Support for Brain Stimulation Therapies Wavering

BY SHERRY BROSCHERT
San Francisco Bureau

RANCHO MIRAGE, CALIF. — Two of the newer brain stimulation treatments for chronic depression took hits from the federal government in recent actions, Dr. William McDonald said at the annual meeting of the American College of Psychiatrists.

As a result, vagal nerve stimulation (VNS) may become less available, and it's unlikely that transcranial magnetic stimulation (TMS) will be approved any time soon, said Dr. McDonald, J.B. Fuqua Professor of Psychiatry and Behavioral Sciences at Emory University, Atlanta.

The Centers for Medicare and Medicaid Services is reconsidering whether to continue covering the cost of VNS, which was approved for treatment of chronic depression in a controversial decision by the Food and Drug Administration in 2005, he said.

The data backing use of VNS were not strong. An open committee of the FDA recommended against approval, but the device was approved in a closed committee with the contingency that the device's maker conduct follow-up studies of safety and efficacy, said Dr. McDonald, a consultant and speaker for Cyberonics, which markets the VNS device, and for NeuroNetics, which makes the TMS machine.

The lack of data backing the use of VNS for depression and the possible loss of Medicare coverage make the treatment a tough sell for many clinicians.

"If Medicare doesn't pay for VNS, it's unclear who will pay for it," he said. So far, all of the patients treated with VNS at his institution have been either young and disabled or older patients who were insured under Medicare.

Although initial open-label pilot data made VNS look promising, the primary outcomes of a subsequent randomized, placebo-controlled study of 235 patients "were nothing but disappointing," he said. After 8 weeks of treatment, there was no significant difference in response rates measured by the Hamilton Rating Scale for Depression ($HRSD_{24}$) in the VNS group compared with patients randomized to sham treatment.

There was a significant difference, however, in a secondary measure of outcome. With the Inventory of Depressive Symptomatology, Self-Report ($IDS\text{-}SR_{30}$), the VNS group showed a 17% response rate, compared with 8% of the sham group.

A separate, open-label study of 329 patients who were followed for a year after receiving the VNS implant in clinical trials and continued other treatments without modifications during that time showed impressive response rates that persuaded the FDA to approve the device, said Dr. McDonald, who is also director of the Fuqua Center for Late-Life Depression at Emory. With VNS, 30% of these patients responded to treatment and 17% went into remission, compared with 13% and 7%, respectively, of patients whose depression would be expected to respond or remit with observation and no other treatment modifications.

The data don't answer key questions for clinicians considering VNS therapy, Dr. McDonald noted, such as which patients are best to send for VNS. For example, his institution performs 250 ECT procedures as maintenance therapy each month, but there are no data to show whether patients on maintenance ECT might benefit from VNS, which would be simpler and more practical, if effective.

Considering that VNS therapy costs $20,000-$30,000 and requires that psychiatrists learn new information for treatment and follow-up, the lack of data and possible loss of Medicare coverage make VNS a tough sell for many clinicians.

As for TMS, an open committee of the FDA declined to approve the device in January 2007 based on randomized, controlled trial data. The data failed to show efficacy in its primary outcome measure but (like VNS) did show efficacy by a secondary measure.

Response rates were not significantly different between the TMS and sham groups when measured by the Montgomery-Asberg Rating Scale. But when measured by the $HRSD_{24}$, over 30% in the TMS group responded and 20% went into remission. A new trial sponsored by the National Institutes of Health is using MRI-guided TMS to see if this will improve results. ■