

Alzheimer's detected before symptoms via new eye technology

11 July 2016

Rockville, Md. Scientists may have overcome a major roadblock in the development of Alzheimer's therapies by creating a new technology to observe—in the back of the eye—progression of the disease before the onset of symptoms. Clinical trials are to start in July to test the technology in humans according to a paper recently published in *Investigative Ophthalmology & Visual Science*.

The paper, titled "Early detection of amyloidopathy in Alzheimer's mice by hyperspectral endoscopy" builds upon previous work in cells by detecting changes in the retina of mice predisposed to develop Alzheimer's.

Early detection of Alzheimer's is critical for two reasons. "First, effective treatments need to be administered well before patients show actual neurological signs," said author Robert Vince, PhD, of the Center for Drug Design at the University of Minnesota (UMN). "Second, since there are no available early detection techniques, drugs currently cannot be tested to determine if they are effective against early Alzheimer's disease. An early diagnostic tool like ours could help the development of drugs as well."

Looking through the eye to see the brain is a key advantage of the [new technology](#). "The retina of the eye is not just 'connected' to the brain—it is part of the central nervous system," said author Swati More, PhD, also of the Center for Drug Design at UMN. While the brain and retina undergo similar changes due to Alzheimer's disease, "unlike the brain, the retina is easily accessible to us, making changes in the retina easier to observe."

"We saw changes in the retinas of Alzheimer's mice before the typical age at which neurological signs are observed," said More. "The results are close to our best-case scenario for outcomes of this project."

For more information on participating in the clinical

trial, please visit the trial website .

More information: Swati S. More et al, Early Detection of Amyloidopathy in Alzheimer's Mice by Hyperspectral Endoscopy, *Investigative Ophthalmology & Visual Science* (2016). [DOI: 10.1167/iovs.15-17406](#)

Provided by Association for Research in Vision and Ophthalmology

APA citation: Alzheimer's detected before symptoms via new eye technology (2016, July 11) retrieved 21 October 2020 from <https://medicalxpress.com/news/2016-07-alzheimer-symptoms-eye-technology.html>

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