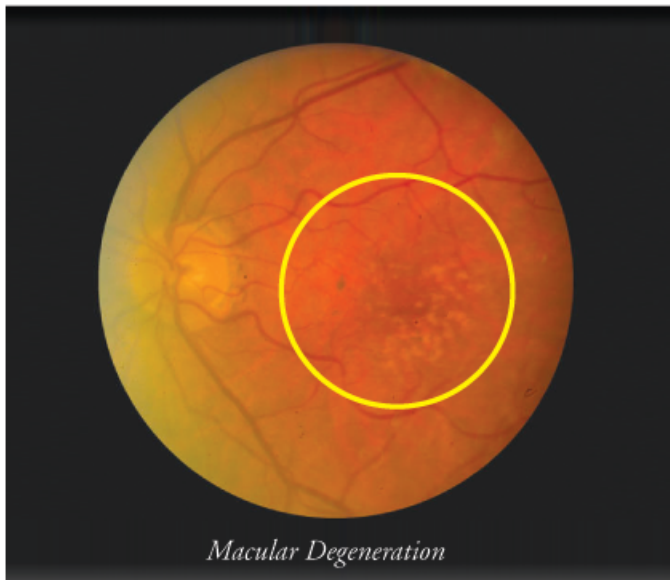


Age-Related Macular Degeneration

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Age-related macular degeneration is the leading cause of severe central vision loss in people over 50 years of age in the United States. The good news is we've never had better treatments and there is much research being done on this disease. This disease affects the macula, which is the center part of the retina that allows us to have clear central vision. The rest of the retina is for our peripheral and night vision. The macula is only about five mm in diameter, but gives us all of our central visual acuity that allows us to do things that require sharp focused vision. The macula has a normal aging process where it has a mild degenerative process over time; this may mildly decrease vision because among other things the macula's photoreceptors are reduced in their numbers and distribution. Age-related macular degeneration, on the other hand, is a disease that causes significant



vision loss because of more significant and rapid damage to the macula.

We often talk about two different types of the macular degeneration, the "dry" and "wet". The dry type has nothing to do with your eye's moisture or tearing, but has to do with the macula's degenerative disease. The dry type is the most common form of macular degeneration and can exist at the same time as the wet type.

Macular degeneration has been shown to be associated with certain genes. A lot of my patients ask me if it runs in families, and this is true, but we don't have a way to actually predict this at the present time. Ongoing research may in the future give doctors the ability to test a patient's risk for getting macular degeneration.

Treatment for the dry type (non-exudative) is limited to prevention and stabilization. It appears to be a blood vessel related disease, so not smoking, controlling high blood pressure and cholesterol as well as any other vascular disease are important. Nutritional studies have shown that a multivitamin containing vitamin A, vitamin C, vitamin E, and zinc decreased the risk of progression by 25 percent. Lutein and zeaxanthin as well as fish oil, and certain B-vitamins have also been shown to help stabilize macular degeneration. Research on the dry type is being done and hopefully some of the drugs they are testing will be available in the near future.

The wet type, or neovascular type of macular degeneration is



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the more aggressive disease. It can cause rapid loss of vision. Treatment for this in the past has been less than satisfactory with lasers and intravenous photodynamic therapy giving some stabilization but still patients have unacceptable levels of vision loss with these treatments when compared to the new pharmacological therapies we have today.

Research has found that the blood vessels that grow underneath the retina (in the layer called the choroid) cause the wet type of macular degeneration. They grow because of numerous substances, one of which is called vascular endothelial growth factor, produced by the retina. When this happens the blood vessels rapidly grow, like putting fertilizer on your grass. The two treatments most commonly used today, Lucentis (ranibizumab) and Avastin (bevacizumab), work by binding to the vascular endothelial growth factor and this causes the blood vessels to rapidly dry up like spraying a weed killer on a weed. These drugs are delivered by injecting them into the eye. This is done in the office with topical anesthesia, and while it sounds unpleasant, it actually is well tolerated. Both of these drugs have been shown to stabilize almost every

patient with this disease as opposed to older treatments that would only stabilize up to two thirds of people. The greatest advantage of these treatments is that about 40 percent of people improve in vision with these drugs while very few patients ever had improvement with the older treatments. These injections are needed every four to six weeks on average until the blood vessel dry up. So, some patients continually need these injections.

New treatments on the horizon include treatments that actually act as a receptor decoy for the vascular endothelial growth factor in the eye and also gene therapy, wherein the genes that make the vascular endothelial growth factor are targeted. Other substances that can cause the blood vessels to grow are also being investigated.

For more information on macular degeneration, Dr. Harris is located at 5354 Reynolds Street Suite 317, Savannah, Georgia 31405 or you may call him at (912) 353-7900