

New discovery in Alzheimer's protein puzzle

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(Medical Xpress) -- A medical research team at the University of Alberta has made two related discoveries that could shed more light on Alzheimer's disease.

Faculty of Medicine & Dentistry researcher Elena Posse de Chaves and her team recently published their findings in *The Journal of Neuroscience*.

It has been known for decades that [cholesterol](#) plays an important role in Alzheimer's [disease](#). Posse de Chaves' team discovered that, in brain cells that accumulate toxic levels of the normally occurring beta amyloid [protein](#), "there is a significant inhibition" in the process that creates brain cholesterol.

Brain cholesterol is vital for normal brain function because it helps protect neurons and helps brain cells fire properly.

What the discovery means is that the relationship between this naturally occurring protein and cholesterol is not just one-way. These findings have been suggested by other research teams as well.

"Our work supports the idea that there is a two-way relationship," said Posse de Chaves, a researcher in the Department of Pharmacology.

Her team's work is also important in another area. Those who have Alzheimer's disease have low levels of a protein known as seladin-1. Some researchers believe this could be an indicator for the disease. This

protein is part of the process that leads to the creation of cholesterol. So if cholesterol production is inhibited in Alzheimer's disease, as demonstrated by the U of A findings, this could explain why levels of the seladin-1 protein are so low.

“Our findings could explain why that one protein is decreased in the brains of patients with Alzheimer's disease,” said Posse de Chaves. “This is one piece of the puzzle and every discovery helps.”

According to the Alzheimer Society of Canada, more than 500,000 people in Canada and more than 35 million worldwide have dementia, a group of [brain](#) disorders that includes Alzheimer's disease.

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Provided by University of Alberta

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