

A possible blood test for detecting Alzheimer's disease before symptoms show

7 February 2019, by Bob Yirka

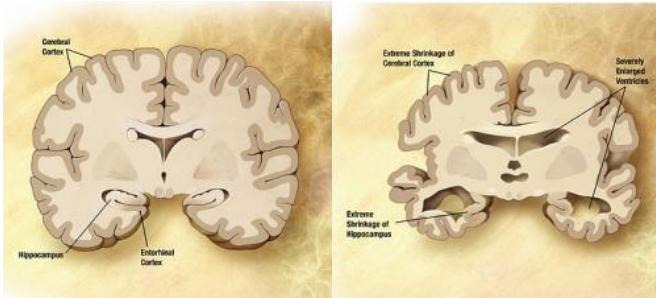


Diagram of the brain of a person with Alzheimer's Disease. Credit: Wikipedia/public domain.

A team of researchers from Australia, the U.K. and Sweden has found a possible method to test blood samples for Alzheimer's disease before symptoms appear. In their paper published in the journal *Science Advances*, the group describes their testing system and its performance.

As medical scientists continue to search for ways to prevent people from developing Alzheimer's disease, they also seek ways to detect it earlier. Finding signs in patients before they develop symptoms is crucial for testing treatment methods aimed at preventing Alzheimer's progression. Currently, there are two methods for [early detection](#), PET scans and cerebral fluid analysis—the first is quite expensive, and the second is unpleasant for the patient. Because of these roadblocks, scientists continue looking for a way to detect early signs of Alzheimer's disease using [blood samples](#). In this new effort, the researchers report that they have developed just such a [blood test](#), and it has shown promise in initial trials.

To develop the blood test, the researchers started by measuring protein group levels in blood samples from 238 (cognitively unimpaired) people participating in two Australian-based biomarker

and aging studies. All of the donors had previously undergone PET scans to determine their A β status. The team then built a computer model to classify proteins and then analyzed data from participants in one of the biomarker and aging study groups with a machine learning algorithm designed to learn to identify markers indicating preclinical Alzheimer's disease. Then they tested the system on data from the second group of study participants.

The researchers report that preliminary testing showed the technique to be 90 percent accurate in matching results obtained from PET scan testing. They report also that their system found 10 protein features that together represent a biomarker, two of which had been identified as possibilities before. They note that their results represent the first plasma biomarker for Alzheimer's disease, though they acknowledge that much more work needs to be done before the test can be used for diagnosing actual patients. But the team is optimistic that someday soon, a blood test for preclinical Alzheimer's disease will become available.

More information: Nicholas J. Ashton et al. A plasma protein classifier for predicting amyloid burden for preclinical Alzheimer's disease, *Science Advances* (2019). [DOI: 10.1126/sciadv.aau7220](https://doi.org/10.1126/sciadv.aau7220)

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