The Future of Neuromodulation: Transcranial Magnetic Stimulation

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This month’s issue of Psychiatric Annals, guest edited by Geoffrey Grammer, MD, and Tarique Perera, MD, features a very informative series of articles reviewing transcranial magnetic stimulation (TMS). It is a comprehensive review, beginning with an overview of neuromodulation by Brock and Demitrack and then a discussion of the science of TMS by Sauvé and Crowther, followed by a review of TMS’ clinical efficacy in depression by Janicak and Carpenter. Grammer and his associates provide an interesting review of the role of TMS in other psychiatric disorders, followed by a current review of the effects of TMS in several neurological diseases by Shafi and his colleagues.

The last article in this series by Hutton addresses the broader issue of the clinical application of TMS. This article addresses the vast difference in clinical practice that TMS presents—an office-based model of a procedure that is so different from the psychopharmacological and psychotherapeutic approaches that have been traditional in psychiatric practice. In this article, Hutton touches on the marketing, various models for receiving access to use this treatment, insurance coverage trends, and the evolving nature of this treatment as new technologies and techniques for its delivery are incorporated into practice.

It appears that the efficacy of TMS is increasing as new technology and clinical techniques of administration are being developed. It also appears that the economic support by insurance companies is expanding as efficacy data improve.

TMS is but one of a number of neuromodulation techniques being made available and being studied, as well as improved. Vagus nerve stimulation, deep brain stimulation, and newer forms of electroconvulsive therapy are being reported. However, TMS is the only treatment that has a potential to change the outpatient office-based treatment of psychiatric conditions. As efficacy improves with experience and further development and financial support improves through the extension of insurance coverage, based on improving efficacy, this technique could expand and broaden psychiatric practice. We should pay close attention to the evolution of this treatment—we might even incorporate it in the teaching of our psychiatric residents.

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