

Damaged eye vessels may indicate higher stroke risk for adults with diabetes

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Damaged small blood vessels in the eye may be a marker for increased stroke risk among people with diabetes, according to preliminary research to be presented at the American Stroke Association's International Stroke Conference 2020—Feb. 19-21 in Los Angeles, a world premier meeting for researchers and clinicians dedicated to the science of stroke and brain health.

Diabetic retinopathy, damage to [small blood vessels](#) of the eye, is a common complication of diabetes and can lead to blindness. It has also previously been linked with an increased risk of heart attack and heart attack deaths.

"A build-up of plaque in large arteries feeding the brain and the common heart arrhythmia atrial fibrillation, are the primary causes of ischemic (clot-caused) strokes. And, damage to small blood vessels also cause [stroke](#) and vascular dementia, so we thought that [diabetic retinopathy](#) might be an important biomarker of [stroke risk](#) for patients with diabetes," said Ka-Ho Wong, B.S., M.B.A., lead author of the study and clinical research

coordinator and lab manager of the de Havenon Lab at the University of Utah Health Hospitals and Clinics in Salt Lake City, Utah.

Researchers followed 874 people with diabetes who developed diabetic retinopathy and 1,954 who did not. All of the patients (average age of 62; 62% male) are participating in ACCORD (Action to Control Cardiovascular Risk in Diabetes), a large trial to test whether intensive efforts to control [blood sugar](#), reduce cholesterol and [lower blood pressure](#) can reduce the risk of heart disease in people with diabetes.

During a five-year follow-up, researchers found:

- Overall, 117 patients had a stroke;
- Diabetic retinopathy was more common in patients with stroke (41%) than those without (30%);
- After adjusting for multiple stroke risk factors, those with diabetic retinopathy had a 60% higher risk of stroke than people with diabetes who did not have diabetic retinopathy; and
- The heightened risk was found in all treatment groups.

"We were surprised that none of the ACCORD interventions (glucose, lipid and blood pressure control) decreased diabetic retinopathy and stroke risk, especially intense blood-pressure reduction, since a lot of microvascular diseases are caused by high blood pressure. This finding is in line with results from ACCORD, which showed no reduction in heart attacks," Wong said.

Despite these findings, the researchers suggest that patients with diabetic retinopathy receive aggressive medical management to reduce stroke risk.

"It's important for everyone with diabetes to maintain good blood glucose control, and those

with established diabetic retinopathy should pay particular attention to meeting all the stroke prevention guidelines that are established by the American Stroke Association," Wong said.

To reduce stroke risk, the American Stroke Association recommends a [healthy lifestyle](#), which includes low salt intake; getting regular physical activity; maintaining a healthy weight; avoiding tobacco; managing stress; limiting alcohol intake to no more than one drink per day for women and two drinks per day for men; and taking medication as prescribed for high blood pressure, diabetes, high cholesterol and atrial fibrillation.

The study did not have information on the type (bleeding or blockage) or location of the strokes that occurred.

Provided by American Heart Association

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