New imaging biomarkers help pinpoint mild cognitive impairment in early-stage Parkinson's disease

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Video Byte

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Abstract

Mild cognitive impairment (MCI) is a well-defined manifestation of Parkinson's disease (PD) that greatly impairs functioning and quality of life. But the contribution of cerebral perfusion to MCI in PD remains poorly understood. To address this gap, a new study uses multidelay multiparametric arterial spin labeling to investigate cerebral blood flow (CBF) and arterial transit time (ATT) in patients with PD. Researchers compared these variables among 39 early-stage PD patients with either MCI or normal cognition and 36 age- and gender-matched healthy controls. They found that ATT is a more sensitive marker for MCI than CBF, indicating a potential role for the thalamus and inferior parietal region in early-stage PD. Greater focus on ATT is expected to reveal new insights into PD pathophysiology, help predict cognitive decline and offer a way to monitor disease progression. Most importantly, using ATT as a biomarker could help identify the need for disease-modifying interventions before irreversible changes occur. Xueling Suo, et al. Multidelay multiparametric arterial spin labeling perfusion MRI and mild cognitive impairment in early stage Parkinson's disease. (2018) Human Brain Mapping