Histoplasmosis

What is histoplasmosis?

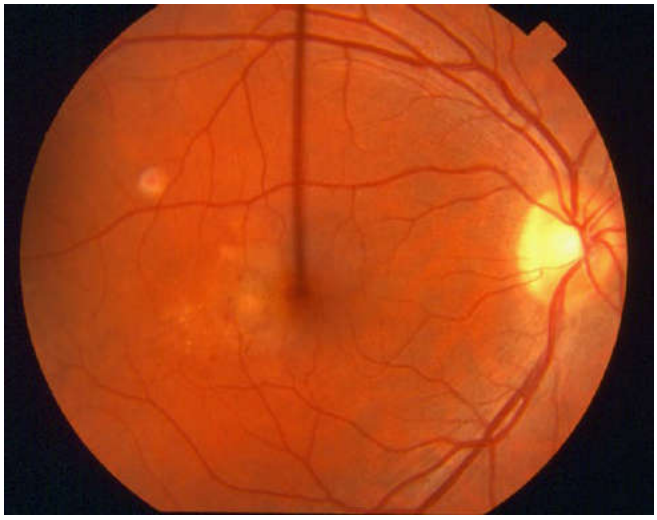
Histoplasmosis is a disease you can get when you breathe infected airborne spores into your lungs. The spores that cause it are from the fungus *Histoplasma capsulatum*. This microscopic fungus is sometimes called histo for short. It enters the air when people disturb soil when plowing fields, sweeping chicken coops, or digging holes.

Histoplasmosis starts as a lung infection. Doctors think that the infection, even if mild, can later move to the eye through the blood stream. Once in the eye it can cause a serious eye disease called ocular histoplasmosis syndrome (OHS). OHS is a leading cause of vision loss in Americans ages 20 to 40.

What are the symptoms of histoplasmosis?

Histoplasmosis infection is often so mild that it produces no clear symptoms. Any symptoms are often like those from a common cold. In fact, if you had histoplasmosis symptoms, you might think you just had a cold or flu. This is because the body's immune system normally beats the infection in a few days without treatment.

OHS often has no symptoms in its early stages. You can have OHS without knowing it. Tiny scars called histo spots remain at the infection sites after the inflammation is gone. These histo spots can be the only way to tell you had the infection. Histo spots do not generally affect vision. Although ophthalmologists don't know why, they can cause complications years or even decades later. We do know that there is a connection between histo spots and the growth of abnormal blood vessels underneath the retina.



The image shows an area of abnormal blood vessel growth under the retina. If left untreated, it can lead to blindness.

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.

Pupil: The opening at the center of the iris that allows light to enter the eye.

Histoplasmosis symptoms may appear if these abnormal blood vessels spread to areas of the retina that are vital for good vision. The symptoms for OHS are similar to macular degeneration symptoms.

These symptoms include:

- blank spots in your vision, especially your central vision
- distorted vision, so that straight lines appear bent, crooked or irregular
- size of objects may appear different for each eye
- colors lose their brightness; colors do not look the same for each eye
- central light flashes or flickering

If you have any of the symptoms of histoplasmosis, you should see an ophthalmologist.

Who is at risk for histoplasmosis?

People who have lived in states in the Ohio and Mississippi River Valley are at higher risk. Many people have been exposed to the fungus that causes histoplasmosis, but few go on to develop OHS. If you know that you had histoplasmosis, watch for vision changes that could signal the symptoms of OHS.

Most people who have histoplasmosis don't know it. Have your eyes examined for histo spots if you ever lived somewhere with high rates of histoplasmosis.

How is histoplasmosis diagnosed?

Your ophthalmologist will examine your eyes to confirm a histoplasmosis diagnosis. They will be looking for two things in particular:

- histo spots
- swelling of the retina, which signals the growth of new blood vessels that are not normal

Your doctor may have you use an Amsler grid to check for histoplasmosis symptoms such as wavy, blurry or dark areas in your vision.

Your ophthalmologist will dilate (widen) your pupils with eye drops. They will look at your retina and other areas in the back of the eye. Your ophthalmologist will look for fluid or blood vessels that are not normal. If you have these signs, your ophthalmologist will take special photographs of your eye. They use optical coherence tomography (OCT) and fluorescein angiography to take these photographs.

OCT uses light waves to make detailed pictures of the area beneath the retina. OCT images show how thick the retina is. They can help your ophthalmologist find swelling and blood vessels that are not normal.

During fluorescein angiography, a dye is injected into a vein in your arm. The dye travels throughout the body, including your eyes. The dye highlights areas of the retina that are not normal.

How is histoplasmosis treated?

Anti-VEGF treatment. A certain chemical can cause blood vessels that are not normal to grow under the retina. This chemical is called vascular endothelial growth factor, or VEGF. One method for treating histoplasmosis is to target VEGF.

Several anti-VEGF drugs can block the trouble-causing VEGF. Blocking VEGF reduces the growth of blood vessels and slows their leakage. This helps to slow vision loss and in some cases improves vision.

Your ophthalmologist injects the anti-VEGF drug into your eye in an outpatient procedure. Before

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the procedure, your ophthalmologist will clean your eye to prevent infection. They will numb your eye with anesthetic eye drops. You may receive multiple anti-VEGF injections over the course of many months. Repeat anti-VEGF treatments are often needed for continued benefit.

Laser treatment. Laser treatment for histoplasmosis is usually done as an outpatient procedure. You will have this treatment either 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 area of the retina where you need treatment. The burn destroys the blood vessels that are not normal. This prevents further leakage, bleeding and growth.

After laser treatment, your vision may be more blurry than before treatment. But this will often stabilize within a few weeks. A scar forms where the laser burned your retina. The scar makes a permanent blind spot that might be noticeable in your field of vision.

Laser treatment does not cure histoplasmosis. It reduces the chance of blood vessels spreading and causing more harm to your vision. If these blood vessels do return, you may need more laser surgery.

Steroid injection. Your ophthalmologist may treat you with steroid injections. These shots in the eye reduce swelling due to histoplasmosis.

Histoplasmosis remains a threat to your vision for your lifetime. It is important to have regular checkups with your ophthalmologist to detect any problems as early as possible.

Summary

Histoplasmosis is a disease you can get when you breathe infected airborne spores into your lungs. It enters the air when people disturb soil when plowing fields, sweeping chicken coops, or digging holes. Once it travels to the eye it can cause a serious eye disease called ocular histoplasmosis syndrome (OHS). Most people who have histoplasmosis don't know it. Have your eyes examined for histo spots if you ever lived somewhere with high rates of histoplasmosis. Treatment can include anti-VEGF drugs, laser treatment, and steroids.

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

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