



Hyperlipidemia

Hyperlipidemia

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Hyperlipidemia is an umbrella term that refers to any of several acquired or genetic disorders that result in a high level of lipids (fats, cholesterol and triglycerides) circulating in the blood. These lipids can enter the walls of arteries and increase your risk of developing atherosclerosis (hardening of the arteries), which can lead to stroke, heart attack and the need to amputate. The risk of atherosclerosis is higher if you smoke, or if you have or develop diabetes, high blood pressure and kidney failure.

EXTREMELY COMMON

More than 3 million people have this genetic disorder in the United States and Europe. It is extremely common for those who live in developed countries and follow a Western high-fat diet.

TREATABLE, USUALLY LIFE-LONG

Hyperlipidemia is usually chronic, requiring ongoing statin medication to control blood lipid levels.

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Symptoms

Elevated blood lipid levels alone do not cause symptoms, except with pancreatitis (a painful inflammation of the pancreas).

Symptoms develop from the development of atherosclerosis (hardening of the arteries)

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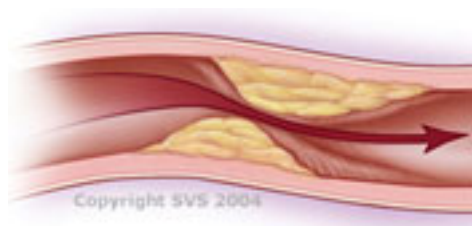
ANGINA AND HEART ATTACKS if arteries to the heart narrow.

STROKE SYMPTOMS if arteries to the brain narrow.

PAIN WITH WALKING AND GANGRENE if arteries to the legs narrow, which can lead to amputation .

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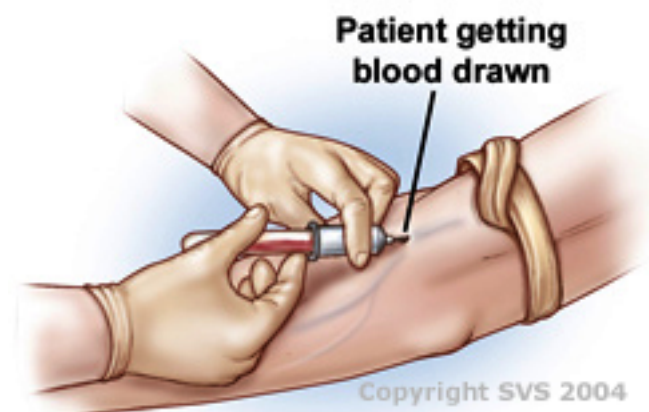
Causes



Hyperlipidemia is most commonly associated with high-fat diets, a sedentary lifestyle, obesity and diabetes.

There are also genetic causes. Familial hypercholesterolemia, one form of hyperlipidemia, is the most common dominantly inherited genetic disorder in humans worldwide. It results from mutations in genes involving proteins in a form of cholesterol called low-density lipoprotein cholesterol (LDL cholesterol) that can lead to early-onset atherosclerosis .

Diagnosis



A blood test that analyzes lipid levels is traditionally performed after an overnight fast. Results are usually reported as levels of LDL cholesterol (normal range <130mg/dL); VLDL (very low density lipoprotein) cholesterol (normal range <31mg/dL); HDL (high density lipoprotein) cholesterol (normal

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range >40 mg/dL); as well as total cholesterol (normal range <200mg/dL), of which all non-HDL cholesterol should be <130mg/dL.

The non-HDL cholesterol, particularly LDL and VLDL cholesterol, are the so-called "bad" cholesterol which increase the risk for atherosclerosis .

Treatments

Treatment should begin with exercise, weight loss, a low-fat diet and, if applicable, diabetes management. In most cases, though, more is needed.

ORAL MEDICATION

Anti-cholesterol medications (statins) taken orally, usually once a day, are extremely effective in lowering LDL and VLDL cholesterol levels. Success is monitored by period blood tests.

The most common side effects leading to stopping of a statin medication are intolerable muscle and joint aches. There are multiple FDA-approved statins, so trying a different one is usually suggested before giving up due to side effects. Statins may induce diabetes and cognitive dysfunction, risks that are far outweighed by the benefits of decreased morbidity and mortality from cardiovascular disease.

INJECTIONS

If statins don't work for you, due to side effects or insufficient results, ask your physician about protein convertase subtilisin/kexin type 9 (PCSK9) inhibitors. PCSK9 inhibitors appear to lower cholesterol levels 60% more than statins. While promising, these drugs are taken by injection, not orally, and can be very expensive. They are not yet recommended as first-line treatment for most people with hyperlipidemia, but may be suitable for some.

MECHANICAL APPROACH

In very stubborn cases, a mechanical cleansing of blood of lipids, called plasmapheresis, can help. This is an unusual treatment approach.

Staying Healthy

You cannot do much about your genes. If your hyperlipidemia is acquired, not inherited:

- Get regular aerobic exercise.
- Follow a low-fat diet.
- Maintain a normal weight and body mass index (a measure of body fat) less than 25.

Resources

Atherosclerosis

Stroke

Statins save lives after surgery

Find a vascular specialist near you