Peripheral Vascular Disease
(PVD; PAD; Arteriosclerosis Obliterans; Atherosclerosis; Peripheral Vascular Arterial Disease)

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En Español (Spanish Version)
More InDepth Information on This Condition

Related Media: Understanding Arterial Plaque

Definition

Peripheral vascular disease (PVD) is a general term for disease of any blood vessel that is not part of the heart or brain. The arterial form, usually referred to as PAD, is caused by deposits of fatty material (atheroma) in arteries of the legs. Since arteries carry oxygen-rich blood to the cells of the body, restriction of this blood flow can cause bodily organs to fail.

This is a potentially serious condition that requires care from your doctor. The sooner PAD is treated, the more favorable the outcome. If you suspect you have this condition, contact your doctor.

Causes

PAD is usually caused by a gradual buildup of plaque within the arteries (atherosclerosis). Other causes include blood clots or embolisms, congenital heart disease, and inflammation of the blood vessels (vasculitis).

Atherosclerosis

PAD can be hereditary. More commonly, you may get PAD if you are overweight or obese, or have high blood pressure, diabetes, or high cholesterol. Unhealthy lifestyle choices such as smoking, eating a high-fat diet, and not exercising enough frequently lead to PAD.
Risk Factors

The following factors increase your chance of developing PAD. If you have any of these risk factors, discuss them with your doctor:

- Diabetes
- Cigarette smoking
- High blood pressure (or family history)
- Coronary heart disease (or family history)
- Stroke (or family history)
- High cholesterol (or family history)
- Age over 50
- High homocysteine level in blood
- Gender: Male
- Family history of PAD

Symptoms

Symptoms of PAD are related to the organ or part of the body deprived of adequate circulation. This includes:

- Claudication—pain, fatigue, aching, tightness, weakness, cramping or tingling in the leg(s) brought on by exercise that goes away when resting, in mild disease
- Numbness and pain of the legs or feet at rest in more severe disease
- Cold hands, legs, or feet
- Loss of hair on the legs and/or feet at night
- Paleness or blueness of the legs
- Weak or absent pulse in the leg
- Sores, ulcer, or infection of the feet and legs that heal slowly
- Erectile dysfunction
- Swelling in lower extremities
- Muscle atrophy

Diagnosis

Your doctor will ask about your symptoms and medical history, and perform a physical exam. Tests may include the following:

- Checking the strength of the pulse in the leg arteries
- Listening for a whooshing sound in a leg artery or the abdomen using a stethoscope
- Ankle-brachial index—checking blood pressure at various points in the leg and comparing it to the normal arm blood pressure
- Blood tests for blood lipids, homocysteine, fasting blood sugar, hemoglobin A1C, oxidative stress marker (eg 8-iso-PGF 2 alpha)
- Treadmill test
- Ultrasound and doppler analysis of the arteries, especially the carotid arteries in the neck which supply the brain with blood
- Electrocardiogram (ECG, EKG) —a test that records the heart's activity by measuring electrical currents through the heart muscle
- Angiography of the arteries in the legs—x-rays of blood vessels that have been injected with a dye
- MRI —a test that uses magnetic waves to make pictures of the blood vessels
Treatment

Early treatment can slow or stop the advancement of the disease. Talk with your doctor about the best treatment plan for you. Treatment options include the following:

Lifestyle Changes

- Smoking cessation
- Diabetes control
- Blood pressure control
- Increased physical activity (e.g., walking program)
- Weight loss if overweight
- Low-saturated fat, low-cholesterol diet
- Attentive foot care (very important for people with diabetes)
  - Shoes that fit properly
  - Proper treatment of all foot injuries—healing is slowed when circulation is poor, and the risk of infection is higher

Medication

- Antiplatelet agent, such as aspirin and clopidogrel to thin your blood
- Medicines to reduce leg pain (e.g., pentoxifylline)
- Medicines to help improve walking distance (cilostazol, simvastatin)
- Cholesterol-lowering agents (statins)
- Medicines to enlarge or dilate the affected arteries

Invasive Procedures

- Balloon angioplasty—a balloon is inflated in the artery to stretch it
- Stent implant—a wire mesh tube is placed in the artery; the stent expands and stays in place, keeping the artery open
- Laser treatment
- Atherectomy

Surgery

Surgery to open up narrowed arteries is performed in severe cases.

- Endarterectomy—the lining of the artery is removed
- Bypass surgery—a vein from another part of the body or a synthetic graft replaces the vessel

If you are diagnosed with PAD, follow your doctor’s instructions.

Prevention

To help reduce your chances of getting PAD, make the lifestyle changes listed above under treatment.

RESOURCES:

Family Doctor
http://familydoctor.org/

Vascular Disease Foundation
http://www.VDF.org/
REFERENCES:


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