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CSF biomarkers profile of patients with Parkinson's disease treated with different MAO-B inhibitors in add-on

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Introduction: APO-ε genotype serves as a genetic risk factor for Alzheimer's disease (AD) and affects the progression rate of the disease. Recent findings also showed a role of APO-ε genotype as a determinant of motor and cognitive trajectories in Parkinson's disease (PD) [1-2]. However, the clinical and neurochemical correlates of the APO-ε genotype have not clearly established yet in PD patients.

Objective: To assess the association between different APO-ε genotypes and CSF neurodegeration-related biomarkers or main clinical features in PD patients.

Methods: The study involved 183 PD patients and 85 controls genotyped for APO-ε and grouped in APO-ε4 and non-APO-ε4 carriers(PD: APO-ε4 83.6%, non-APO-ε4 16.4%; controls: APO-ε4 85.7%, non-APO-ε4 14.3%). All participants underwent the measuremet of amyloid-β42 (Aβ42), amyloid-β40 (Aβ40), t-tau, p-tau and lactate CSF levels. Beta ratio (Aβ42/Aβ40) was also calculated. PD patients were evaluated through the MDS-UPDRS part III, MoCA, non motor symptoms scale (NMSS) and LEDD calculation. Clinical and neurochemical parameters were compared between the groups and correlated each other.

Results: APO-ε4 PD carrier group compared to the non APO-ε4 group presented with higher NMSS total score (50.7±7.1 and 40.8±3.0 respectively, p=0.037), lower Aβ-42 (779.1±54.2pmol/ml and 966.1±30.6pmol/ml respectively, p=0,018) and higher lactate (1.57±0.06mmol/ml and 1.46±0.03mmol/ml respectively, p=0.032) CSF level. CSF biomarkers did not differ in APO-ε control groups.

References:

[1] Pu JL, Jin CY, Wang ZX, et al. Apolipoprotein E Genotype Contributes to Motor Progression in Parkinson's Disease. Mov Disord. 2022;37(1):196-200. doi:10.1002/MDS.28805.
[2] Jo S, Kim SO, Park KW, Lee SH, Hwang YS, Chung SJ. The role of APOE in cognitive trajectories and motor decline in Parkinson's disease. Sci Reports 2021 111. 2021;11(1):1-10. doi:10.1038/s41598-021-86483-w.