Manic Switch During Transcranial Magnetic Stimulation for Bipolar Depression

Daniel Esteves-Sousa, MD[a,b,‡,*]; João Facucho-Oliveira, PhD[a,b,‡]; Nuno Moura, MD[c,‡]; Ana M. Fraga, MD[a]; Margarida Albuquerque, MD[a]; Luís Mendonça, MD[a]; and Rui Neves, MD[b]

Bipolar disorder affects 0.8% of the general adult population and is defined by the presence of at least 1 episode of (hypo)mania and depressive episodes. Many patients with bipolar disorder, specifically in bipolar depression, fail to experience the benefits of first- and second-line approaches and subsequently require alternative treatments to achieve remission. Current guidelines defend the use of antidepressants, antipsychotics, mood-stabilizing agents, and electroconvulsive therapy (ECT) or a combination of them.[1]

Repetitive transcranial magnetic stimulation (rTMS) is a noninvasive neuromodulation technique approved for treatment-resistant depression, obsessive-compulsive disorder, and other neuropsychiatric disorders.[2] Clinical trials of rTMS for bipolar depression suggest a potential reduction of depressive symptoms,[2,3] and there is a lack of evidence reporting development of manic symptoms after this treatment.[4,5]

We present the case of a patient diagnosed with bipolar depression who developed manic symptoms after treatment. This case prompted a discussion of the relevance and safety of this treatment in bipolar depression. Relevant clinical information was extracted from the patient's medical record.

Case Report

The patient was a 46-year-old woman diagnosed with bipolar I disorder since her teens. She had a history of 7 psychiatric hospitalizations, the last one in 2003, most of which resulted in a diagnosis of a manic episode with psychotic symptoms. She was treated with lithium, sodium valproate, quetiapine, and lamotrigine, which she had to suspend after developing severe side effects: acute hepatitis with sodium valproate and quetiapine and severe skin rash with lithium and lamotrigine. In 2008, she started ECT sessions and achieved symptom remission. However, in 2011 she refused to continue due to the development of cognitive symptoms. Before starting psychiatric follow-up in our outpatient clinic, she was taking clozapine 50 mg/d, paliperidone 6 mg/d, bupropion 300 mg/d, and sertraline 200 mg/d, maintaining, however, anhedonia, depressive mood, and severe psychomotor retardation. She was then referred to initiate treatment with our rTMS depression protocol: 20 daily sessions of intermittent theta burst stimulation over the left dorsolateral prefrontal cortex and continuous theta burst stimulation over the right dorsolateral prefrontal cortex. The Montgomery-Asberg Depression Rating Scale (MADRS)[6] and Young Mania Rating Scale (YMRS)[7] were administered before and after treatment with rTMS. Her baseline scores were MADRS = 35 and YMRS = 2.

After the 10th session, she suddenly became restless, and her mood quickly switched to euphoria. She developed total insomnia and flight of ideas in association with disinhibition, irritability, and persecutory and grandeur delusions (MADRS = 12, YMRS = 40). The rTMS depression protocol and antidepressant agents were immediately suspended, and clozapine and paliperidone were titrated to 300 mg/d and 12 mg/d, respectively. After 5 weeks, the described manic episode remitted, and the patient stabilized (MADRS = 8, YMRS = 2).

Conclusion

This report illustrates the clinical case of a patient who developed a manic mood during treatment with rTMS for bipolar depression. This case adds evidence for the previously raised concerns of manic mood switches reported in the literature. Further clinical studies will help clarify this potential effect and how to prevent it.

[a]Hospital de Cascais Dr José Almeida, Área Funcional de Psiquiatria, Cascais, Portugal

[b]Egoclinic, Lisbon, Portugal

[c]Departamento de Psiquiatria e Saúde Mental, Centro Hospital Lisboa Ocidental, Lisbon, Portugal

‡These authors contributed equally to the manuscript.

*_Corresponding author:_ Daniel Esteves-Sousa, MD, Hospital de Cascais Dr José de Almeida, Área Funcional de Psiquiatria, Av Brigadeiro Victor Novais Gonçalves, Cascais, Portugal 2755-009 (danielfesousa@gmail.com).

Prim Care Companion CNS Disord 2021;23(6):21cr02942

To cite: Esteves-Sousa D, Facucho-Oliveira J, Moura N, et al. Manic switch during transcranial magnetic stimulation for bipolar depression. *Prim Care Companion CNS Disord*. 2021;23(6):21cr02942.

To share: https://doi.org/10.4088/PCC.21cr02942

Published online: December 16, 2021.

Potential conflicts of interest: None.

Funding/support: None.

Patient consent: Consent was received from the patient to publish this case report, and information has been de-identified to protect anonymity.

REFERENCES

1. Cohen BM. Evidence-based drug treatment of acute depression in bipolar disorder. *JAMA Psychiatry*. 2019;76(12):1314–1315.
2. Gold AK, Ornelas AC, Cirillo P, et al. Clinical applications of transcranial magnetic stimulation in bipolar disorder. *Brain Behav*. 2019;9(10):e01419.
3. McGirr A, Karmani S, Arsappa R, et al. Clinical efficacy and safety of repetitive transcranial magnetic stimulation in acute bipolar depression. *World Psychiatry*. 2016;15(1):85–86.
4. Ozten E, Sayar GH, Karamustafalioglu O. Hypomanic shift observed during rTMS treatment of patients with unipolar depressive disorder: four case reports. *Ann Gen Psychiatry*. 2013;12(1):12.
5. Gupta A, Adnan M. Hypomania risk in noninvasive brain stimulation. *Cureus*. 2018;10(2):e2204.
6. Montgomery SA, Asberg M. A new depression scale designed to be sensitive to change. *Br J Psychiatry*. 1979;134(4):382–389.
7. Goodman WK, Price LH, Rasmussen SA, et al. The Yale-Brown Obsessive Compulsive Scale. I. Development, use, and reliability. *Arch Gen Psychiatry*. 1989;46(11):1006–1011.