**Abstract**

All patients had an initial evaluation with an attending psychiatrist with a considerable knowledge of treatment-resistant depression and TMS. A history of previous antidepressant therapy was obtained, which included on average 3.9 failed antidepressant trials in the current MDD episode. Follow-up findings demonstrated a long duration of benefit with over 80.0% of patients who provided data post-acutely maintaining remission at over four years. Lastly, no significant adverse events were experienced during or after TMS treatment. These findings further establish TMS therapy as a safe, effective and durable treatment option, both acutely and on a continued basis.

**Methods**

All patients had an initial evaluation with an attending psychiatrist with a considerable knowledge of treatment-resistant depression and TMS. A history of previous antidepressant therapy was obtained, which included on average 3.9 failed antidepressant trials in the current MDD episode. Follow-up findings demonstrated a long duration of benefit with over 80.0% of patients who provided data post-acutely maintaining remission at over four years. Lastly, no significant adverse events were experienced during or after TMS treatment. These findings further establish TMS therapy as a safe, effective and durable treatment option, both acutely and on a continued basis.

**Results**

We retrospectively assessed 10 patients who achieved remission in the acute phase of treatment for long-term results based on the BDI II. Data was collected at five time intervals: 6-12 months, 12-24 months, 24-36 months and 48 months or greater. The average baseline score for this patient population was 23.4 (±17.6) with a range of 1,600 - 4,600 pulses administered (Table 1). 94 of 123 patients (76.4%) demonstrated a minimum 50% improvement in the BDI symptom score (establishing treatment response at the end of the acute phase), while 89 of 123 patients (72.4%) reported BDI symptom scores at or below 13 (establishing remission at the end of the acute phase). Total mean baseline BDI score was 25.6 (±11.1) and improved to a mean 10.2 (±8.7) at the end of the acute phase. At the end of the acute phase, 48 of 123 patients (39.2%) demonstrated similar efficacy, indicating response and remission rates of 78.8% and 52.5%, respectively. (It is important to note that 74 of 118 patients had scores of 5 or less with 12 patients reporting a score of 5 on the PHQ-9, missing remission in one rating point.) Long-term data was collected on patients who achieved remission in the acute phase who were available for follow-up. Data further demonstrates the efficacy of TMS as a durable treatment option in a population who have failed multiple medication trials.

**Discussion**

In routine clinical practice, TMS shows significant improvements for treatment of Major Depression in a treatment-resistant population utilizing the Beck Depression Inventory (BDI II) symptom scale. In addition, long-term data further demonstrates the efficacy of TMS as a durable treatment option in a population who have failed multiple medication trials.

**Conclusion**

Transcranial Magnetic Stimulation was effective and safe in the acute treatment of 123 patients recruited from our private clinical practice. Acute response and remission rates demonstrated over a 50% improvement in symptom severity, far exceeding comparable published outcomes despite the presence of a high degree of treatment resistance (mean of 3.9 failure of multiple pharmacotherapies) and co-morbidities in the treated population. Follow-up findings demonstrated a long duration of benefit with over 80.0% of patients who provided data post-acutely maintaining remission at over four years. Lastly, no significant adverse events were experienced during or after TMS treatment. These findings further establish TMS therapy as a safe, effective and durable treatment option, both acutely and on a continued basis, for those who suffer from a high degree of symptom severity and/or do not gain relief from antidepressant medications.