to his symptoms.

The unique features in our case is the patient was responsive to rTMS augmentation and the improvement lasted up to four weeks following first attempt of rTMS augmentation (for 20 sessions). Relapse of symptoms, resulted in consideration of second attempt with rTMS augmentation. The outcome of the second attempt of rTMS augmentation was more sustained improvement (for more than 12 weeks). The more sustained response might be due to reasons like – repeat rTMS interventions, more number of pulses per session and extended sessions (more than 20 sessions) leading to more neuroplastic effect. So, patients with resistant OCD may require maintenance rTMS for sustained benefits. Some preliminary findings suggest that maintenance TMS to be useful in preventing relapse in depression (Richieri et al., 2013); however, its similar role in OCD is yet to be studied. In the conventional pharmacological augmentation, the augmenting agents are used for longer duration (months to years) along the serotonergic agents; however when it comes to rTMS augmentation, therapy is delivered for limited time (mostly over a period of four to eight weeks). Longer and more intensive therapy might be more useful in OCD.

Conflict of interest

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Nil.

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