



Choroidal Neovascular Membranes

What are choroidal neovascular membranes?

In the eye, a healthy, intact retina is key to clear vision.

Choroidal neovascular membranes (CNVM) are new, damaging blood vessels that grow beneath the retina. These blood vessels grow in an area called the choroid. They break through the barrier between the choroid and the retina. When they leak in the retina they cause vision loss.

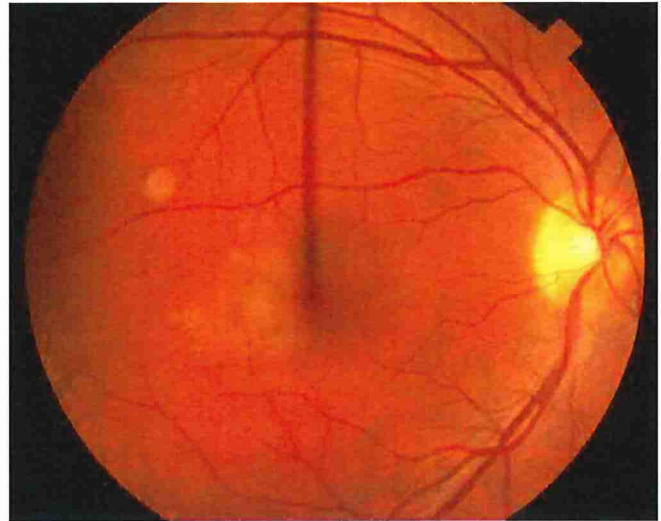
CNVM are associated with many serious eye diseases, most commonly wet age-related macular degeneration. CNVM are also found in patients with histoplasmosis, eye injury, and myopic macular degeneration.

What are symptoms of CNVM?

If you have CNVM, you may experience painless vision loss. You may notice blank spots in your vision, especially your central vision. Your vision may be distorted, so that straight lines appear bent, crooked or irregular.

Other symptoms may include the following:

- objects appear to have different sizes for each eye
- colors lose their brightness or colors do not look the same for each eye
- light flashes or flickering appear in central vision.



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.

Sclera: The outer layer of the eye. This is the "white" of the eye.

Choroid: Part of your eye between the sclera and the retina. The choroid is part of the uvea, and it contains blood vessels and connective tissue. The choroid supplies oxygen and nutrients to the eye.

Who is at risk for CNVM?

CNVM are most commonly found in people age 50 and older. The risk grows with age. This is because wet age-related macular degeneration accounts for most patients with CNVM.

People with risk factors for different eye diseases or who have an eye injury may develop CNVM at a younger age.

How is CNVM diagnosed?

To diagnose CNVM, your ophthalmologist will take special photographs of your eye. They take these images using fluorescein angiography (FA) and optical coherence tomography (OCT).

During FA, a fluorescein dye is injected into a vein in your arm. The dye travels throughout the body, including your eyes. FA captures images of your retinal blood vessels as the dye passes through them. The dye highlights abnormal areas, showing your doctor whether you have choroidal neovascular membranes.

OCT scanning creates a cross-section picture of your retina. This image helps your ophthalmologist detect abnormal blood vessels.

How is CNVM treated?

Treatment of CNVM may vary depending on the underlying disease. Treatment includes anti-VEGF drugs, thermal laser treatment or photodynamic therapy (PDT). Depending on the progress of your disease, you may receive one or more of these treatments.

Anti-VEGF treatment. A common way to treat CNVM is with anti-VEGF drugs. These drugs target a chemical in your body that causes abnormal blood vessels to grow under the retina. That chemical is vascular endothelial growth factor, or VEGF. Several anti-VEGF drugs can block the trouble-causing VEGF chemical in the

eye. Blocking VEGF reduces the growth of CNVM, slows their leakage, helps to slow vision loss and in some cases improves vision.

Your ophthalmologist administers the anti-VEGF drug directly to your eye in an outpatient procedure. Before the injection, your ophthalmologist will clean and numb your eye. You may receive multiple anti-VEGF injections over the course of many months. Repeat anti-VEGF treatments are often needed for continued benefit.

Thermal laser treatment. Another form of treatment for CNVM is with thermal laser therapy. Laser treatment is usually done as an outpatient procedure. It takes place in the doctor's office or at the hospital.

The laser beam in this procedure is a high-energy, focused beam of light. It produces a small burn when it hits the treatment area of the retina. This destroys the abnormal blood vessels, preventing further leakage, bleeding and growth.

Following laser treatment, vision may be more blurred than before treatment. But often it will stabilize within a few weeks. A scar forms at the treatment site, creating a permanent blind spot. This blind spot might be noticeable in your field of vision.

The laser treatment usually destroys the abnormal blood vessels. But patients often need a re-treatment within three to five years.

Photodynamic therapy (PDT). PDT uses a light-activated drug called a photosensitizer and a special low-power, or cool, laser to target the CNVM. Your ophthalmologist performs this procedure on an outpatient basis, usually in an

ophthalmologist's office. The photosensitive drug is injected into a vein in your arm. It travels throughout the body and to the abnormal blood vessels. The laser is targeted directly on the abnormal vessels, activating the drug. This causes damage specifically to those unwanted blood vessels.

After PDT, the abnormal blood vessels may reopen, so you may need multiple treatments.

Treating CNVM can help stabilize your vision and prevent further vision loss. However, in many patients it is not possible to regain lost sight. In such cases, it is important to learn how to make the most of your remaining vision.

Summary

Choroidal neovascular membranes are new, damaging blood vessels that grow beneath the retina. If you have CNVM, you may experience painless vision loss.

To diagnose CNVM, your ophthalmologist will take special photographs of your eye. They take these images using fluorescein angiography (FA) and optical coherence tomography (OCT).

Treatment includes anti-VEGF drugs, thermal laser treatment or photodynamic therapy (PDT). Depending on the progress of your disease, you may receive one or more of these treatments. Treating CNVM can help stabilize your vision and prevent further vision loss.

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

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

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