

Depression and anxiety in Parkinson's disease patients treated with deep brain stimulation

Emilia Sołtan¹, Henryk Koziara^{1,2}, Rafał Rola³, Bogdan Brodacki⁴, Dariusz Koziarowski⁵, Piotr Janik⁶,
Bartosz Krolicki¹, Krzysztof Szalecki¹, Paweł Nauman¹, Tomasz Mandat^{1,2}

¹Department of Neurosurgery, Institute of Psychiatry and Neurology, Warsaw

²Department of Neurosurgery, Maria Skłodowska-Curie Memorial Oncology Center, Warsaw

³First Department of Neurology, Institute of Psychiatry and Neurology, Warsaw

⁴Department of Neurology, Military Medical Institute, Warsaw

⁵Department of Neurology, Health Sciences Division, Medical University of Warsaw

⁶Department of Neurology, Medical University of Warsaw

Aim: The aim of this study was to evaluate the incidence of depression and anxiety using the Beck Depression Inventory scale (BDI), Hamilton anxiety rating scale (HAMA) in 115 patients treated with deep brain stimulation (DBS) of the subthalamic nucleus (STN) or globus pallidus pars interna (GPi) for advanced Parkinson's disease (PD).

Methods: 115 patients, 78 men and 37 women, were treated with STN-DBS for PD between 2011–2014. All of them were classified for the surgery according to CAPSIT-PD. Preoperatively and from 6 months after surgery, the patients were evaluated by a neurosurgeon and psychiatrist.

Results: 88% (101) of the patients filled in the questionnaires. There was no mortality or morbidity in the

group. Preoperatively no depression was found, anxiety symptoms were present in 18 patients. Postoperative mild depression was found in 4 cases (STN group). Anxiety symptoms were found in 17 patients and all of the patients declared better quality of life after DBS implantation.

Conclusions: The study showed that STN-DBS and GPi-DBS carry a minor risk of depression or anxiety. The higher rate of depression in the STN group was not statistically significant. The location of the electrode did not have an impact on anxiety symptoms.

Key words: quality of life, Parkinson's disease, deep brain stimulation, depression, anxiety