

Screening of cognitive domains with MOCA in PSP: results from the PSP NET

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Introduction: Cognitive impairment is among cardinal features of Progressive Supranuclear Palsy (PSP). The Montreal Cognitive Assessment (MOCA) is the standard test for identifying cognitive disorders in atypical parkinsonism. Attention, executive and visuospatial functions are the most affected domains in such patients. PSP-NET is the Italian registry of PSP patients promoted by the LIMPE Foundation.

Objective: The aim of the present study is to describe the preliminary cognitive data collected until early March 2022.

Methods: Patients were divided in two groups according to the PSP phenotype: PSP with Richardson's syndrome (RS-PSP) and the other variants of PSP (vPSP). Disease severity was rated with the PSP rating scale. We used the t-test and χ^2 to calculate differences between phenotypes, and the Pearson correlation to identify other clinical parameters correlating with the cognitive profile.

Results: One-hundred and thirty-three patients were included. Worse MOCA performances correlated with higher PSP rating scale ($p < 0.05$). Such correlation was greater for PSP-RS. Disease onset with freezing of gait correlated with lower MOCA scores ($p < 0.05$). As for cognitive subdomains, attention was the most compromised domain in patients who started with freezing of gait or cognitive symptoms ($p < 0.05$). On the other hand, tremor at onset was associated with worse

performance in the memory subscore ($p < 0.05$). More than half of PSP-RS (55.5%) had a score below the median value of the MOCA, compared to 35.7% of vPSPs. No other significant differences were detected between PSP phenotypes.

Conclusion: Worse cognitive performances are associated with greater disease severity in PSP, especially in PSP-RS. Freezing of gait, cognitive symptoms, and tremor at onset may be linked to impairment of specific cognitive functions.