

Neural, vascular integrity of retina differs in schizophrenia

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Patients with schizophrenia have measurable differences in neural and

vascular integrity of the retina, according to a study published online March 22 in *JAMA Psychiatry*.

Siegfried K. Wagner, M.D., from the NIHR Moorfields Biomedical Research Center in London, and colleagues conducted a [cross-sectional analysis](#) using data from a retrospective cohort of 154,830 patients aged 40 years and older to examine the association between retinal biomarkers from multimodal imaging (oculomics) and schizophrenia. After images underwent [quality control](#), 485 individuals (747 eyes) with schizophrenia and 100,931 individuals (165,400 eyes) without schizophrenia were included.

Participants with schizophrenia were more likely to have hypertension and diabetes. The researchers found that the schizophrenia group had a thinner ganglion cell-inner plexiform layer (mGC-IPL; $-4.05\ \mu\text{m}$), which persisted when assessing only patients without diabetes or those aged 55 years or younger (-3.99 and $-2.90\ \mu\text{m}$, respectively). Of vascular variables, reduced retinal [fractal dimension](#) was seen in individuals with schizophrenia in an adjusted analysis (-0.14 units), although this finding was attenuated when excluding patients with diabetes.

"We showed that individuals with schizophrenia have both altered retinovascular indices and thinner mGC-IPL," the authors write. "Further investigations are warranted into whether oculomic biomarkers could help characterize disease course, predict treatment response, or even risk-stratify those patients most at risk of developing [cognitive decline](#), [cardiovascular disease](#), and other devastating sequelae of schizophrenia."

Several authors were involved in developing the AutoMorph and VAMPIRE retinal analysis systems; several authors disclosed financial ties to the pharmaceutical and medical technology industries.

More information: Siegfried K. Wagner et al, Association Between Retinal Features From Multimodal Imaging and Schizophrenia, *JAMA Psychiatry* (2023). [DOI: 10.1001/jamapsychiatry.2023.0171](https://doi.org/10.1001/jamapsychiatry.2023.0171)

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