



New Clues to the Causes of Age-Related Macular Degeneration (AMD)

Nutritional and genetic studies point to new prevention and treatment strategies

Port Charlotte – Age-Related Macular Degeneration (AMD) is a leading cause of vision loss in the United States, but discoveries about the roles played by nutrition, genetic factors and immune response are providing clues to new prevention and treatment measures. AMD can destroy the detailed, central vision we need to read, drive, recognize faces, and enjoy daily life.

February is AMD Awareness Month, and Zusman Eye Care Center encourages Floridians to know their risks for AMD. “We have a greater understanding of AMD than ever before,” says Dr. Zusman. “We are seeing exciting clinical and research advances, but catching AMD early still offers the best chance of preserving vision. People need to know their risks so that they can save their sight.”

As part of the EyeSmart campaign, the American Academy of Ophthalmology and EyeCare America, a public service program of the Foundation of the Academy, recommend that adults with no signs or risk factors for eye disease get a baseline eye disease screening at age 40—the time when early signs of disease and changes in vision may start to occur. Based on the results of the initial screening, an ophthalmologist will prescribe the necessary intervals for follow-up exams. For individuals at any age with symptoms of or at risk for eye disease, such as those with a family history of eye disease, the Academy recommends that individuals see their ophthalmologist to determine how frequently their eyes should be examined. One of the best ways to reduce AMD risk is to quit smoking, as smokers have twice the risk of nonsmokers.

New Clues

Certain nutrient supplements are now known to be protective: the first Age-Related Eye Disease Study (AREDS 1) of 4,000 people with AMD found that the progression to advanced disease among people at high risk declined by 25 percent when the subjects were given a high-dose combination of antioxidants and zinc. Eye MDs recommend this supplement formula to their AMD patients when appropriate. These nutrients may strengthen the ability of a layer of cells in the eye’s retina to withstand oxidative stress, a probable factor in AMD development. In the second AREDS, which was recently completed, researchers noted a benefit by replacing vitamin A with lutein and zeaxanthin. Both AREDS projects were sponsored by the National Institutes of Health. Eating fruits and deeply colored vegetables such as red peppers and spinach—food sources of antioxidants—provides many health benefits, and one is likely to be protected against AMD.

A new model that views a specific type of uncontrolled immune response as an important factor in AMD development and progression has emerged from the work of a number of genetic and ophthalmic researchers. The model promises to spark advances in AMD treatments and genetic susceptibility tests. In several degenerative diseases---including Alzheimer's, atherosclerosis and AMD---the early phases are marked by abnormal extra-cellular deposits that begin to disrupt normal functioning. In AMD, these deposits are called drusen, and they contain proteins associated with inflammation and other immune system responses.

Four independent research groups recently discovered that variations in three genes associated with sensitivity of the immune response are also strongly associated with AMD. Several research groups subsequently confirmed that two of these genetic variants collectively account for about 75 percent of AMD cases in North American and European populations. Another study, by Margaret Pericak-Vance, PhD, Duke University, and Jonathan Haines, PhD, Vanderbilt University, showed how a risk factor and genetic variant interact: the risk of AMD increased eight-fold in study participants who were smokers and had variant LOC387715.

About AMD

The disease takes two forms, termed "dry" and "wet." In the early "dry" stage, drusen, yellow deposits, develop under the retina, but most people do not have a change in vision. Patients with more and larger drusen, and more pigment changes in the central retina, or macula, are considered to have intermediate AMD and are at higher risk for both advanced "dry" and "wet" AMD. The majority of those with intermediate AMD do not progress to the advanced stage but should be carefully followed by an Eye MD to insure timely treatment if needed.

Advanced AMD can occur in the "dry" or the "wet" form. Once the "dry" form reaches the advanced stage, with blind spots in the central visual field, no medical or surgical treatment is available, although patients can be provided low-vision technologies, including improved lighting and magnification, to maintain their quality of life. In the "wet" form, abnormal new blood vessels develop under the retina that bleed or leak fluid and form scars, causing central vision loss. Only about 10% of the 10 to 15 million Americans with AMD have the "wet" form, but until two years ago it was responsible for most severe vision loss. New, highly effective treatments consisting of injectable medications are dramatically reducing damage from "wet" AMD: vision stabilizes in over 90 percent of patients and actually improves in more than 30 percent.

For more information about AMD and other eye diseases, visit www.geteyesmart.org

Since 1988, Dr. Zusman, Board Certified in Ophthalmology, provides a range of services from routine eye exams to medical and surgical treatment of eye diseases. [Zusman Eye Care Center in Port Charlotte, FL](#) prides itself on offering state of the art equipment in a modern, comfortable office setting. Dr. Zusman has been named a "Top Florida Doctor" (Florida Monthly) and a "Most Recommended Physician" by National Consumers Survey for Florida.
