Objective: The aim of this study is to investigate the efficacy and safety of unilateral globus pallidus interna (GPi)-DBS.

Patients and Methods/Material and Methods: Medication refractory PD patients undergoing unilateral or staged bilateral GPi-DBS were included. Unilateral Parkinson’s Disease rating Scale (UPDRS) motor score was used to record at baseline and six months. Postoperative scores were recorded with DBS turned OFF and ON.

Results: Consecutive 12 patients underwent unilateral GPi-DBS were enrolled in this study. UPDRS motor score was significantly improved when baseline off scores were compared to scores with the medication off and the DBS ON (49.4 vs. 37.6, p < 0.001). The improvements were noted not only contralateral side (16.2 vs. 8.4, p = 0.003) but also ipsilateral side (15.1 vs. 13.6, p = 0.045). There were no neurological or neuropsychological worsening associated with DBS.

Conclusion: In this study, unilateral GPi-DBS in advanced PD patients demonstrates moderate benefit and safety. It is important to note that improvement was seen in not only contralateral side but also ipsilateral side of GPi-DBS. This study suggested unilateral GPi-DBS and subsequent staged bilateral GPi-DBS might become patient-tailored option. Symptom specific approach considering neuropsychological functions and the latality of symptoms will be proposed to optimize outcome of the DBS. Further studies were needed with a large sample size and longer clinical follow up.

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Objective: Serum concentrations of a panel of inflammatory markers (IL-8, TNFα, MCP1, MIP-1B, IL-6, IL-6R, p–selectin, Eselectin–1, ICAM, VCAM, CCL5, IL-1ra, TNFR1) were measured using ELISA technology in PD patients with and without fatigue to assess potential relationships with clinical measures.

Patients and Methods/Material and Methods: We included 49 drug naïve, newly diagnosed PD patients with low (≤3.0) or high (>5.0) fatigue levels evaluated by the Fatigue Severity Scale (FSS). Strict diagnostic criteria were applied for inclusion. Patients with possible confounding causes for fatigue were excluded.

Results: Fatigued PD patients had significantly higher levels of the IL-1 receptor antagonist (IL-1ra) (1790 pg/ml (SD1007) vs. 1262 pg/ml (SD379) and of the adhesion molecule VCAM 1, (1071 ng/ml (SD276) vs 895 ng/ml (SD229) than nonfatigued patients. A binary logistic regression model, including high or low FSS score as the dependent variable and UPDRS motor score, MADRS, MMSE, ESS and IL-1ra as independent variable showed a significant effect only for IL-1ra and VCAM 1.

Conclusion: Higher serum levels of inflammatory molecules were associated with higher fatigue levels in patients with newly-diagnosed, drug naïve PD. These findings highlight altered immune response as a potential contributor to PD-related fatigue from the earliest clinical stages of the disease.

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