

# Early stages of age-related macular degeneration associated with smoking, cholesterol levels

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Early-stage age-related macular degeneration appears to be related to modifiable risk factors, including smoking and low levels of high-density lipoprotein (HDL or "good" cholesterol), according to a report in the June issue of *Archives of Ophthalmology*. The condition appears uncommon before age 55 but the risk increases with age thereafter.

Most studies assessing the prevalence of age-related [macular degeneration](#) (AMD) have focused on middle- and older-age adults, according to background information in the article. "To our knowledge, accurate estimates of prevalence of AMD among adults younger than 40 years are lacking," the authors write. "Such information is important for understanding the relationships of [risk factors](#) to AMD across the age spectrum and for identifying factors that might affect this disease earlier in life."

Ronald Klein, M.D., M.P.H., of the University of Wisconsin, Madison, and colleagues assessed 2,810 individuals age 21 to 84 participating in the Beaver Dam Offspring Study. The presence and severity of drusen—yellow or white deposits in the retina, an early sign of AMD—was determined, along with that of other characteristics of AMD.

Early AMD was present in 3.4 percent of the participants, with rates varying from 2.4 percent in those age 21 to 34 to 9.8 percent in those age

65 years and older. Besides age, other factors associated with increased risk for AMD included being male, smoking more heavily for a longer period of time, and being hearing impaired, whereas having higher levels of HDL cholesterol was associated with reduced risk.

Factors not associated with early AMD included blood pressure, [body mass index](#), physical activity level, history of heavy drinking, white blood cell count or total [cholesterol level](#).

Drusen were present in the macula—the area in the retina responsible for sharp vision—in 63.3 percent of the participants, and the frequency of drusen increased with age. When [age](#) was considered, men and women had approximately the same number of drusen.

"In summary, the Beaver Dam Offspring Study data provide precise estimates of the prevalence of various signs of AMD (soft drusen, pigmentary abnormalities) over a wide spectrum of ages from the third to the ninth decade of life," the authors write. "They demonstrate that early AMD onset may occur in midlife. Some modifiable factors (smoking status and serum HDL cholesterol level) associated with AMD in older cohorts were associated with early AMD in this cohort of middle-aged adults."

"The higher frequency of AMD in people aged 65 or older in an aging population makes this an important public health problem," they conclude. "Further information regarding the natural history of AMD and its risk factors, especially early in life, is important for developing preventive approaches to it."

**More information:** Arch Ophthalmol. 2010;128[6]:750-758.

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