Carotid Artery Disease

What is carotid artery disease?

Carotid artery disease is a condition that causes the carotid arteries to become narrow or blocked. The carotid arteries are two large blood vessels on each side of the neck. These blood vessels bring blood to the brain and eyes. A narrowing or blockage of the arteries slows or stops blood flow to the head and can cause temporary symptoms such as dizziness, feeling faint, partial blindness, or numb feelings. A blocked carotid artery can also cause stroke or death.

How does it occur?

The usual cause of a partial or complete blockage is a condition called atherosclerosis. Commonly known as hardening of the arteries, atherosclerosis is caused by a buildup of plaque on the inside walls of the arteries. Plaque is made up of scar tissue, blood cells that have moved from the bloodstream into the artery wall, cholesterol, and other fatty substances.

The buildup of plaque narrows the arteries and slows the flow of blood. Plaque may break off. A blood clot may form at the site of the break. The blood clot blocks blood flow to the brain even more. Pieces of the clot may break away and float to the brain's smaller arteries, causing a stroke.

What are the symptoms?

Most people with carotid artery disease have no symptoms. When there are symptoms, the risk of a major stroke increases.

The most common symptoms are transient ischemic attacks (TIAs), which are sometimes called mini-strokes. TIAs can cause temporary decreases in blood flow to part of the brain, causing symptoms such as partial blindness, numbness and tingling of the skin, and weakness of an arm or a leg. TIAs usually last less than 30 minutes but can last up to 24 hours. People who have had a TIA are more likely to have a stroke.

A stroke occurs when loss of blood supply to a portion of the brain causes loss of brain function. A stroke causes symptoms such as paralysis of an arm or leg, vision and speech problems, and personality changes. Strokes are the third leading cause of death in the US.

How is it diagnosed?

It is important to tell your healthcare provider if you have had temporary problems with vision or minor paralysis. A routine physical exam usually detects carotid artery disease, even if you have no symptoms. Your provider may hear a murmur by listening to the carotid artery in your neck with a stethoscope. The murmur is caused by blood moving through a narrowed part of the artery.

Tests you may have are:
- ultrasound test, which shows how large the blockage is and the amount of blood flowing through the artery.
- cerebral arteriogram, which is an X-ray dye procedure that shows how narrow the inside of the artery is and the exact location of the blockage.
- CT scan (computerized X-rays) of the head, which uses X-rays to outline the brain structures to rule out a recent stroke.
- MRI (magnetic resonance imaging), which uses magnetism, radio waves, and a computer to make pictures that can show plugged blood vessels.

How is it treated?

If you have some blockage of the artery but have no symptoms, you can usually be treated with drugs. Your healthcare provider may prescribe medicine that thins the blood or prevents blood clots. Aspirin and warfarin are two common examples of these types of medicines. An aspirin a day is the treatment most healthcare providers now recommend. Aspirin reduces the tendency of blood to form a clot. This decreases the chance of stroke. You may also benefit from surgery.

If you have symptoms but less than a 70% blockage of a carotid artery, you will probably need a cerebral arteriogram. If this test shows no other problems, you will start aspirin treatment. If the plaque looks rough and irregular on the X-ray, your healthcare provider might recommend surgery because the irregular plaque might form clots, possibly causing a stroke.

If you have symptoms and more than a 70% blockage of a carotid artery, you will likely need surgery. The surgery, called carotid endarterectomy, involves opening the artery and removing the blockage of plaque.

Carotid angioplasty and stenting, used at only a few hospitals, involves passing a balloon-tipped tube (catheter) into the carotid artery blockage. The balloon is then inflated, which stretches the blocked artery and opens it.

A stent may be placed inside the artery to prop it open and allow blood to flow through the blood vessel. You are given a shot where the catheter is inserted to numb the area. More experience with this procedure is needed before it becomes common.

How long will the effects last?

Carotid artery disease cannot be completely eliminated, but you can control it. The goal of treatment is to prevent more blockage and stroke. Both aspirin and surgery reduce but do not entirely eliminate the risk of stroke.

How can I take care of myself?

Follow the treatment plan prescribed by your healthcare provider.

Call your healthcare provider right away if:
- You develop temporary blindness or vision problems.
- You notice weakness of an arm or a leg.
- You start having trouble speaking.
- You become aware of a swishing noise in either ear that is related to your heartbeat. The noise may indicate blood flowing past a blockage in a carotid artery.

What can I do to help prevent carotid artery disease?

In almost all cases, atherosclerosis is the cause of carotid artery disease. You can help prevent atherosclerosis by following these guidelines:
- Eat foods low in fat and cholesterol.
- Lose weight if you are overweight.
- Exercise regularly according to your healthcare provider's recommendations.
- Lower your blood pressure if it is high.
- Don't smoke.
- Try to reduce stress in your life.
- Lower your blood sugar if it is high.
- If you have diabetes, see your healthcare provider regularly and follow all diet and medication instructions.

[Related Topics]
Transient Ischemic Attack
Carotid Endarterectomy
Angioplasty

Developed by Donald L. Warkentin, MD, for RelayHealth
.