

## **Peripheral artery disease**

Peripheral artery disease occurs when fat deposits accumulate (atherosclerosis) on the inner lining of the artery walls. These blockages reduce the circulation of blood through the arteries that take blood to the arms, legs and other organs and tissues of the body. This is the same disease that makes plaque form in the coronary arteries, which can cause a heart attack. The plaque that is formed on the carotid arteries, which take blood to the brain, increases the risk of stroke. The large blood vessels that take blood to the legs are those most commonly affected by peripheral artery disease. In the early stages, common symptoms are cramps or tiredness in the legs and buttocks during physical activity. When the activity is stopped, the symptoms disappear. The symptoms occur during exercise since the blocked blood vessels cannot take sufficient oxygen and nutrients to the muscles.

### Diagnosis and treatment of peripheral artery disease

There are various tests that can be done to diagnose peripheral artery disease. The ankle brachial index measures the difference in blood pressure between the arms and the legs. If the blood pressure difference is very large, it may indicate blockage of the blood vessels that take blood to the legs. In this case, more tests are done to confirm the diagnosis and determine the location and severity of the blockage. There are many tests, but the most common ones are the Doppler echogram, which measures sound waves as the blood flows through the arteries, the computerized tomography angiography, and the nuclear magnetic resonance angiography.

- The treatment of peripheral artery disease requires a commitment by the patient to change his lifestyle and work with health professionals to achieve the best results. Exercise and lifestyle changes are the basis of the treatment. Patients with peripheral artery disease must do exercise regularly. The doctor may want you to start doing exercise under a regimen of supervised exercises. Doing exercise regularly has been shown to reduce the symptoms and increase the capacity to do exercise in only three months. Patients who smoke should stop doing so. The habit of smoking increases the resistance to the flow of blood in the peripheral blood vessels and makes atherosclerotic plaque increase. It is also important to follow a diet low in saturated fat and cholesterol. If the doctor prescribes you a cholesterol-lowering drug, it is important for you to take it, in addition to following the diet. It is also important to control high blood pressure. Diabetic patients need to control blood sugar levels. All these changes require effort, but are important to prevent symptoms from worsening.

Peripheral artery disease may require treatment with medications in some patients. The medications that may be used are:

- Cilostazol and pentoxifylline, which increase walking distance
- Anti-platelet agents, which decrease the risk of blood clots

- Cholesterol-lowering drugs, such as statins, which stop the formation of new plaque
- Medications for lowering high blood pressure

In some patients, lifestyle changes and medications do not succeed in controlling the symptoms. In others, the disease can progress to the point that it hurts even at rest and the viability (ability of the tissue to remain alive) of the leg (or the arm or whatever tissue the blocked artery feeds) is at risk.

Angioplasty is a non-surgical procedure that can be used to open narrow or blocked arteries. A thin tube, called a catheter, with a non-inflated balloon at the end is threaded inside the narrowed artery. The balloon is inflated to widen the artery. Next the balloon is deflated and the catheter is withdrawn.

The stent is a cylindrically shaped wire mesh tube that is placed in the narrowed artery through a catheter. There the stent expands, and it is left in place opened, keeping the diseased artery open.

If a large portion of the artery is narrow, it may be necessary to perform bypass surgery. A vein from another part of the body is taken or a synthetic blood vessel is used. It is connected above and below the blocked area to bypass the blood, avoiding the blocked area of the artery.