Macular Telangiectasia

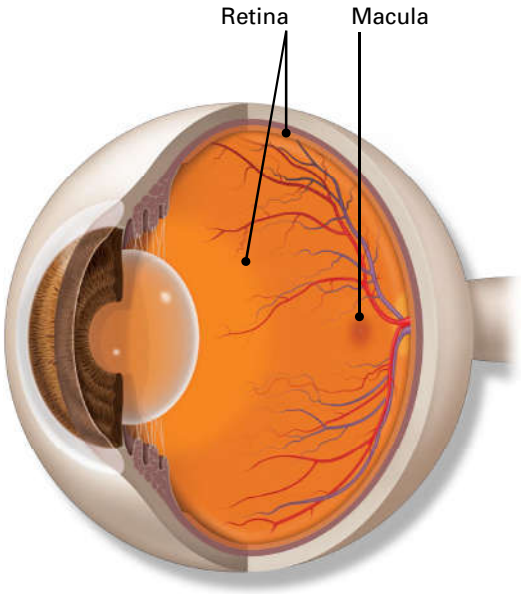
What is macular telangiectasia?

Macular telangiectasia (MacTel) is a disease affecting the macula, causing loss of central vision. MacTel develops when there are problems with the tiny blood vessels around the fovea.

There are two types of MacTel, and each affects the blood vessels differently.

Type 2 MacTel. The most common form is Type 2 MacTel. The tiny blood vessels around the fovea leak, become dilated (widen), or both. In some cases, new blood vessels form under the retina and they can also break or leak. Fluid from leaking blood vessels causes the macula to swell or thicken. This is a condition called macular edema, which affects your central vision. Also, scar tissue can sometimes form over the macula and the fovea, causing loss of detail vision. Type 2 affects both eyes but not necessarily with the same severity.

Type 1 MacTel. In Type 1 MacTel, the blood vessels become dilated. This forms tiny aneurysms, causing swelling and damaging macular cells. The disease almost always occurs in one eye, which differentiates it from Type 2.



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.

Macula: Small but important area in the center of the retina. You need the macula to clearly see details of objects in front of you.

Fovea: The center of the macula, where vision is the sharpest.

What are symptoms of MacTel?

In the early stages, people with MacTel will have no symptoms.

As the disease progresses, you may have blurring, distorted vision, and loss of central vision. You may need brighter light to read or perform other functions. Loss of central vision progresses over a period of 10 – 20 years. Macular telangiectasia does not affect side vision and does not usually cause total blindness.

Because MacTel has no early symptoms, it is important to get regular eye exams. This allows your ophthalmologist to detect any macular problems as early as possible.

Who is at risk for MacTel?

Type 2 MacTel happens most often in middle-aged adults. Both men and women are equally affected. If you have diabetes or hypertension, you may be at increased risk. The disease seems to run in some families, so there may be a genetic predisposition. This is not yet completely understood. In most cases, there is no known cause for the disease if found.

Type 1 MacTel is associated with Coat's disease. This is a rare eye disorder present from birth, and is found almost entirely in males. Type 1 MacTel is usually diagnosed around age 40.

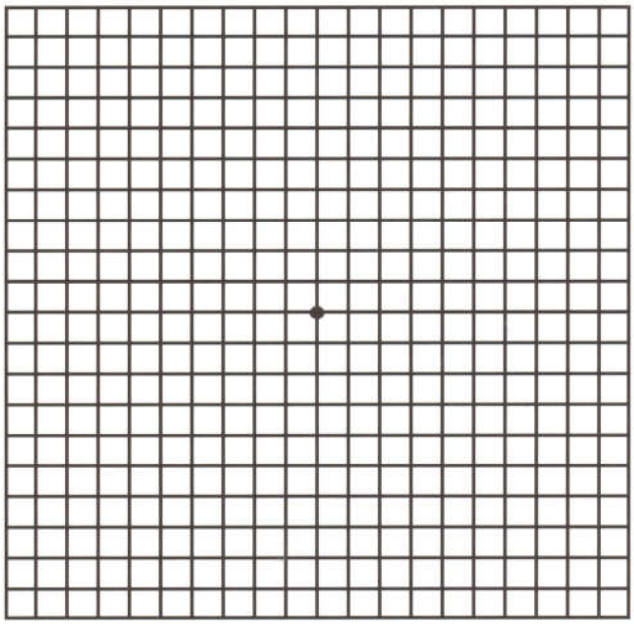
How is MacTel diagnosed?

Your ophthalmologist may find small, fine crystals in the center of your macula. They may also find discoloration of the macula, and abnormalities of the blood vessels in the center of the macula. These are signs of macular telangiectasia.

First, your eye doctor will perform a thorough assessment of your vision. This will include testing with an Amsler grid to detect any wavy or dark areas in your central vision. The doctor will then dilate (widen) your pupils using eye drops. They will examine your eyes with an ophthalmoscope. This device allows him or her to see the retina and other areas at the back of the eye.

If your ophthalmologist suspects you have MacTel, he or she usually will take special photographs of your eye. The doctor will take them using optical coherence tomography (OCT) and fluorescein angiography (FA).

OCT scanning uses light waves to make images of the underlying structure of the retina. These images show the thickness of the retina. They



Amsler grid

FA and OCT images showing leakage from damaged blood vessels from MacTel

can help your ophthalmologist detect swelling and abnormal blood vessels.

During FA, a vegetable-based 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. Fluorescein angiography is often repeated occasionally, especially if vision is worsening.

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How is MacTel treated?

Over the years, researchers have studied many MacTel treatments. None have proven to significantly improve vision. Since the disease has a relatively good prognosis, most patients may not need treatment.

In certain cases, laser treatments may help seal leaking vessels. This treatment is less preferred because of potential harmful secondary effects. In other instances, ophthalmologists may treat MacTel with injections of steroids or other medicines.

One serious complication of MacTel is the growth of abnormal blood vessels under the retina. This is called choroidal neovascularization. Injections of a drug called vascular endothelial growth factor inhibitors (anti-VEGF) may help.

Anti-VEGF medicine targets a chemical in your eye that causes abnormal blood vessels to grow under the retina. That chemical is called vascular endothelial growth factor, or VEGF. These injections reduce the growth of abnormal blood vessels, slow leakage, and help reduce swelling. In some cases, this treatment may even improve your vision.

Unfortunately, sometimes treatment does not appear to offer much benefit. Clinical studies are underway to better understand the disease and identify potential useful treatments.

Low vision aids can help people with MacTel make the most of their remaining vision.

Summary

Macular telangiectasia (MacTel) is a disease affecting the macula, causing loss of central vision.

In the early stages, people with MacTel will have no symptoms. As the disease progresses, you may have blurring, distorted vision, and loss of central vision. Because MacTel has no early symptoms, it is important to get regular eye exams.

When needed, treatment can include laser therapy and injection of steroids or other medicines. Unfortunately, sometimes treatment does not appear to offer much benefit.

Low vision aids can help people with MacTel make the most of their remaining vision.

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 macular telangiectasia from EyeSmart—provided by the American Academy of Ophthalmology—at **aao.org/macular-telangiectasia-link**.

COMPLIMENTS OF:

BRYAN VEKOVIUS, M.D.

OCULOPLASTIC SURGERY AND
NEURO-OPHTHALMOLOGY

450 ASHLEY RIDGE BLVD.
SHREVEPORT, LA 71106

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