Medical Xpress

Diabetic eye disease more severe in African-Americans who consume more calories, sodium

January 11 2010

High intakes of calories and sodium appear to be associated with the progression of retinal disease among African American patients with diabetes, according to a report in the January issue of *Archives of Ophthalmology*.

Diabetic retinopathy is the leading cause of blindness among 20- to 64-year-olds with diabetes, according to background information in the article. The condition occurs when diabetes-related changes to the body damage the blood vessels of the retina. Proliferative retinopathy (involving the growth of new blood vessels in the retina) and macular edema (when fluid leaks into the macula, the part of the eye responsible for sharp vision)—collectively called vision-threatening diabetic retinopathy—are the two main causes of vision loss in patients with diabetes.

Monique S. Roy, M.D., of New Jersey Medical School, University of Medicine and Dentistry of New Jersey, Newark, and Malvin N. Janal, Ph.D., of the New York University College of Dentistry, assessed 469 African American patients with type 1 diabetes who originally enrolled in the study between 1993 and 1998. Then and after a six-year follow-up (between 1999 and 2004), participants completed a food frequency questionnaire, had a complete eye examination, underwent blood testing and had photographs of the retina taken to determine progression of diabetic retinopathy.

Individuals with the highest caloric intake at the beginning of the study were more likely to develop vision-threatening retinopathy by the end of the six-year period. In addition, high sodium intake at the initial examination was associated with the development of macular edema.

"In African American patients with type 1 diabetes, high caloric and sodium intakes are significant and independent risk factors for progression to severe forms of diabetic retinopathy," the authors conclude. "These results suggest that low caloric and sodium intakes in African American individuals with type 1 diabetes mellitus may have a beneficial effect on the progression of diabetic retinopathy and thus might be part of dietary recommendations for this population."

More information: Arch Ophthalmol. 2010;128[1]:33-39

Provided by JAMA and Archives Journals