

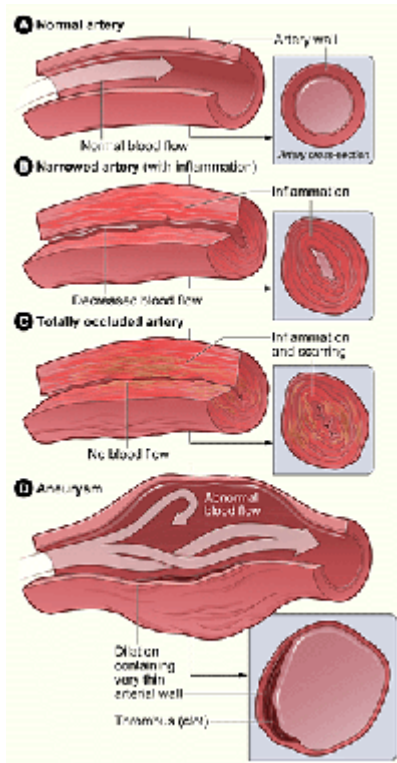
WHAT IS VASCULITIS?

Vasculitis is an inflammation of the blood vessels in the body. In vasculitis, the body's immune system mistakenly attacks the body's own blood vessels, causing them to become inflamed. Inflammation can damage the blood vessels and lead to a number of serious complications. Vasculitis can affect any of the body's blood vessels. These include arteries, veins, and capillaries. Arteries are vessels that carry blood from the heart to the body's organs, veins are the vessels that carry blood back to the heart, and capillaries are the tiny blood vessels that connect the small arteries and veins.

When a blood vessel becomes inflamed, it can:
Narrow, making it more difficult for blood to get through
Close off completely so that blood can't get through at all (occlusion)
In rare cases, stretch and weaken so much that it bulges (aneurysm) and may possibly burst (aneurysm rupture)

Figure A shows a normal artery with normal blood flow (the inset image shows a cross-section of the normal artery). Figure B shows an artery narrowed due to inflammation in the arterial wall, causing decreased blood flow (the inset image shows a cross-section of the inflamed artery). Figure C shows a totally occluded (blocked) artery due to inflammation and scarring in the arterial wall (the inset image shows a cross-section of the block artery). Figure D shows an artery containing an aneurysm.

The disruption in blood flow from inflammation can damage the body's organs. Specific signs and symptoms depend on which organ has been damaged and the extent of the damage. Typical signs and symptoms of inflammation (fever, swelling, and a general sense of feeling ill) are common among people with vasculitis.



Outlook: The outlook for people who have vasculitis varies depending on both the type and severity of the vasculitis. The course of a case of vasculitis can be hard to predict. Treatment is often very effective if vasculitis is diagnosed and treated early. Vasculitis may disappear or go into a period of remission. In some cases, it may be a chronic problem, requiring ongoing treatment, or it may come back (“flare”) after a period of remission. In more severe cases, treatment may not help, and vasculitis can lead to disability or even death.

Much is still unknown about vasculitis. There are many different types of vasculitis, but overall it is a fairly rare condition in the general population. Additional research is needed to learn more about the various types of vasculitis and their causes, treatments, and remission patterns.

Other Names for Vasculitis

Angiitis
Arteritis

What Causes Vasculitis?

Vasculitis is an inflammation of the blood vessels, but what causes the inflammation is often unknown. It is sometimes a side effect of the body's immune system response to a recent or chronic infection. It also can be a side effect of the body's response to a medicine. The body sometimes recognizes a medicine as a foreign substance, and may develop an "allergic reaction" to try to get rid of it.

Vasculitis is sometimes linked to other diseases, such as: Autoimmune system diseases. These are diseases that the vasculitis patient may have had for years, in which the body's immune system mistakenly attacks the body itself. Examples include systemic lupus erythematosus (lupus), rheumatoid arthritis, and scleroderma.

Who Is At Risk for Vasculitis?

Vasculitis can affect anyone, including men, women, and people of all ages. Some types of vasculitis are more likely to affect certain populations than others. Examples of populations that might be more affected by certain types of vasculitis include smokers, children, young women, middle-aged adults, and people with chronic hepatitis B and/or C infections.

What Are the Signs and Symptoms of Vasculitis?

Vasculitis can have many different signs and symptoms depending on the type of vasculitis and which organs are involved as well as how severely they are affected. With vasculitis, any number of organs may be involved, so a patient can experience very few signs and symptoms or may be very sick.

There are two types of signs and symptoms that are common among people with vasculitis: those that affect the body in a general way (systemic) and those that affect specific organs or body systems.

Systemic

Systemic signs and symptoms are not specific to a particular part of the body, but affect a person overall, causing general aches, pains, and sickness. Common systemic symptoms include:

- Fever
- Loss of appetite
- Weight loss
- Fatigue (feeling tired) and weakness
- General aches and pains

Organ or Body System-Specific

These signs and symptoms are specific to a particular organ or body system. The organs and body systems that can be affected include:

Skin. People may experience a variety of skin changes, including purple or red spots. The changes may look like clusters of small dots, splotches, bruises, or hives. They may be itchy or painless.

Joints. People can experience aches and arthritis if the joints are affected.

Lungs. People may experience shortness of breath or even cough up blood. On a chest x ray, lung symptoms may look like pneumonia, even though they are not.

Gastrointestinal tract. Ulcers in the mouth may be present in some types of vasculitis. Also, abdominal pain or bloody diarrhea can occur in people with vasculitis. In some severe cases, the intestines can rupture.

Sinuses, nose, and ears. People may experience sinus infections, chronic middle ear infections, ulcers in the nose, or in certain cases there may be hearing loss.

Eyes. People whose eyes are affected by vasculitis may experience a blurring or loss of vision.

Brain. People may experience headaches, confusion, changes in behavior, or strokes.

Nerves. People may experience numbness, tingling, and weakness in various parts of the body. They also may experience symptoms in their limbs, such as loss of feeling or strength in the hands and feet or shooting pains in the arms and legs.

How Is Vasculitis Diagnosed?

The diagnosis of vasculitis is based on a person's medical history, physical exam, signs and symptoms, and laboratory tests.

Specialists Involved

A person with vasculitis may be referred to various specialists, including:

- A dermatologist (skin specialist)
- A hematologist (blood specialist)
- A pulmonologist (lung specialist)
- A cardiologist (heart specialist)
- A neurologist (nervous system specialist)
- An ophthalmologist (eye specialist)
- A urologist (urinary tract and urogenital system specialist)
- A nephrologist (kidney specialist)
- An infectious disease specialist

Diagnostic Tests and Procedures

A variety of tests are used to diagnose vasculitis. The type of test chosen will depend on the signs and symptoms a person has. Some of the tests used in the diagnosis of vasculitis include:

Blood tests. These may be done to look for abnormal levels of blood cells or antibodies, which could be a sign of inflammation in the body.

Biopsy. During this test, the doctor takes a small sample of tissue from a blood vessel or one of the affected organs and looks at it under a microscope for inflammation or damage. A biopsy is often the best way to make a firm diagnosis of vasculitis.

Urine analysis. This test might be done to look for abnormal levels of protein or blood cells in the urine, which could be a sign of vasculitis affecting the kidneys.

EKG (electrocardiogram). This test measures the rate and regularity of the heartbeat, and is done to see if vasculitis is affecting the heart.

Echocardiogram. This test uses sound waves to create a moving picture of your heart. Echocardiogram provides information about the size and shape of your heart and how well your heart chambers and valves are functioning. The test also can identify areas of poor blood flow to the heart, areas of heart muscle that are not contracting normally, and previous injury to the heart muscle caused by poor blood flow.

Chest x ray. A chest x ray takes a picture of the organs and structures inside the chest, including the heart, lungs, and blood vessels. A chest x ray may show abnormal changes if vasculitis is affecting the lungs.

Pulmonary function testing. These are breathing tests that evaluate how well the lungs are working. These tests are done to see if vasculitis is affecting how the lungs work.

Abdominal ultrasound. This test uses sound waves to create a picture to look for vasculitis affecting the abdominal organs. It is similar to an echocardiogram.

Computerized tomography (CT) scan. A CT scan provides a computer generated x-ray image of the internal organs. CT scans can be used to look for vasculitis affecting the abdominal organs or the brain.

Magnetic resonance imaging (MRI). This test uses powerful magnets and radio waves to make images and can be used to look for a vasculitis affecting the brain.

Angiography. This test may be done to see the flow of blood through the blood vessels and to determine whether they are blocked. During this test, a dye is injected into the blood vessels, and x-ray pictures of the blood vessels are taken.

How Is Vasculitis Treated?

Most cases of vasculitis are treated with prescription medicines.

Goals of Treatment

The main goal of treatment is to stop the inflammation in the affected blood vessels. Most treatments do this by stopping the immune or inflammatory response that caused the vasculitis to occur.

Specific Types of Treatment

There are two types of prescription medicines that are typically used to treat vasculitis: corticosteroid medicines and cytotoxic medicines.

Corticosteroid Medicines

Corticosteroid medicines are often called steroids, though these are not the same kind of steroids that athletes have been reported to use. These medicines are used to reduce the inflammation in the blood vessels. Examples of corticosteroids that the doctor might prescribe include prednisone, prednisolone, and methylprednisolone.

Cytotoxic Medicines

Cytotoxic medicines are typically used to treat cancer, but certain drugs also can be used to treat vasculitis. They may be prescribed in severe cases or in cases in which the patient did not respond to corticosteroids. Sometimes, they are prescribed along with corticosteroids. Cytotoxic medicines work by killing the cells that have caused the inflammation. Examples of these medicines include azathioprine and cyclophosphamide. Doses used for vasculitis are usually lower than those used to treat cancer.

How Can Vasculitis Be Prevented?

There is currently no known way to prevent vasculitis, but with treatment, the complications of vasculitis can be prevented or delayed.