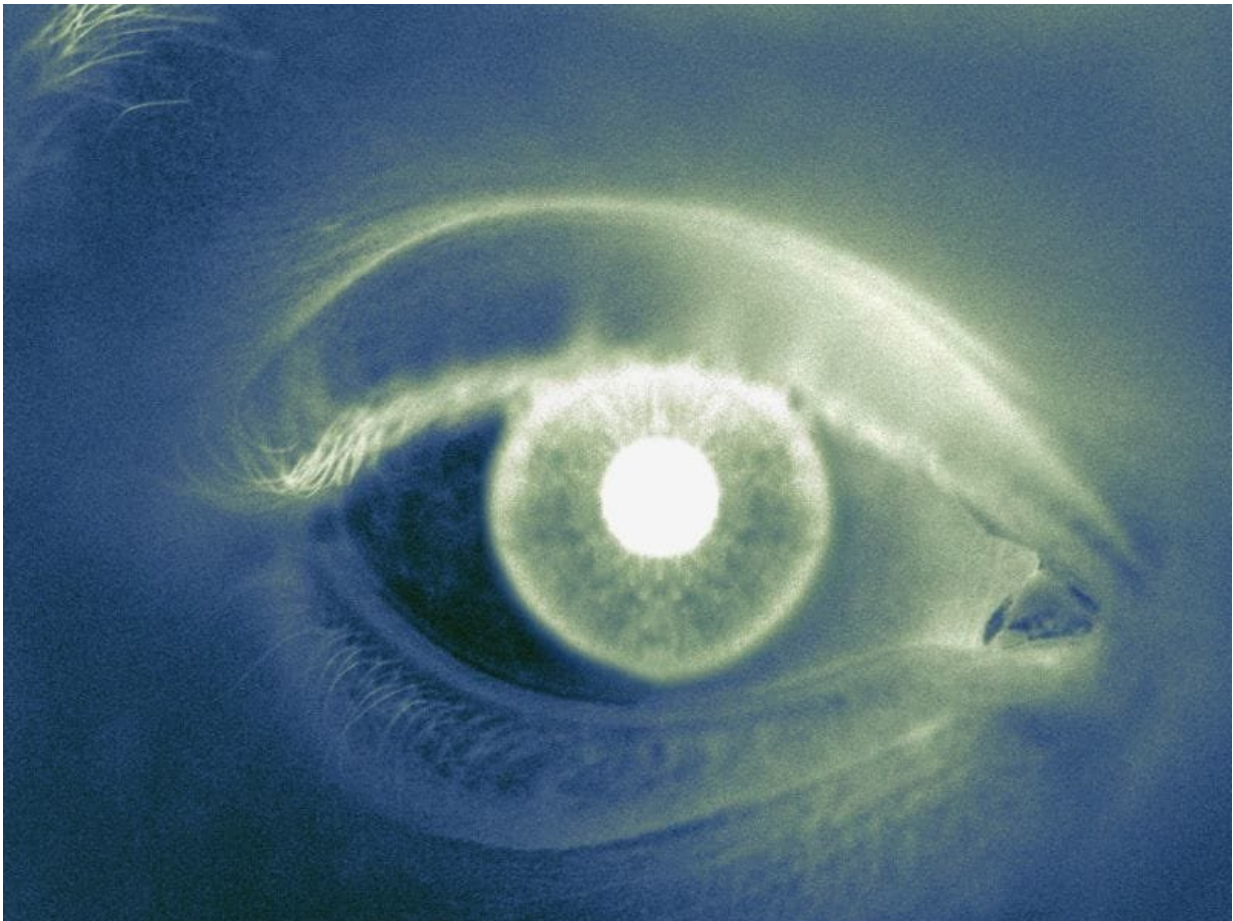


Retinal abnormalities may indicate preclinical Alzheimer's

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(HealthDay)—Retinal microvascular abnormalities are identified in

cognitively healthy individuals who have biomarkers positive for Alzheimer's disease (AD), according to a study published online Aug. 23 in *JAMA Ophthalmology*.

Bliss Elizabeth O'Bryhim, M.D., Ph.D., from Washington University in St. Louis, and colleagues conducted a case-control study involving 32 cognitively normal participants who underwent [positron emission tomography](#) and/or cerebral spinal fluid testing to determine biomarker status. Using an optical coherence tomographic angiography system, automated measurements of retinal nerve fiber layer thickness, ganglion cell layer thickness, inner and outer foveal thickness, vascular density, macular volume, and foveal avascular zone were collected for both eyes.

The analysis included 58 eyes from 30 participants (one African-American and 29 white). Fourteen participations had biomarkers positive for AD and were included as the preclinical AD group, while 16 without biomarkers served as the control group. The researchers found that, compared with controls, the foveal avascular zone was increased in the biomarker-positive group (mean, 0.364 versus 0.275 mm²). In the [biomarker](#)-positive group, mean inner foveal thickness was decreased (66.0 versus 75.4 μm).

"We know the pathology of Alzheimer's disease starts to develop years before symptoms appear, but if we could use this eye test to notice when the pathology is beginning, it may be possible one day to start treatments sooner to delay further damage," a coauthor said in a statement.

The study was funded in part by an educational grant from Optovue.

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