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Singapore finds why Alzheimer's disease females face faster memory decline

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Analysis of brain sections showed that female mice with Alzheimer's disease have increased markers of inflammation



A joint study by Nanyang Technological University, Singapore (NTU Singapore) and National University of Singapore (NUS) scientists has examined why, in mice, female brains are more predisposed to Alzheimer's disease and other neurodegenerative diseases.

Alzheimer's is the world's most common neurodegenerative disease, affecting the memory, thinking and behaviour of over 40 million people worldwide. It accounts for 60 to 70 per cent of dementia cases and is known to affect more women than men.

The study sought to provide insights why women developed Alzheimer's-related symptoms earlier and exhibited a faster decline in memory compared to men.

By experimenting on mice brain samples, the research team found that as female mice age, they experienced a faster decay in their information processing ability compared to male mice, resulting in weaker memory formation and increased memory loss.

"Studying how gender contributes to differences in disease progression will help with understanding the overall causes of Alzheimer's disease. It shows the vital importance of the need to include gender as a biological variable in all biomedical research as females and males have distinct differences in disease progression", said the researchers.

While the team's study presents evidence that Alzheimer's disease mutations result in greater deterioration of brain plasticity in female mice brains compared to male mice brains, further research is required to understand the molecular basis behind this.