p-027

Thursday

Longitudinal clinical decline and baseline predictors across progressive supranuclear palsy clinical variants

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Background: Progressive supranuclear palsy (PSP) is associated with several clinical variants defined based on ocular motor dysfunction, postural instability, akinesia, and cognitive dysfunction, although little is known about how these features progress over time.
Objectives: To assess the evolution of these core clinical features across variants and assess baseline neuroimaging predictors of progression.
Methodology: Ninety-three PSP patients were recruited by the Neurodegenerative Research Group, Mayo Clinic, and underwent two visits 1-year apart, with baseline MRI and [18]flortaucipir PET. We compared baseline and annualized rates of clinical change on the PSP Rating Scale (total, ocular motor and gait/midline scores) and Montreal Cognitive Assessment , across PSP-Richardson's, PSP-cortical and PSP-subcortical variants and assessed relationships between rates of change and baseline regional imaging.
Results: Ocular motor scores differed across groups at baseline and follow-up, with lowest scores observed in PSP-subcortical, but no differences were observed in rate of change. Rates of change in PSP Rating Scale total and gait/midline scores differed across groups, with PSP-subcortical showing the slowest progression. Follow-up PSP Rating Scale total was lowest in PSP-subcortical. Greatest cognitive impairment was observed in PSP-Cortical. Sample size estimates for treatment trials differed across PSP variants. Greater baseline flortaucipir uptake in midbrain and motor cortex correlated with faster rates of clinical decline.
Conclusion: The PSP Rating Scale and its subscores might be useful markers for the prognostic stratification of PSP variants. Imaging of the motor cortex and midbrain may help predict the rate of decline.

Conflicts of interest

None