

Lay Summary

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How do ageing processes contribute to Alzheimer's disease?

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Alzheimer's disease (AD) is the most common cause of dementia in the elderly and is associated with the accumulation of a particular molecule (called tau protein) in the central nervous system. The incidence of AD increases exponentially with age which implies that mechanisms associated with ageing may also be involved with the initiation and progression of AD. In an animal model based upon the fruit fly, manipulations to three particular biological pathways have been shown to extend life and these particular pathways have also been implicated in AD. The researcher has established a model of HD in the fruit fly in which abnormal accumulations of tau protein result in disrupted cellular transport, disruption to nerve cell signaling, reduced life-span and behavioural changes.

This study will apply specific staining techniques to tissue from AD-affected brains with age-matched controls and gender-matched controls from a younger cohort in order to demonstrate molecules associated with ageing to determine if any correlation exists between disease duration and the expression of molecules already established to be associated with AD.