Drusen

What are drusen?

Drusen are yellow deposits under the **retina**. Drusen are made up of lipids, a fatty protein. Drusen likely do not cause **age-related macular degeneration (AMD)**. But having drusen increases a person's risk of developing AMD.

There are different kinds of drusen. "Hard" drusen are small, distinct and far away from one another. This type of drusen may not cause vision problems for a long time, if at all.

"Soft" drusen are large and cluster closer together. Their edges are not as clearly defined as hard drusen. This soft type of drusen increases the risk for AMD.

Drusen of the optic nerve

Drusen can also occur in the optic nerve. These drusen are made up of protein and calcium salts and generally appear in both eyes. Unlike the drusen associated with AMD, optic nerve drusen (also known as optic disc drusen) are not related to aging and often appear in children. Optic nerve drusen usually do not affect vision, but some patients with these drusen may lose peripheral (side) vision.

What causes drusen?

Drusen occur naturally with age. The exact relationship between degenerative macular disease and drusen is not clear. However, having soft drusen is a sign of AMD.

Eye Words to Know

Retina: Layer of nerve cells lining the back wall inside the eye. This layer senses light and sends signals to the brain so you can see.

Optic nerve: A nerve at the back of your eye that connects to your brain. The optic nerve sends light signals to your brain so you can see.

Macula: The macula is a small area in the retina that is responsible for your central vision, allowing you to see fine details clearly.

AMD: Age-related macular degeneration (AMD) is a deterioration or breakdown of the eye's macula.

What are symptoms of drusen?

Most people with drusen do not have any symptoms. Often, a routine eye exam will incidentally reveal their presence. Hard drusen are not a symptom of eye disease. However, the presence of a large number of soft drusen is an early sign of dry age-related macular degeneration (AMD). The symptoms of AMD include hazy vision, difficulty seeing when going from bright light to low light, and a blank or blurry spot in your central vision.

Optic nerve drusen also often do not produce symptoms. However, some patients with optic nerve drusen experience vision problems, including loss of peripheral (side) vision and temporary flickering or graying out of their vision.

Who is at risk for drusen?

Drusen are typically a result of aging and are commonly found in people age 60 and older. Caucasians are more likely to develop drusen, as well as age-related macular degeneration (AMD). Soft drusen are associated with AMD. Risk factors for AMD include a family history of the disease, smoking and abnormal cholesterol levels.

The risk of developing optic nerve drusen is also increased for people who are of Caucasian descent or who have a family history of the disease.

How are drusen diagnosed?

Drusen are detected during a dilated eye exam. To check your eyes, your ophthalmologist will dilate (widen) your pupils using dilating eyedrops and examine your eyes with an ophthalmoscope, a device that allows him or her to see the retina and other areas at the back of the eye. This examination will allow him or her to see if drusen are present.

If your ophthalmologist detects soft drusen, he or she may have you use an Amsler grid to check for macular degeneration symptoms such as wavy, blurry or dark areas in your vision. If your ophthalmologist thinks you have optic nerve drusen, he or she may order additional imaging tests to confirm the diagnosis.

How are drusen treated?

Hard drusen do not need to be treated. If your ophthalmologist finds hard drusen during a routine eye exam, he or she may want to watch them regularly to make sure they do not develop into soft drusen.

Because soft drusen are a sign of age-related macular degeneration (AMD), your ophthalmologist will follow the AMD treatment appropriate for you. Trying to eliminate the drusen will not improve your AMD.

If you have optic nerve drusen without symptoms, you should be monitored regularly. There is no treatment for optic nerve drusen. In rare cases where choroidal neovascular membranes develop, treatment may be appropriate.

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Summary

Drusen are yellow deposits under the retina. There are different types of drusen. Soft drusen can increase a person's risk of getting AMD, which can cause loss of vision. Soft drusen may need AMD-related treatment. Hard drusen and optic nerve drusen usually do not affect vision, but both need to be watched regularly by an ophthalmologist.

If you have any questions about your vision, speak with your ophthalmologist. He or she is committed to protecting your sight.

Get more information about AMD from EyeSmart—provided by the American Academy of Ophthalmology—at **aao.org/amd-link**.

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