

Quality of Life in Advanced Parkinson's Disease after Bilateral Subthalamic Stimulation. 2-Year Follow-up Study

Michał Sobstyl¹, Mirosław Ząbek¹, Artur Zaczyński², Wojciech Górecki²

¹Department of Neurosurgery, Center for Postgraduate Medical Education, Warsaw,

²Department of Neurosurgery Mazovia Bródnowski Hospital, Warsaw

Introduction: The aims of this study were to assess the quality of life (QoL) using the Parkinson's Disease Questionnaire PDQ-39 after bilateral subthalamic deep brain stimulation (STN DBS) and to find any correlations between changes in UPDRS scores and separate PDQ 39 QoL dimensions and the PDQ summary index (SI) score at long-term follow-up.

Methods: We evaluated 16 patients with advanced PD after bilateral STN DBS. All 16 patients were assessed 1 year after surgery and 14 were evaluated 2 years after surgery. The patients were assessed using the Unified Parkinson's Disease Rating Scale (UPDRS) in medication on and medication off conditions preoperatively and postoperatively. All the UPDRS evaluations were performed postoperatively during the stimulation on condition. The QoL was evaluated by employing the PDQ-39 questionnaire.

Results: The UPDRS scores after 1 and 2 years in medication off and on conditions when the bilateral STN DBS was switched on have shown a significant difference between the baseline scores and follow up scores (both in off and on conditions) in all

UPDRS measurements except mentation after 2 years. All the dimensions of the PDQ-39 as well PDQ-39 SI score significantly improved after 1 year. The same improvements were visible at the 2-year follow up except for social support and communication. We have found a positive correlation between ADL UPDRS, motor off UPDRS scores, dyskinesia UPDRS score and PDQ-39 mobility, ADL and the PDQ-39 SI score. We have observed a negative correlation between improved fluctuation of the UPDRS score and PDQ-39 mobility. We have found no correlation between the duration of the off period and daily medication equivalency units and changes in PDQ-39.

Conclusions: STN DBS significantly improved all the dimensions of the PDQ-39 at 2-year follow-up except for social support and communication. We have observed positive correlations between improvements in the UPDRS scores and several PDQ-39 dimensions and the PDQ-39 SI score at 2-year follow-up.

Key words: Parkinson's Disease, Parkinson's Disease Questionnaire PDQ-39, deep brain stimulation