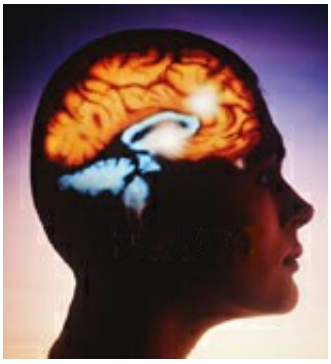
MedicalXpress

Age associated with amyloid-beta kinetics

August 12 2015



(HealthDay)—Increasing age is associated with slowed amyloid-β (Aβ) turnover, according to a study published online July 20 in the *Journal of Neurology*.

Noting that age is the single greatest risk factor for Alzheimer's disease, Bruce W. Patterson, Ph.D., from Washington University in St. Louis, and colleagues examined the correlation between age, amyloidosis, and Aβ kinetics in the central nervous system of humans. Aβ kinetics were assessed in 112 participants.

The researchers found that increasing age was significantly associated with slowed turnover rates of Aβ (2.5-fold longer half-life over five decades of age). Specifically in participants with amyloid deposition, there were independent effects on Aβ42 kinetics. Amyloidosis

correlated with an increased irreversible loss of soluble Aβ42 (more than 50 percent) and a Aβ reversible exchange rate that was 10-fold higher.

"These findings reveal a mechanistic link between human aging and the risk of amyloidosis, which may be owing to a dramatic slowing of Aβ turnover, increasing the likelihood of protein misfolding that leads to deposition," the authors write. "This study provides an example of how changes in protein turnover kinetics can be used to detect physiological and pathophysiological changes and may be applicable to other proteinopathies."

Several authors disclosed financial ties to C2N Diagnostics, which has licensed related patents from Washington University.

More information: Abstract
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