Contribution of brain imaging to the understanding of gait disorders in Alzheimer's disease: a systematic review

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Contribution of brain imaging to the understanding of gait disorders in Alzheimer's disease: a systematic review

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Résumé en anglais
Although gait disorders are common in Alzheimer's disease (AD), determining which brain structures and related lesions are specifically involved is a goal yet to be reached. Our objective was to systematically review all published data that examined associations between gait disorders and brain imaging in AD. Of 486 selected studies, 4 observational studies met the selection criteria. The number of participants ranged from 2 to 61 community dwellers (29%-100% female) with prodromal or dementia-stage AD. Quantitative gait disorders (ie, slower gait velocity explained by shorter stride length) were associated with white matter lesions, mainly in the medial frontal lobes and basal ganglia. The nigrostriatal dopamine system was unaffected. Qualitative gait disorders (ie, higher stride length variability) correlated with lower hippocampal volume and function. Gait disorders in AD could be explained by a high burden of age-related subcortical hyperintensities on the frontal-subcortical circuits (nonspecific) together with hippocampal atrophy and hypometabolism (specific).

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