

Letters to the Editor

Send letters to Kenneth W. Lin, MD, MPH, Associate Deputy Editor for *AFP Online*, e-mail: afplet@aafp.org, or 11400 Tomahawk Creek Pkwy., Leawood, KS 66211-2680.

Please include your complete address, e-mail address, and telephone number. Letters should be fewer than 400 words and limited to six references, one table or figure, and three authors.

Letters submitted for publication in *AFP* must not be submitted to any other publication. Possible conflicts of interest must be disclosed at time of submission. Submission of a letter will be construed as granting the American Academy of Family Physicians permission to publish the letter in any of its publications in any form. The editors may edit letters to meet style and space requirements.

Risks of Deep Brain Stimulation for Parkinson Disease

Original Article: Parkinson Disease: An Update

Issue Date: February 15, 2013

Available at: <http://www.aafp.org/afp/2013/0215/p267.html>

TO THE EDITOR: This update on Parkinson disease did not mention an important risk of deep brain stimulation (DBS) surgery that occurs routinely during the insertion of the electrical leads through the brain parenchyma to their targets in the basal ganglia.

A meta-analysis of DBS trials found that the most common cognitive adverse effect of DBS was a decrement in verbal fluency, which was characterized by communication difficulties and problems in generating word lists.¹ Another study demonstrated that decrease in verbal fluency is an effect of surgical electrode implantation, not of stimulation.²

Patients considering DBS surgery should be informed of all of the risks involved, including the likelihood of impaired verbal fluency.

DAVID L. KELLER, MD, MSEE

Torrance, Calif.

E-mail: davidlouiskeller@gmail.com

Author disclosure: No relevant financial affiliations.

REFERENCES

1. Parsons TD, et al. Cognitive sequelae of subthalamic nucleus deep brain stimulation in Parkinson's disease. *Lancet Neurol*. 2006;5(7):578-588.
2. Okun MS, et al. Subthalamic deep brain stimulation with a constant-current device in Parkinson's disease [published correction appears in *Lancet Neurol*. 2012;11(3):208]. *Lancet Neurol*. 2012;11(2):140-149.

IN REPLY: We would like to thank Dr. Keller for pointing out the risk of decline in verbal fluency associated with DBS for Parkinson disease. Because Parkinson disease affects cognition, and because the studies comparing immediate vs. delayed stimulation lack data from control groups undergoing medical

therapy, it is difficult to estimate how much of a patient's observed decline in verbal fluency can be attributed to DBS.^{1,2} A multicenter randomized controlled trial comparing DBS with optimal medical therapy showed a number needed to harm (NNH) of 12 for development of a speech disorder at three months in patients treated with DBS.³ By six months, there was no statistically significant difference between the two groups. Other adverse effects of DBS included headache (NNH = 6 at three months), confused state (NNH = 10 at three months), falls (NNH = 12 at six months), and dystonia (NNH = 17 at six months).³ Despite these adverse effects, patients treated with DBS in randomized trials have significant improvements in Parkinson disease rating scales and quality-of-life measures compared with control groups, demonstrating that the overall improvement in motor function outweighs declines in verbal fluency and other adverse effects.^{3,4} Unfortunately, there is a lack of high-quality data comparing long-term outcomes between patients undergoing DBS and patients who receive optimal medical therapy. We agree with Dr. Keller that patients considering DBS for Parkinson disease should be counseled on all of the potential risks and benefits of this surgery.

JOHN D. GAZEWOOD, MD, MSPH, CAQGM

Charlottesville, Va.

E-mail: Jdg3k@virginia.edu

Author disclosure: No relevant financial affiliations.

REFERENCES

1. Parsons TD, et al. Cognitive sequelae of subthalamic nucleus deep brain stimulation in Parkinson's disease. *Lancet Neurol*. 2006;5(7):578-588.
2. Okun MS, et al. Subthalamic deep brain stimulation with a constant-current device in Parkinson's disease [published correction appears in *Lancet Neurol*. 2012;11(3):208]. *Lancet Neurol*. 2012;11(2):140-149.
3. Weaver FM, et al. Bilateral deep brain stimulation vs best medical therapy for patients with advanced Parkinson disease. *JAMA*. 2009;301(1):63-73.
4. Deuschl G, et al. A randomized trial of deep-brain stimulation for Parkinson's disease [published correction appears in *N Engl J Med*. 2006;355(12):1289]. *N Engl J Med*. 2006;355(9):896-908. ■