certain period of time, but we may need to pay attention to the influence of involuntary movements.

doi:10.1016/j.jns.2019.10.288

WCN19-2238

Journal of the Neurological Sciences 405S (2019) 103951

Free papers 09 - Late breaking

The role of genetic factors in levodopa-induced dyskinesias development in Russian patients with Parkinson's disease: A pilot study

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Introduction

Levodopa is the most effective drug for the treatment of Parkinson's disease (PD). After about 5 years, most patients develop severe side effects such as dyskinesias and motor fluctuations after levodopa therapy

Objective

The aim of our prospective study is to search the associations of the polymorphic variants of the genes of dopaminergic and serotoninergic systems with levodopa-induced dyskinesia (LID) development in Parkinson's disease patients.

Methods

The prospective ten-years clinical study included 320 sporadic PD patients from Russia. The analysis of 18 SNPs of dopamine and serotonin receptors, serotonin transporter, catechol-O-methyltransferase, monoamine oxidase B, tryptophan hydroxylase and tyrosine hydroxylase genes was performed. Dyskinesia was assessed using of MDS-UPDRS scale (parts IV and IVA) 10 years after the initial survey. The SPSS software was used for statistical analysis. P-value < 0,05 was considered statistically significant.

Results

Thus, the presence of LID was assessed in 80 PD patients from the original cohort, and dyskinesias were reported in 25 (68,75%) patients. We found DRD2 rs6275 polymorphism and TPH1 rs1800532 polymorphism to be significantly associated with LID. Patients homozygous for the rs6275*G allele had higher values of the part IV UPDRS scale compared to heterozygous (p = 0,024). Patients heterozygous for the rs1800532*G/T had lower value of the part IV UPDRS scale compared to homozygous *G/G and *T/T carriers (p = 0,038; F = 4,24).

Conclusions

Thus, gene polymorphisms associated with levodopa-induced dyskinesias development has been revealed. Further large sample size studies are required to replicate the results. This pilot study will be continued.

The work was supported by RFBR grant #19-015-00331.

doi:10.1016/j.jns.2019.10.289

WCN19-2230

Journal of the Neurological Sciences 405S (2019) 103952

Free papers 09 - Late breaking

Image-guided frameless stereotaxy in subthalamic deep brain stimulation: Three-year clinical outcome

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Introduction

Previous studies have investigated targeting accuracy of frameless stereotaxy showing clinical outcomes and the data concern only the short-term follow-up. The objective of this study was to assess clinical efficacy and safety of frameless bilateral STN-DBS at three-year follow-up.

Matherials and Methods

Eighteen PD patients received bilateral STN-DBS implant and were included in the study(Mean age 55.6 ± 7.9 years and mean disease duration 11.9 ± 6.2 years). DBS was performed in all patients with frameless techique(Nexframe).

The following variables were assessed at baseline, one year and three years after the surgery:

-score of the Unified Parkinson's Disease Rating Scale(UPDRS)III and axial subscore(items 27-31)in off-medication(off-med)and on-med preoperatively, in off-med off-stimulation(off-stim), off-med on-stim, on-med off-stim, on-med on-stim postoperatively;

-levodopa equivalent daily dose(LEDD);

-adverse events related to stimulation or device were systematically collected at one- and three-year follow-up.

Results

At one-year,motor efficacy of STN stimulation was of30.1%. The benefit remained significant when considering the axial symptoms, with 36.4% of improvement of UPDRS III axial subscore. Dopaminergic drugs were significantly reduced of 31.2% one year after the intervention. At 3 yrs follow-up, motor efficacy was11.1%compared to preoperative condition and 36.3% compared to med-off stim-off condition at three-year follow-up.Axial symptoms were not improved compared to preoperative condition, but significantly improved of 23.6% compared to med-off stim-off condition at three-year follow-up. After three years from DBS, dopaminergic drugs were significantly reduced of 31.7%. No serious adverse events occurred during surgery.

Conclusions

Frameless stereotaxy, compared to frame-based technique, show non-inferior efficacy and safety at long term follow up with great advantages for patients' discomfort during surgery.

doi:10.1016/j.jns.2019.10.290