

Study examines retinal vessel diameter and CVD risk in African Americans with type 1 diabetes

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Among African Americans with type 1 diabetes mellitus, narrower central retinal arteriolar equivalent (average diameter of the small arteries in the retina) is associated with an increased risk of six-year incidence of any cardiovascular disease and lower extremity arterial disease, according to a report in the May issue of *Archives of Ophthalmology*.

"Retinal arteriolar narrowing has long been described as one of the characteristic changes associated with hypertension and cardiovascular disease (CVD)," the authors write as background information in the study.

Monique S. Roy, M.D., of the University of Medicine and Dentistry, New Jersey Medical School, The Institute of Ophthalmology and [Visual Science](#), Newark, N.J., and colleagues, sought to evaluate the relationship between retinal arteriolar and venular diameter and the six-year incidence of cardiovascular disease and mortality among African Americans with [type 1 diabetes mellitus](#).

The study included 468 African Americans with [type 1 diabetes](#) mellitus who participated in the New Jersey 725 and had undergone a six-year follow-up examination. At both study entry and follow-up, hypertension and presence of heart disease, stroke or lower extremity arterial disease (LEAD) were documented and were confirmed by review of [hospital](#)

[admission](#) and medical records.

During the six-year follow-up, 59 patients developed CVD (37 with heart disease or stroke and 22 with LEAD), and 79 developed hypertension. The authors found that narrower central arteriolar equivalent (CRAE) at baseline was significantly and independently associated with six-year incidence of any cardiovascular disease and LEAD, as well as all cause mortality, while a larger retinal venular diameter was associated with six-year incidence of hypertension.

"In summary, results of the present study indicate that, in African Americans with type 1 DM, narrower CRAE is an independent predictor of the six-year incidence of any CVD and LEAD, and larger central retinal venular equivalent [CRVE] is an [independent predictor](#) of the incidence of hypertension," the authors conclude.

More information: *Arch Ophthalmol.* 2012;130[5]:561-567

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