



E-ISSN: 2709-9385

P-ISSN: 2709-9377

JCRFS 2020; 1(1): 34-36

© 2020 JCRFS

www.foodresearchjournal.com

Received: 06-11-2019

Accepted: 09-12-2019

Shruti Singh

Department of Food Nutrition and Public Health, Ethelind College of Home Science, SHUATS, Prayagraj, Uttar Pradesh, India.

Dr. Virginia Paul

Department of Food Nutrition and Public Health, Ethelind College of Home Science, SHUATS, Prayagraj, Uttar Pradesh, India.

Correspondence

Shruti Singh

Department of Food Nutrition and Public Health, Ethelind College of Home Science, SHUATS, Prayagraj, Uttar Pradesh, India.

Information about Hyperlipidemia

Shruti Singh and Virginia Paul

Abstract

Hyperlipidemia is abnormally high levels of fats in the blood. The two major types of lipids found in the blood are triglycerides and cholesterol. In the United States, more than 100 million, or roughly 53% of adults, have elevated LDL-C levels. Yet, fewer than 50% of patients with high LDL-C receive treatment to reduce their levels. A heart healthy diet includes minimizing the intake of saturated fat, trans fats, and dietary cholesterol, and consuming a variety of whole fruits and vegetables, plenty of fiber, lots of water, and whole grain foods. People who are overweight or have obesity are also at greater risk of developing hyperlipidemia and heart disease. Doctors screen for hyperlipidemia using a lipid profile blood test.

Keywords: Hyperlipidemia, triglycerides, cholesterol, atherosclerosis

Introduction

Hyperlipidemia is a medical term for abnormally high levels of fats (lipids) in the blood. The two major types of lipids found in the blood are triglycerides and cholesterol. Triglycerides are made when your body stores the extra calories it doesn't need for energy. They also come directly from your diet in foods such as red meat and whole-fat dairy. A diet high in refined sugar, fructose, and alcohol raises triglycerides. Cholesterol is produced naturally in your liver because every cell in your body uses it. Similar to triglycerides, cholesterol is also found in fatty foods like eggs, red meat, and cheese. Hyperlipidemia is more commonly known as high cholesterol. Although high cholesterol can be inherited, it's more often the result of unhealthy lifestyle choices.

Epidemiology

In the United States, more than 100 million, or roughly 53% of adults, have elevated LDL-C levels. Yet, fewer than 50% of patients with high LDL-C receive treatment to reduce their levels, and among those receiving treatment, fewer than 35% achieve adequate control. Further, approximately 31 million American adults have total cholesterol levels that exceed 240 mg/dL, placing them at about twice the risk of ASCVD compared to those with total cholesterol levels that are at goal.

Classification of hyperlipidemia

Primary Type I

Type I hyperlipidemia is quite uncommon according to "Harrison's Principles of Internal Medicine" by Anthony S Fauci. It is also called familial hyperchylomicronemia and Buerger-Gruetz syndrome. This disorder causes high chylomicrons, the proteins that carry fat from the intestine to the liver. It can cause abdominal pain, pancreatitis, fat deposits in the skin and eyes and a large liver and spleen. Treatment involves eating a healthy diet.

Primary Type II

Type II hyperlipidemia is divided into type IIa and type IIb. Type IIa is also known as familial hypercholesterolemia and type IIb is also known as familial combined hyperlipidemia. Type IIa results in high LDL, or "bad" cholesterol, levels. Type IIa also raises levels of LDL, as well as a similar lipoprotein, VLDL, which results in elevated fat levels in the blood. These conditions cause fat deposits under the skin and around the eyes, and are treated medically and with dietary control.

Primary Type III

Type III hyperlipidemia is an uncommon disorder also known as familial dysbetalipoproteinemia, remnant removal disease or broad-beta disease.

It results in high levels of LDL and carries a very significant risk of heart disease. It is treated with medicine and diet.

Primary Type IV

Type IV is also known as familial hyperlipidemia. Cholesterol levels tend to be normal and fat is elevated in the blood as VLDL levels are elevated. It is also treated with medicines and proper diet.

Primary Type V

Type V is another rare type that is characterized by elevated chylomicrons and VLDL. It is also known as endogenous hypertriglyceridemia. The LDL level is typically low. High fat levels in the blood can cause pancreatitis. The causes of

Hyperlipidemia include

- Genetic factors: Doctors refer to this as primary hyperlipidemia. A person inherits this type from their parents.
- Poor diet and other factors: Doctors refer to this as secondary hyperlipidemia.

Other risk factors include

- excessive alcohol consumption
- obesity
- taking medications, such as hormones or steroids
- diabetes
- metabolic syndrome
- long term kidney disease
- premature menopause
- an underactive thyroid gland, or hypothyroidism
- pregnancy
- sedentary lifestyle

Usually, people with hyperlipidemia do not experience any symptoms. However, those with familial, or inherited hyperlipidemia, may develop yellow, fatty growths around the eyes or joints.

- A doctor usually detects hyperlipidemia during a routine blood test or following a cardiovascular event, such as a heart attack or stroke.
- An excessive buildup of fat over time can cause atherosclerosis. This is when plaques develop on the walls of the arteries and blood vessels and narrow the openings. This can lead to unstable blood flow through the vessels and can greatly increase the risk of heart disease and stroke.
- Lifestyle and dietary options are an important way to prevent and treat hyperlipidemia.
- Options include eating a "heart-healthy" diet, taking regular exercise, not smoking, and maintaining a healthy body weight.

Diet

A heart healthy diet includes minimizing the intake of saturated fat, trans fats, and dietary cholesterol, and consuming a variety of whole fruits and vegetables, plenty of fiber, lots of water, and whole grain foods.

- People should try to restrict or eliminate fast foods, high carbohydrate foods, and any processed foods or foods that do not offer good nutritional value.
- Fish, nuts, and legumes contain "healthful fats" so can provide benefits for people who need to reduce their LDL cholesterol levels. When using oil, choose olive

oil, or another oil rich in monounsaturated fats.

Weight

Closing weight can help a person reduce LDL, total cholesterol, and triglyceride levels. It can also boost HDL, which helps to remove the LDL from the blood.

Physical activity

- A lack of physical activity is another risk factor for heart disease.
- Regular exercise and activity help a person reduce LDL, raise HDL, and encourage weight loss.
- The American Heart Association recommend people do 150 minutes of moderately intense physical activity every week.
- Here, learn more about exercise.

Not smoking

- Smoking triggers many problems that contribute to heart disease.
- It promotes atherosclerosis, increases LDL levels, and encourages inflammation and the formation of blood clots.
- Quitting smoking will result in higher HDL levels. This may be one reason why the risk of cardiovascular disease (CVD) decreases after a person stops smoking.
- A person with hyperlipidemia can reduce the risk of cardiovascular problems later in life by strictly following the diet and treatment plan recommended by their doctors.
- Find out the best ways to quit smoking today.

Treatment

- Self-management of hyperlipidemia through a balanced diet and regular physical activity may help a person reduce levels of lipoproteins in their blood.
- However, genetics also determine cholesterol levels, so a healthful lifestyle may not always be enough to reduce cholesterol. Some individuals might require medications.
- Typically, doctors prescribe statins, such as simvastatin, lovastatin, atorvastatin, and rosuvastatin, for reducing cholesterol. These medications decrease the amount of cholesterol the liver produces.
- Statins can cause side effects, including muscle pain. The muscle pain is usually harmless, but in rare cases, statins can cause muscle damage or breakdown.
- Anyone who finds the pain hard to tolerate should talk to their doctor before stopping taking the drugs. It is essential to balance the risk of a cardiovascular event against the risk of side effects before stopping treatment with statins.
- People whose cholesterol levels do not reach their desired target after taking statins may need higher doses of statin medications or additional medications. Other non-statin medications include ezetimibe and, less commonly, fibrates or niacin.
- New guidelines suggest PCSK9 inhibitors are also available, such as evolocumab (Repatha).
- PCSK9 inhibitors can be expensive, so a doctor should take this into account before prescribing them. However, the guidelines recommend a lower price for these medications to allow specific populations access to the drug.

- This includes people with inherited hyperlipidemia who may not otherwise be able to take the medicine they need or those who have had a heart attack and cannot achieve their LDL goal with other drugs.

Diagnosis

- Doctors screen for hyperlipidemia using a lipid profile blood test.
- It is usually a fasting test. This means that a person should refrain from eating or drinking anything for 9–12 hours before the test. However, new guidelines are less strict about fasting, so check with your doctor whether you need to fast before the test.
- A recent guideline update advised that parents can choose for their children to have a cholesterol screening from 2 years of age if they have a family history of high cholesterol or heart disease.
- Most children should undergo a screening between 9–11 years of age and 17–21 years of age.

References

1. Marcin J, Osborn CO. What you should know about hyperlipidemia. Health line, 2017.
2. Fox M. Classifications of Hyperlipidemia. Live strong.com.
3. Kolhi P, Davis K. What to know about hyperlipidemia. Medical news today, 2019.
4. Mozaffarian D, Benjamin EJ, Go AS. Heart disease and stroke statistics. A report from the American Heart Association. Circulation. 2016; 133(4):e38-e360.