Parkinsonian gait in aging: A feature of Alzheimer's pathology?

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Abstract

Introduction

Central neurological gait abnormalities (CNGA; i.e. frontal or parkinsonian) are frequently associated with neurodegenerative conditions in older adults, but their pathophysiological substrates remain poorly described. This cross-sectional study aims to assess the association between cerebrospinal fluid (CSF) Alzheimer's biomarkers and CNGA.

Methods

CSF biomarkers (phosphor-tau, total tau and $A\beta_{1-42}$) were measured in 52 patients with CNGA (77.33 ± 6.09 years; 28.8% female). Gait phenotypes were evaluated by two diagnosis-blinded assessors and classified as frontal gait, parkinsonian gait or other gait abnormalities.

Results

Parkinsonian gait was significantly associated with a decreased CSF $A\beta_{42}$ even after adjusting on age, gender, comorbidities and white matter changes (β: –0.32; 95% CI: [–340.6; –22.9]; p value: 0.026). Phosphor-tau and total tau were not associated with any other CNGA (i.e. frontal gait and other gait abnormalities).

Discussion

Parkinsonian gait represents a gait phenotype of Alzheimer's pathology in patients with CNGA.

Keywords

Parkinsonian gait; Amyloidopathy; Alzheimer's disease; Central neurological gait disorders; Parkinsonism

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