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## Alzheimer's elucidates why women are more likely to be early Singapore Nanyang Technological University

Nanyang Technological University (NTU) and National University of Singapore (NUS) in Singapore announced on February 16 that they have elucidated why memory loss during Alzheimer's disease occurs earlier in women than in men. The research results were published in the scientific journal *Aging Cell*.

The study was led by Assistant Professor Ch'ng Toh Hean of NTU's LKC Medicine. A study in mice concluded that reduced plasticity of brain synapses and more memory impairment in females may be responsible for the predisposition to Alzheimer's disease in females.

Alzheimer's disease is the most common neurodegenerative disease in the world and is said to affect the memory, thoughts and behaviors of more than 40 million people worldwide. It accounts for 60–70% of dementia patients and is known to affect more women than men.



Research Team Assistant Professor Jung To Hin (second from left) et al. (Courtesy: NTU)

According to the research team, in experiments using mice, female mice have a faster decline in information processing ability than male mice as they age, resulting in weaker memory formation and increased memory impairment. I found.

It was also found that the brains of female mice with Alzheimer's gene mutations have low flexibility (plasticity) of synapses that adapt to new information and form new memories, and that long-term potentiation (LTP) decreases rapidly. LTP is a process of increasing synaptic intensity between nerve cells that form long-term memory and is one of the major cellular mechanisms that guides the way the brain forms memory and learns new things.

From these facts, it is considered that the decrease in synaptic plasticity and memory impairment are closely related to the onset of Alzheimer's disease.

Science Portal Asia Pacific Editorial Department

Presented papers, etc. :

<https://www3.ntu.edu.sg/CorpComms2/research%20papers/Alzheimers.pdf>

Reference site (external site):

● Nanyang Technological University (NTU)

<https://www.ntu.edu.sg/news/detail/study-finds-why-alzheimer-s-disease-females-face-faster-memory-decline>

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