Neuropsychiatry and behavioral neurology/Dementia

The impact of amyloid-beta positivity with 18F-florbetaben PET on neuropsychological aspects in Parkinson’s disease dementia

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Abstract

Background: The neuropathology of Parkinson’s disease dementia (PDD) is heterogeneous, and the impact of each pathophysiology and their synergistic effects are not fully understood. The aim of this study was to evaluate the frequency of Alzheimer’s disease using 18F-florbetaben PET imaging and the impact of co-existence with Alzheimer’s disease on neuropsychological aspects in patients with PDD.

Method: A total of 23 patients with PDD participated in the study. All participants underwent 18F-florbetaben PET and completed a standardized neuropsychological battery and assessment of motor symptoms. The results of cognitive tests, neuropsychiatric symptoms, and motor symptoms were analyzed between the positive and negative 18F-florbetaben PET groups.

Result: Four patients (17.4%) showed significant amyloid burden. Patients with amyloid-beta showed poorer performance in executive function and more severe neuropsychiatric symptoms than those without amyloid-beta. Motor symptoms assessed by UPDRS part III and the modified H&Y Scale were not different between the two groups.

Conclusion: Amyloid PET scan of a patient with PDD can effectively reflect co-existing Alzheimer’s disease pathology. Amyloid PET scan might be able to help physicians of PDD patients showing rapid progression or severe cognitive/behavioral features.