

The onset of Alzheimer's disease: The importance of family history

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You're about to turn 60, and you're fretting. Your mother has had Alzheimer's disease since the age of 65. At what age will the disease strike you? A Canadian study published in *JAMA Neurology* shows that the closer a person gets to the age at which their parent exhibited the first signs of Alzheimer's, the more likely they are to have amyloid plaques, the cause of the cognitive decline associated with the disease, in their brain.

In this study involving a cohort of 101 individuals, researcher Sylvia Villeneuve (Douglas Mental Health University Institute; CIUSSS de l'Ouest-de-l'Île-de-Montréal) shows that the difference between a person's age and the age of their parent at the onset of the disease is a more important risk factor than their actual age.

A 60-year-old whose mother developed Alzheimer's at age 63 would be more likely to have [amyloid](#) plaques in their brain than a 70-year-old whose mother developed the disease at age 85," explains Villeneuve, an assistant professor at McGill University and a core faculty member at the McConnell Brain Imaging Centre at the Montreal Neurological Institute and Hospital (The Neuro).

Her team of scientists also found that the genetic impact of Alzheimer's disease is much greater than previously thought.

"Upon examining changes in the amyloid biomarker in the cerebrospinal fluid samples from our subjects, we noticed that this link between parental age and [amyloid deposits](#) is stronger in women than in men. The link is also stronger in carriers of the ApoE4 gene, the so-called 'Alzheimer's gene'," says Villeneuve.

Towards earlier detection of the disease

The researcher and her team successfully duplicated their results in two independent groups, one, consisting of 128 individuals from a University

of Washington-St. Louis cohort, the other consisting of 135 individuals from a University of Wisconsin-Madison cohort. They also reproduced their results using an imaging technique that enables one to see [amyloid plaques](#) directly in the brains of living persons.

Their study is paving the way for the development of inexpensive methods for the early identification of people at risk for Alzheimer's disease. According to the Alzheimer Society of Canada, 564,000 Canadians currently have Alzheimer's disease or another form of dementia. The figure will be 937,000 within 15 years. Presently, there is no truly effective treatment for this disease.

Provided by McGill University

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