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Poster Presentation

Markers of Neuroinflammation Related to Alzheimer's Disease Pathology in the Elderly

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Abstract

Alzheimer Disease (AD) is a neurodegenerative disorder and the most common form of dementia. Increasing evidence suggests that Alzheimer's disease pathogenesis is not restricted to the neuronal compartment, but includes strong interactions with immunological mechanisms in the brain. In vitro and animal studies have linked neuroinflammation to Alzheimer's disease (AD) pathology. Studies on markers of inflammation, In people with mild cognitive impairment or AD dementia Contradictory results. We suggested that distinct blood and cerebrospinal fluid (CSF) inflammatory markers are associated with biomarkers of amyloid and tau pathology in elderly without cognitive impairment or with beginning cognitive decline. For identification blood-based and CSF neuroinflammation marker associated with AD pathology and to research associations of inflammation markers with CSF biomarkers of amyloid, tau pathology, and neuronal injury. Some item identified criteria for having an AD CSF biomarker profile. The best predictor models included 8 serum or 3 CSF neuroinflammatory markers associated with cytokine mediated inflammation, vascular injury, and angiogenesis. Both models improved Resolution to Forecast an AD biomarker profile when Comparison to the reference model. In analyses separately performed in the subgroup of participants with cognitive impairment, adding the serum or the CSF neuroinflammation markers also improved the accuracy of the diagnosis of AD pathology. None of the inflammatory markers correlated with the CSF Aβ1-42 levels. Six CSF markers (IL-15, MCP-1, VEGFR-1, sICAM1, sVCAM-1, andVEGF-D) correlated with the CSF tau and p-tau181 levels, and these associations remained significant after controlling for age, sex, cognitive impairment, and APOEε4 status. Serum and CSF inflammatory markers identify the neural signature improve classification accuracy for Alzheimer's pathology in the elderly. Our results suggest that inflammation, vascular damage and angiogenesis as reflected by CSF markers are closely related to cerebral tau pathology.

Keywords: Alzheimer's disease, Amyloid, Biomarkers, Neuroinflammation

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