

Women have stronger link between APOE- ϵ 4, CSF tau levels

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(HealthDay)—The correlation between the apolipoprotein E (*APOE*)

gene allele *APOE*- ϵ 4 and cerebrospinal fluid (CSF) tau levels is stronger among women than men, according to a study published online May 7 in *JAMA Neurology*.

Timothy J. Hohman, Ph.D., from Vanderbilt University Medical Center in Nashville, Tenn., and colleagues examined [sex differences](#) in the [correlation](#) between *APOE* and markers of Alzheimer's disease (AD) neuropathology measured in CSF in a multicohort study using data from 10 longitudinal cohort studies. Data were included for 1,798 patients in a CSF biomarker cohort, of whom 862 were women and 226 had AD. A total of 5,109 patients were included in the autopsy cohort, of whom 2,813 were women.

The researchers observed a significant interaction between *APOE*- ϵ 4 and sex on CSF total tau and phosphorylated tau, with a stronger correlation for *APOE* among [women](#) than men. In post-hoc analyses, this sex difference was seen in amyloid-positive, but not amyloid-negative, individuals. Sex differences were not seen in the correlation between *APOE* and β -amyloid 42, neuritis plaque burden, or neurofibrillary tangle burden.

"Together, the sex difference in the association between *APOE* and CSF measures of tau and the lack of a sex difference in the association with neurofibrillary tangles at autopsy suggest that *APOE* may modulate risk for neurodegeneration in a sex-specific manner, particularly in the presence of amyloidosis," the authors write.

Several authors disclosed financial ties to the pharmaceutical industry. The Alzheimer's Disease Neuroimaging Initiative partially funded the study.

More information: [Abstract/Full Text \(subscription or payment may be required\)](#)

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