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Pozhidaev, I.; Alifirova, V.M.; Freidin, M.B.; Zhukova, I.A.; Fedorenko, O.Y.; Osmanova, D.Z.; Mironova, Y.S.; Wilffert, B.; Ivanova, S.A.; Loonen, A.J.M.

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Dopamine receptors genes polymorphisms in Parkinson patients with levodopa-induced dyskinesia


Objective: This study aimed to investigate a possible contribution of polymorphic variants of DRD1, DRD2, DRD2/ANKK1, DRD3, DRD4 genes in the development of LID in PD patients.

Methods: 212 patients with Parkinson’s disease on levodopa therapy were investigated. Dyskinesia was measured by using Abnormal Involuntary Movement Scale (AIMS). DNA extraction and fluorogenic 5′-exonuclease TaqMan genotyping assays were conducted according to standard protocols and blind to clinical status of the subjects. Genotyping was carried out on 28 SNPs of dopamine receptors (rs4532, rs936461, rs6275, rs1801028, rs4245147, rs134655, rs6277, rs1076560, rs2283265, rs179997, rs6279, rs1076562, rs2734842, rs2734849, rs11721264, rs167770, rs3773678, rs963468, rs7633291, rs2134655, rs9817063, rs324035, rs1800828, rs167771, rs6280, rs1587756, rs3758653, rs11246226) on the MassARRAY™ Analyzer 4 (Agena Bioscience™) using the set SEQUENOM Consumables iPLEX Gold 384. SPSS software was used for statistical analysis. Statistical significance of the association testing was established using permutations. P-value <0.05 after permutations was considered statistically significant.

Results: Rs4245147 polymorphism of the DRD2 gene is a putative component of a set of biomarkers predicting the vulnerability to develop dyskinesia.

References

Association between polymorphisms of the PCDH15 gene and schizophrenia in Korean population

Y. Choi1*, W. Kang1, E. Kim2, J. Kim1

Objective: Podocalyxin, a member of the cadherin superfamily that plays a crucial role in hair cell sensory transduction and contributes to neural development