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The Best Vision Newsletter

Smoking and Body Mass Index Are Associated with Progression of Macular Degeneration

The United States has approximately eight million persons over 55 with early or intermediate age-related macular degeneration (AMD) who are at high risk of developing at least moderate visual loss. Of these, approximately one million are estimated to do so within the next five years. The Age-Related Eye Disease Study demonstrated that patients with intermediate AMD experience 25% less progression to advanced disease with the implementation of antioxidant and zinc supplementation. Otherwise, few modifiable risk factors had been identified to alter the course of AMD once signs of early or intermediate findings are present.

A more recent study evaluated the associations of demographic, behavioral, medical, and nonretinal ocular risk factors to the development of advanced AMD in 11 retinal specialty clinics which enrolled 4757 patients between 1992 and 1998 (Risk Factors for the Incidence of Advanced Age-Related Macular Degeneration in the Age-Related Eye Disease Study. AREDS report no 19. Ophthalmology 2005; 112:533-539). The following risk factors were identified:

Retinal risk factors such as drusen area, retinal pigment epithelium (RPE) depigmentation, and increased pigment plays a strong role in predicting AMD progression

Smoking: In multivariable models, individuals with more pack-years of smoking (more than 10 pack-years) experienced increased risk of wet AMD or geographic atrophy (odds ratio 1.6). This is consistent with most earlier studies, and supports the hypothesis that cigarette smoke may affect macular luteal pigment through increased oxidative stress and impairment of choroidal circulation.

Body Mass Index: Greater body mass index (BMI) was found to be associated with a higher risk of geographic atrophy (odds ratio 1.9). The only other study evaluating progression of early to later stages of AMD also demonstrated an increased risk with higher BMI. That study also found increased risk of progression with waist-hip ratio and waist circumference as measures of abdominal adiposity. This suggests that excessive caloric intake is related to increased risk of oxidative damage, or that obesity is related to reduced physical activity which has been shown to relate to higher risk of wet AMD (but not geographic atrophy).

“This important information suggests we advise those patients with age-related macula degeneration who smoke to quit and recommend those with increased Body Mass Index lose weight to reduce their chances of further visual loss.” Richard Erdey, MD Gregory Searcy, MD

**Erdey Searcy
Eye Group**

5965 East Broad Street
Suite 490
Columbus OH 43213

Voice: 614.863.3937
Fax: 614.863.5010

Richard A Erdey MD
Medical Director

Gregory D Searcy MD
Ophthalmologist

Wilbur C Blount MD
Consultative Ophthalmology

Patrick A Janson OD
Clinical Director

Matthew U Neal OD
Optometrist

Douglas J Bosner OD
Director of Education

Jonelle J Knapp OD
Optometrist

We dedicate ourselves to enhancing the quality of life for every individual whose life we touch, by helping each to see his or her best, and by preserving our patients' vision and eye health throughout life.

bestvision@icanseeclearly.com