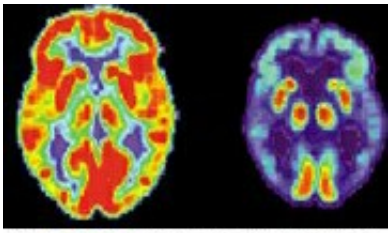
MedicalXpress

APOE allele linked to severity of alzheimer's disease

February 6 2015



PET scans of normal brain (left) and an Alzheimer's brain. Photo: U.S. National Institute on Aging

The *APOE*ε2 allele may be associated with a milder clinical and pathological course of Alzheimer's disease, according to research published online Jan. 26 in the *Annals of Neurology*.

(HealthDay)—The *APOE*ε2 allele may be associated with a milder clinical and pathological course of Alzheimer's disease (AD), according to research published online Jan. 26 in the *Annals of Neurology*.

Alberto Serrano-Pozo, M.D., Ph.D., of Massachusetts General Hospital in Boston, and colleagues analyzed data for individuals from the National Alzheimer's Coordinating Center autopsy cohort who had varying degrees of severity of disease across the clinical and pathological continuum of AD. The researchers examined the associations between *APOE* alleles and AD pathology and cognition.

The researchers found that, compared with *APOE*ε3, *APOE*ε2 is

independently associated with lower Braak neurofibrillary tangle (NFT) stages and, possibly, fewer neuritic plaques; no direct effect on cerebral amyloid angiopathy (CAA) severity was observed. In contrast, *APOE*ε4 is associated with more neuritic plaques and CAA, but it does not appear to have an independent effect on Braak NFT stage. According to unadjusted analyses, *APOE* genotypes are associated with markedly different results for cognitive performance (ε2>ε3>ε4). Mediation analysis indicates that these differences are mostly explained by differing effects on pathology.

"Even when adjusted for age of onset, symptom duration and other demographic variables, *APOE*ε2 is associated with milder AD pathology and less severe antemortem cognitive impairment compared to *APOE*ε3 and ε4 alleles, suggesting a relative neuroprotective effect of *APOE*ε2 in AD," the authors write.

More information: Abstract
Full Text (subscription or payment may be required)