TIME

New Test May Predict Alzheimer's 10 Years Before Diagnosis

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A blood test that can detect Alzheimer's disease a decade before diagnosis might be possible, suggests new research published in the*Journal of the Federation of American Societies for Experimental Biology* (FASEB) and presented at the Society for Neuroscience conference in Washington, DC.

The research is very early, the sample size is small and a commercial test is not yet available, but study authors found a way to measure insulin resistance in the brain—a symptom indicative of Alzheimer's disease. The blood test can detect disease up to 10 years before clinical onset, the study found. Intercepting the degenerative disease early is important, since behavioral interventions might stall the disease and slow mental decline.

Researchers analyzed the blood of living patients with Alzheimer's disease and their frozen blood samples taken 1-10 years before being diagnosed. Based on their blood levels of an insulin receptor called IRS-1, researchers could accurately tell which samples came from someone with Alzheimer's, even up to a decade before diagnosis.

The findings are promising, but need to be replicated in a larger sample and expanded upon, senior study author Dr. Ed Goetzl told TIME. He and his team are looking at other proteins as well. "My vision of the future is you have your breakfast cereal, and on one side you have a statin for cardiovascular disease, and on the other side you have three pills to prevent dementia," he says. "What I can see in this disease process is it's far too complicated for a single magic bullet. The reason we're trying to mine all these different pathogenic mechanisms is because I think they're going to have to have at least two or maybe three targets against which a drug is directed."

Still, "This study shows that insulin resistance is a major central nervous system metabolic abnormality in AD that contributes to neural cell damage," Goetzl said in a press release by the company NanoSomiX, who sponsored the study and plans to develop a blood-based assay based on the results for researchers and pharmaceutical companies. "As insulin resistance is a known condition in type 2 diabetes mellitus and is

treatable with several classes of existing drugs, these treatments may be useful as part of a multi-agent program for AD."

Said lead author of the study Dimitrios Kapogiannis, a neuroscientist at the National Institute on Aging, to Bloomberg Businessweek at the conference: "We will need replication and validation, but I'm very optimistic this work will hold."