

Using tau imaging as diagnostic marker for Alzheimer disease

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The accumulation of β -Amyloid ($A\beta$) and tau proteins in the brain is hallmark pathology for Alzheimer disease. Recently developed positron emission tomography (PET) tracers, including [18F]-AV-1451, bind to tau in neurofibrillary tangles in the brain. So, could tau imaging become a diagnostic marker for Alzheimer disease and provide insights into the pathophysiology of the neurodegenerative disorder that destroys brain cells?

In a new article published online by *JAMA Neurology*, Beau M. Ances, M.D., Ph.D., of Washington University, St. Louis, and coauthors examined the usefulness of [18F]-AV-1451 PET imaging to stage AD and assess associations among $A\beta$, tau and volume loss in the brain.

The imaging study included 59 participants, the majority of whom were older men, who were cognitively normal or who had Alzheimer dementia.

The authors report that PET imaging using [18F]-AV-1451 distinguished participants with Alzheimer from those who were cognitively normal. Also, an elevated [18F]-AV-1451 binding was associated with volume loss in parts of the brain, according to the study.

"Overall, our work suggests that [18F]-AV-1451 is a valuable tool in tracking the continuum of the neurodegenerative process that ranges from the preclinical to clinical phase of AD," the article concludes.

To read the full study and a related editorial, "Tau and β -Amyloid - The Malignant Duo," by William Jagust, M.D., of the University of California, Berkley, please visit the For The Media website.

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