

PRESERVE YOUR VISION

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Over the past years in this column, many degenerative diseases of the body have been discussed and some insight has been given as to their causes. Diabetes, heart disease, Alzheimer's disease, cancer, and many other diseases which affect us are closely related to nutritional intake, lifestyle, stress management, and exercise. Unfortunately, many of the diseases that occur in the body including specific organ diseases are related to these factors and the course of these diseases can be improved by paying more attention to the fine detail. Good medical treatment is available for most of these conditions, but sometimes the additional input from the patient can improve the course of the disease. Such is the case with visual problems.

The most common cause of blindness in the United States in people over age 55 is age-related macular degeneration (AMD), which is present in 15% in people age 65, and approximately 20% of patients age 75. With increasing age, this percentage of occurrence increases even more.

One estimate is that there will be almost 3 million cases of AMD by the year 2020. While there are other diseases that affect visual status including glaucoma, cataracts, and tumors, AMD is one disease which has shown very little promise of good resolution with treatment. There are two kinds of AMD, including the dry atrophic or the "wet" type. Fortunately, the dry type is more common and milder and accounts for 80-90% of the cases. The "wet" form basically indicates that there is new blood vessel formation and capillary leakage of blood cells which leads to further damage of the macular area and are a result of inflammation in the area.

The area of the retina which is responsible for sharp vision is the macula which has rods and cones present. The rod cells are useful for dim light vision and peripheral vision, while the cones provide central, fine detail, and color vision. The macula lutea is the area where the central focal area rests, and is yellow in color. This yellow color results from fat soluble vitamins being present in high concentrations, and these include vitamin D, vitamin E, lutein, beta carotene, and zeaxanthin. It is becoming more obvious that these antioxidant fat soluble vitamins are important to preserve and maintain if the best outcome of AMD in a patient is to be realized.

Having regular visual exams by your eye doctor is the best way to recognize this and other eye diseases early so that something preventive might be done for them. Recognition of AMD is aided by early reporting of symptoms during a standard eye exam. This would include difficulty reading, perception while driving, or frank visual loss. Additional history that includes information on sun exposure, use of sunglasses, dietary habits, and a review of supplements taken is also important. It is also possible to measure the level of carotenoids in the retina including alpha-carotene, beta-carotene,

lutein, and zeaxanthin. MPOD testing is performed by a machine that measures the lutein and zeaxanthin levels in the macula.

Vitamin D, an oil soluble vitamin, is important because it tends to protect the macula from early breakdown. Vitamin D is important also in preventing the development of cancer, heart disease, and even Alzheimer's disease. Obesity is another factor which increases the possibility for development of AMD because the fat tissue in obese patients is sequestered so that it is not available to the retina. If the retinal cells do not get nutrients including beta-carotene, vitamin C, zinc, lutein, and zeaxanthin, then vision suffers because of this. The origin of these should preferably be from whole foods which contain a dietary mix of antioxidants, carotenoids, and omega-3 fatty acids. Supplements should be taken as "added insurance." High levels of lutein and zeaxanthin are found in kale, spinach, lettuce, broccoli, and peas. If you eat a diet that is high in carotenoids, there has to be some added fat present in the food in order for them to be absorbed well. Just eating raw or cooked vegetables with no fats such as bacon or olive oil added will not be well absorbed and not so useful to your retina.

Certain types of light can damage the retina just as poor nutrition can. If you think about the fact that there are many thousands of cells in the retina, preservation of all of these as long as possible could improve the prognosis for AMD. The light that damages these cells includes ultraviolet-A (UVA), ultraviolet-B (UVB), and "blue light," which is at the end of the color spectrum near ultraviolet and is thought to be harmful. Light depletes nutrients from the retinal cells, and these nutrients have to be replaced before good light perception is regained. For example, "snow blindness" is a condition in which you are temporarily partially blind because of nutrient depletion from constant stimulation from the excessive white light.

You should wear sunglasses that block UVA and UVB as well as blue light. These are available online or by Callaway Golf products and are described as sunglasses with blue light protection. Additionally, many bright reading lights may be harmful in that they have a blue light component. These include fluorescent light and incandescent light, whereas halogen lights do not have a blue component and are not harmful to vision. Also, keep the light intensity at a lower but comfortable reading level.

The best approach for preserving vision is to eliminate smoking, exercise daily, be careful about the light that your eyes are exposed to, and eat a diet which supports the normal metabolic processes in your retina. Take an antioxidant eye vitamin supplement and eat green foods every day. Also, taking 1-2,000 units of vitamin D3 daily is supportive as well. Don't eat any artificial fats, fried foods, hydrogenated fats, or trans fats. Additionally, eating fish and taking antioxidants such as vitamin C, vitamin E, and omega-3's are important. Processed carbohydrates leading to obesity should be avoided as much as possible and fried foods as well..

In general, once the diagnosis of AMD is established, there is no good treatment of this. However, staying on the best lifestyle and dietary regimen can help in preventing progression of the disease. Hopefully, new methods of treatment will be able to take over

and reverse some of the problem, but this would be better done in patients who have taken the best care of their eye health.

Reference Reading:

1. www.mdsupport.org

2. *Food and Nutrients in Disease Management, Ed: Ingrid Kohlstadt, CRC Press*