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The full report is titled “Age-Related Macular Degeneration and Risk for Stroke.” It is in the 18 July 2006 issue of *Annals of Internal Medicine* (volume 145, pages 98-106). The authors are T.Y. Wong, R. Klein, C. Sun, P. Mitchell, D.J. Couper, H. Lai, L.D. Hubbard, and A.R. Sharrett, for the Atherosclerosis Risk in Communities Study.

Age-Related Macular Degeneration and Stroke

What is the problem and what is known about it so far?

Age-related macular degeneration (AMD) is a condition in which the part of the eye called the macula changes as people get older. These changes can result in loss of vision. The disorder is the most common cause of blindness in people older than 40 years of age and affects about 7 million people in the United States. Stroke is a condition in which low blood flow to the brain damages brain tissue. Depending on the size and specific location of the tissue involved, people who have had a stroke can have weakness, uncoordinated movements, and difficulty with speech. In some cases, death may result. The cause of macular degeneration is not well understood but may involve problems with blood flow or inflammation, some of the same problems involved in stroke. A few studies have suggested that people with AMD might be at higher risk for stroke than people without AMD, but these studies have had inconsistent results.

Why did the researchers do this particular study?

To see if people with early-stage AMD are more likely to have a future stroke than people without AMD.

Who was studied?

10,405 people between 49 and 75 years of age and free of stroke or heart disease at the beginning of the study. All of the patients were participating in a large study of risk factors for heart disease that was conducted in 4 U.S. communities in Minnesota, Mississippi, Maryland, and North Carolina. Of note, all of the patients from Mississippi and only 9% of those from North Carolina were African American. All of the patients in Maryland and Minnesota were white.

How was the study done?

At the beginning of the study, all of the patients had special photographs taken of the inside of the eye (retinal photographs). Eye experts reviewed the photographs to determine whether patients had macular degeneration. The researchers then followed patients for up to 10 years to see who had a stroke.

What did the researchers find?

Of the 10,405 patients in the study, 508 had AMD, and 498 of these had early disease at the start of the study. After 10 years, 241 patients in the study had had a stroke. Patients with AMD were more likely to have a stroke than patients who did not have AMD. This association remained even after the researchers accounted for important stroke risk factors, such as age, blood pressure, diabetes, and smoking.

What were the limitations of the study?

The association was not consistent across the 4 study sites. Because no site had sufficient numbers of white and African-American patients, this study is unable to determine whether the differences were associated with ethnicity or some other factor that varied by site.

What are the implications of the study?

People with early-stage AMD appear to be more likely to have a future stroke than people without AMD.

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