Amantadine improves gait in PD patients with STN stimulation.

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Abstract

In advanced Parkinson's disease (PD), axial symptoms such as speech, gait, and balance impairment often become levodopa-unresponsive and they are difficult to manage, even in patients with subthalamic nucleus deep brain stimulation (STN-DBS). We anecdotally observed that oral administration of amantadine was very effective in treating both residual and stimulation-induced axial symptoms after bilateral STN-DBS in one PD patient. Therefore, we conducted a prospective multicenter observational study to evaluate the effects of amantadine on speech, gait and balance in PDpatients with STN-DBS and incomplete axial benefit. Primary outcomes were changes in speech (UPDRS III, item 18), gait (item 29) and postural stability (item 30) with amantadine treatment compared to baseline. Secondary outcome was the patients' subjective scoring of axial symptoms withamantadine compared to baseline. Forty-six PD patients with STN-DBS were enrolled in the study and followed for 10.35 ± 8.21 months (median: 9.00; range: 1-31). The mean daily dose of amantadine was 273.44 ± 47.49 mg. Gait scores significantly improved (from 1.51 ± 0.89 to 1.11 ± 0.92, P = 0.015) with amantadine treatment, whereas postural stability and speech scores were similar before and after treatment. Thirty-five (76.1%) patientsreported subjective improvement in speech, gait or balance with amantadine, whereas thirty (65.2%) patients reported improvement in gait and balance. In conclusion, our data suggest that amantadine may have new beneficial effects on axial symptoms in PD patients with STN-DBS.

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Publication Types, MeSH Terms, Substances, Grant Support

Publication Types

- Clinical Trial
- Multicenter Study
- Research Support, Non-U.S. Gov't

MeSH Terms

- Adult
- Amantadine/therapeutic use*
- Antiparkinson Agents/administration & dosage*
- Combined Modality Therapy
- Deep Brain Stimulation
- Female
- Gait/drug effects*
- Gait Disorders, Neurologic/etiology
- Gait Disorders, Neurologic/therapy*
- Humans
- Male
- Middle Aged
- Parkinson Disease/complications
- Parkinson Disease/therapy*

- Subthalamic Nucleus
- Treatment Outcome

Substances

- Antiparkinson Agents
- Amantadine

Grant Support

- Canadian Institutes of Health Research/Canada

LinkOut - more resources

Full Text Sources

- Elsevier Science
- Clinical Key
- Gale Databases

Medical

- Parkinson's Disease - MedlinePlus Health Information
- Walking Problems - MedlinePlus Health Information

Molecular Biology Databases

- AMANTADINE - HSDB