

Changes in motor subtype and risk for incident dementia in Parkinson's disease

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Abstract

The objective of this study was to assess the temporal relationship between changes in predominant motor symptoms and incident dementia in Parkinson's disease (PD). A community-based sample of 171 nondemented patients with PD was followed prospectively and examined at baseline and after 4 and 8 years. The motor subtype of Parkinsonism was classified into tremor-dominant (TD), indeterminate, or postural instability gait difficulty (PIGD) subtype at each visit, based on defined items in the Unified Parkinson's Disease Rating Scale, subscales II and III. Dementia was diagnosed according to DSM-III-R criteria, based on clinical interview, cognitive rating scales, and neuropsychological examination. Logistic regression was used to analyze the relationship between subtype of Parkinsonism and dementia. Transition from TD to PIGD subtype was associated with a more than threefold increase in the rate of Mini-Mental State Examination decline. Compared to patients with persistent TD or indeterminate subtype, the odds ratio for dementia was 56.7 (95% CI: 4.0-808.4; $P = 0.003$) for patients changing from TD or indeterminate subtype to PIGD subtype, and 80.0 (95% CI: 4.6-1400.1; $P = 0.003$) for patients with persistent PIGD subtype. Patients with TD subtype at baseline did not become demented until they developed PIGD subtype, and dementia did not occur among patients with persistent TD subtype of Parkinsonism. In a substantial proportion of PD patients who develop postural instability and gait disorder during the course of the disease, this transition is associated with accelerated cognitive decline and highly increased risk for subsequent dementia. These findings raise the question whether PIGD and dementia share common or parallel neuropathology. © 2006 Movement Disorder Society

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