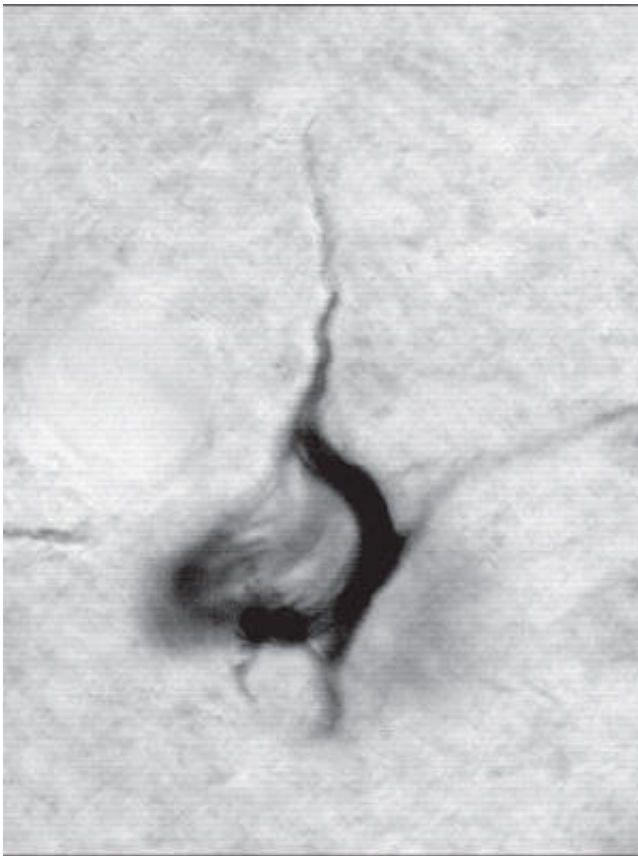


# Brains of old monkeys and humans share same signs of Alzheimer's

December 20 2017, by Bill Hathaway

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Mature neurofibrillary tangle in the brain of an extremely old rhesus monkey; tissue from the National Institute on Aging tissue bank. Credit: P. Rapp

Very old rhesus monkeys exhibit similar patterns of brain pathology as human Alzheimer's patients, researchers report in the journal *Alzheimer's & Dementia*.

Researchers at Yale, collaborating with those at Boston University and the Yerkes National Primate Research Center, examined brain samples from tissue banks of monkeys that had reached extreme age, and observed [neurofibrillary tangles](#) forming in the same types of neurons as seen in humans. The pathological changes were first evident in the [entorhinal cortex](#), the gateway needed to form new memories, and later appeared in the [prefrontal cortex](#), a newly evolved brain region associated with higher cognition and abstract reasoning.

Researchers have been hampered in studying this more common, late-onset form of Alzheimer's, a condition impossible to model in mice.

"We hope that we will now have the opportunity to learn what is initiating Alzheimer's disease-like pathology in the aging brain," said lead author Constantinos Paspalas, research scientist in Department of Neuroscience at Yale.

"This new information may provide novel therapeutic strategies to protect against early stages of degeneration, and thus decrease the risk of Alzheimer's disease," added senior author, Amy Arnsten, professor of neuroscience.

**More information:** Constantinos D. Paspalas et al. The aged rhesus macaque manifests Braak stage III/IV Alzheimer's-like pathology, *Alzheimer's & Dementia* (2017). [DOI: 10.1016/j.jalz.2017.11.005](https://doi.org/10.1016/j.jalz.2017.11.005)

Provided by Yale University

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