

NEWS

Macular Degeneration Research



BETTER HEALTH THROUGH RESEARCH

FALL 2006

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Gene Variant Increases Risk of Developing AMD

Major study confirms impact of “complement factor H”

Researchers in the Netherlands confirmed the impact of a highly specific gene variant and its effect on a person's risk of developing age-related macular degeneration (AMD).

Their findings showed that people with this gene — that governs production of a molecule called complement factor H (CFH) — are at 11 times higher risk of developing AMD than those without the gene.

The study was reported in the July 19th issue of the *Journal of the American Medical Association*.

These findings confirm — and elaborate on — other smaller studies done previously. Lindsay A. Farrer, chief of the genetics program at Boston University said, “The most important contribution here is that this may be the first report of this association in a community sample, as opposed to prior reports based on small clinical samples.”

Reported by the lead researchers, “The gene is involved in early as well as late disease pathogenesis and

markedly increases risk of late age-related macular degeneration in the very old.”

The Dutch investigation involved 5,681 residents of Rotterdam ages 55 and older and participants were closely followed from 1990 onward.

The result? People who carried two copies of the gene variant had a 48.3 percent risk of developing AMD by age 95. Those who carried only one copy of the gene had a slightly reduced 42.6 percent risk. This result was compared to a 21.9 percent risk for non-carriers.

Dr. Farrer adds, “There was an interactive effect between smoking and this gene.”

Another factor that increased risk was elevated blood levels of C-reactive protein.

Researchers are excited by the results, they are now one step closer to understanding the genetic and molecular structure of AMD, an understanding that could lead to genetic treatments.



Macular Degeneration Research is a Program of the American Health Assistance Foundation

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President's Corner

Take control of your eye health

Research is revealing that genetics do in fact play a part in whether or not a person develops macular degeneration. And while there's not much we can do about our genes, as you'll read in this issue of **Macular Degeneration Research News**, we can all take positive action to minimize the risk of losing our vision!

Increasingly, research is telling us that a few lifestyle changes — eating green leafy vegetables and fish, quitting smoking and wearing appropriate sunglasses — are measures that can positively impact our eye health.

Because our eyesight is so very precious, I urge you to share this issue of **Macular Degeneration Research News** with your friends, family and loved ones. You'll be doing them a favor.

In the meantime, I assure you, Macular Degeneration Research will continue our search for knowledge and treatments that can prevent macular degeneration — and help you keep your eyes healthy and strong.



Brian Regan, Ph.D.
President

For Your Health

Learn more about the benefits of antioxidants

Evidence is mounting that a diet rich in antioxidants — including vitamins C and E — may be able to stave off age-related macular degeneration (AMD).

In a study at the Erasmus Medical Center in the Netherlands, researchers found that older people who consumed larger than normal amounts of beta carotene, zinc, and vitamins C & E were 35% less likely to be diagnosed with AMD.

How can you increase the amount of these vital antioxidants in your diet? Here are some suggestions:

- **Beta Carotene:** Like Grandma told you, carrots really are good for your eyes! Beta carotene can also be found in kale and spinach.
- **Vitamin E:** To increase your intake of Vitamin E, try whole grains, vegetable oil, eggs and tree nuts.
- **Zinc:** To put more zinc in your diet, include meat, poultry, fish, whole grains and dairy products.
- **Vitamin C:** This vitamin can be found in citrus fruits and juices, green peppers, broccoli, and potatoes.

Doctors recommend that the best source of these nutrients is in the food you eat. Dark green, leafy vegetables and red, orange and yellow fruits and vegetables contain the needed antioxidants plus natural pigments that help protect eyes. Eating foods like these may not only ward off macular degeneration, but also can slow the progression of the disease.

Antioxidant vitamins and minerals are available over the counter, but before taking any supplements, please consult your regular eye doctor.



www.ahaf.org Simply click on the Macular Degeneration Research link to learn more about what's new in the world of research, as well as important information about risk factors for macular degeneration.

Studies Confirm that Smoking Continues to be a Significant Risk Factor

Want to reduce your risk of developing AMD? Quit smoking.

Boston-based researchers studied 222 twins with age-related macular degeneration (AMD) and 459 twins with normal vision. They then compared risk factors for those who were present or former smokers against those who had never smoked.

A press release issued by the Massachusetts Eye and Ear Infirmary (MEEI) quoted Johanna M. Seddon, M.D., lead author of the study as well as Director of the MEEI Epidemiology Unit and associate professor of ophthalmology at Harvard Medical School.

“Current smokers had a 1.9-fold increased risk of developing AMD, while past smokers had about a 1.7-fold increased risk,” she reported.

Her team’s findings are published in the July 2006 issue of the *Archives of Ophthalmology*.

The research study also looked at the diets of the study participants and found that omega-3 fatty acids can also reduce the risk of AMD.

“We also found that increased intake of fish reduced the risk of AMD, particularly if they ate two or more servings per week,” said Dr. Seddon. “Dietary omega-3 fatty intake was also inversely associated with AMD. This study of twins provides further evidence that cigarette smoking increases risk while fish consumption and omega-3 fatty acid intake reduce risk of AMD.”

Dr. Seddon has served as an Ad Hoc member of the Scientific Review Committee for Macular Degeneration Research, a program of the American Health Assistance Foundation. We are proud to have funded Dr. Seddon’s earlier research on biological markers of inflammation and their correlation with the progression of age-related macular degeneration.

Leave a Legacy of Help and Hope

Consider including Macular Degeneration Research in your will

If you have ever thought about playing a leadership role in the fight against macular degeneration — one that will further our research without affecting your income — you may want to consider a bequest to Macular Degeneration Research (MDR).

One of the great advantages to leaving a bequest is that it does not affect your lifestyle at all. You simply decide how much you would like MDR to receive when you pass on.

Your gift can be in the form of stocks or bonds, securities, real estate, cash — whatever you choose. You can leave a specific amount or a portion of your estate.

Because everyone needs to plan for the future, we urge you to consult your estate planner, accountant or tax attorney to help draft your will and set up an estate plan. We also can provide some assistance, if you like. *See contact information below.*

Call Gayle Handiboe, Development Manager, at 1-800-437-2423 or e-mail her at gandiboe@ahaf.org. She’ll be happy to give you more information on leaving a legacy gift to Macular Degeneration Research.

And if you have already included MDR in your will, please let us know so that we can acknowledge your generosity!

Thank you for thinking of Macular Degeneration Research!

Real Life Questions

Do you have questions about macular degeneration research and science? If so, please send them to us either by mail to 22512 Gateway Center Drive, Clarksburg, Maryland 20871 or e-mail to macfaq@ahaf.org. Macular Degeneration Research will answer some of the most frequently asked questions. Your identity will be kept anonymous. We are not medical doctors, and therefore, cannot make recommendations for treatment. Only a physician can give personal medical advice.

Q: Can regular use of a computer without screen protection cause macular degeneration?

A: There is no scientific evidence that the development of macular degeneration is related to regular use of a computer with or without screen protection. It is true, however, that protective coverings for computer monitors may be useful in eliminating screen glare. These screens also improve the contrast of images as they appear on the monitor and help in preventing eye discomfort and strain. The major risk factors for macular degeneration include the following:

Age: *risk increases for persons age 50 or older*

Gender: *women may be more susceptible than men*

Smoking: *risk increases in smokers*

Family History: *people with a family history of age-related macular degeneration may be at higher risk*

Cholesterol: *people with high cholesterol may be at increased risk*

Q: I was diagnosed with macular degeneration two years ago. I can see pretty clearly but have problems with driving. Where I can I find a pair of glasses to help me see better when I'm driving?

A: I am not aware of any "special" eyeglasses designed to help improve vision for driving. It would be best to consult your ophthalmologist, optometrist or "low-vision" specialist to see if a prescription is available that may help. For your own safety and protection, you also may consider suspending your driving until you are able to consult a vision specialist.

Q: How much does Lucentis cost and how many treatments are needed?

A: The cost of Lucentis™ treatment ranges from \$1,950 to \$2,000 per injection. Genetech, the company that manufactures and markets Lucentis™, estimates that, on average, most patients will require 5 to 7 injections per year. Some patients, however, may need as many as 12 injections per year, costing up to \$24,000.

There are groups and agencies that offer information about counseling, training and other special services for people with macular degeneration. To locate some of these sources, call Macular Degeneration Research, a program of the American Health Assistance Foundation, at **1-800-437-2423** for more information, or visit our website.



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