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### Background and aims

Subthalamic deep brain stimulation (STN-DBS) is an effective treatment option in Parkinson's disease (PD), producing robust motor improvements in the motor symptoms and allowing the reduction of antiparkinsonian drugs dosage. There is, however, increasing evidence that STN-DBS may be associated with a higher incidence of adverse changes in behavior when compared to other stimulation sites (1). To date, no study has investigated the effect of the amount of total electrical energy delivered (TEED) on behavioral adverse changes. To characterize this issue, we assessed personality traits correlated with TEED in twenty PD patients before and 12 months after the start of neurostimulation.

### Methods

20 PD patients (12 women, mean [ $\pm$ SD] age  $57.6 \pm 7.6$  years) with advanced L-dopa responsive PD were included in this study. We tested psychological issues before and 12 months after bilateral DBS-STN. To assess personality we used MMPI-2 according to CAPSIT-PD procedure (2).

### Results

After 12 months, patients showed a significant increase only in MMPI-2 subscale D for depression (preDBS mean: 55.43, SD:8.95; 12 Months mean:61.73, SD:10.15;  $p = 0.0053$ ,  $r = -0.41$ , Wilcoxon signed-rank test). All the other subscales did not differ before and after 12 months DBS. We found a correlation between the changes in MMPI-2 subscale D after 12 months and TEED on the right hemisphere (Spearman's  $\rho = -0.68$ ,  $p = 0.007$ ).

### Conclusions

Different influences of multiple factors contribute to impact the personality traits such as TEED, intra/post surgical coping mechanisms and outcome expectations. Further advances are expected to optimize stimulation methods. 1.Hannah et al. *Neuropsychol Rev.* 2015;25(4):439–54. 2.Defer et al. *J Mov Disord* 1999;14(4):572–84.

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## 119541

### Clinical features of primary parkinsonism taking into account the results of molecular-genetic diagnostics

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### Background and aims

**INTRODUCTION.** Parkinson's disease (PD) is a progressive neurodegenerative disease, which is based on a decrease in the number of dopaminergic neurons in the substantia nigra. Genetic defects of the PARK2 gene are responsible for the development of 50% of cases of autosomal recessive juvenile parkinsonism (JP) and 10–20% of PD with early onset. The gene LRRK2 is the second most important gene, mutations in which cause the development of autosomal dominant and sporadic forms of PD. **PURPOSE OF THE STUDY.** Study of clinical features taking into account the results of molecular genetic diagnostics of patients with primary parkinsonism (PP).

### Methods

Family history data, neurological status, results of molecular genetic diagnostics were examined - PCR, sequencing, denaturing high performance liquid chromatography, restriction analysis.

### Results

The group of patients with PP consisted of 62 people: 60 with PD (of which 35 PD with early onset before the age of 45 years) and 2

patients with JP. The prevalence of women among all patients was revealed; their ratio with men was 1.1: 1. The age of the examined persons was from 27 to 77 (52.1 to 19.3); the age of onset of the disease was from 19 to 72 years (44.9 11.2). In the group of PD patients with early onset: age from 27 to 74 (47.29.5), age of onset of the disease from 22 to 45 years (37.3 to 7.1).

### Conclusions

The group of patients with PP consisted of 62 people: 60 with PD and 2 patients with JP.

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## 119542

### Quality of life of patients with Parkinson's disease and their caregivers during the COVID-19 pandemic

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### Background and aims

The coronavirus disease 2019 (COVID-19) pandemic has negatively affected the mental health of the general population. The determinants of quality of life (QOL) in Parkinson's disease (PD) patients and their care givers during the COVID-19 pandemic were assessed.

### Methods

We performed a single center, cross-sectional study including 100 patients with PD and their caregivers/spouses. The Hospital Anxiety and Depression Scale was used to assess anxiety and depression. To assess health-related QOL, the physical component summary (PCS) and mental component summary (MCS) scores of the short form (SF)-8 were used.

### Results

Regarding health-related QOL, physical function, role physical, general health, vitality and the PCS score were significantly worse in PD patients than in caregivers. Worsening of PD-related symptoms, increased stress, and decreased physical activity were observed in 29.0%, 37.0% and 44.0% of PD patients, respectively. Sixteen patients (16.0%) experienced problems accessing the hospital, but none reported medication shortages. Approximately half of the participants had strong concerns about COVID-19. In PD patients, increased gait disturbance and rigidity, disease severity, smoking, the levodopa equivalent dose and decreased body weight predicted a worse PCS score, while anxiety, depression, female sex, stress and long disease duration predicted a worse MCS score. In caregivers, age and smoking contributed to a worse PCS score, while depression, stress and worsening patient mood contributed to a worse MCS score.

### Conclusions

We showed the negative impacts of the COVID-19 pandemic on health-related QOL and its determinants in PD patients and their caregivers.

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