ISSN 0017 - 8861

Estd 1923

Health

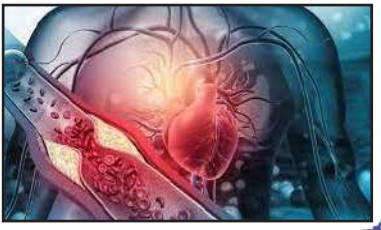
A JOURNAL DEVOTED TO HEALTHFUL LIVING

Email: admin@theantiseptic.in
subscription@theantiseptic.in

www.theantiseptic.in

Vol. 102 • No. 02 FEBRUARY 2024 ₹ 20

Understanding Cholesterol and Hypertriglyceridemia: Navigating the Path to Heart Health



Medicinal Plant Series - 10
Nigella sativa [nig-s.]

UNDERSTANDING CHOLESTEROL AND HYPERTRIGLYCERIDEMIA: NAVIGATING THE PATH TO HEART HEALTH

Embarking on the journey to cardiovascular wellness involves understanding the intricate dynamics of cholesterol and triglycerides. These essential components, both produced by the body and influenced by dietary choices, play a pivotal role in shaping heart health.

Cholesterol, often considered a double-edged sword, serves crucial functions in cell development, nerve protection, vitamin synthesis, and hormone production. However, an imbalance, especially with high levels of low-density lipoprotein (LDL) cholesterol, can pose serious threats to the cardiovascular system.

In this exploration, we unravel the mysteries of LDL, the 'bad' cholesterol, and HDL, the 'good' cholesterol, shedding light on the impact of dietary habits on their delicate equilibrium. We navigate through common foods that elevate cholesterol levels, unveiling surprising culprits that might be undermining heart health.

Moreover, we delve into the realm of hypertriglyceridemia, deciphering the role of triglycerides in energy storage and metabolism. Lifestyle modifications take centre stage as we explore the influence of weight management, dietary choices, and reduced alcohol consumption in maintaining healthy triglyceride levels.

As we unravel the complexities of lipid metabolism, our goal is not merely to inform but to empower individuals to make conscious decisions for their cardiovascular well-being. The choices made today echo in the vitality of tomorrows, making it imperative to navigate this intricate landscape with wisdom and informed choices. Welcome to the voyage of cardiovascular wellness – where knowledge becomes the compass for a heart-healthy life.

What Is Cholesterol?

Your liver makes a waxy substance called cholesterol. It helps your body build cells, protect your nerve cells, make vitamins, and produce hormones. Your body can also get cholesterol from animal-based foods like dairy, meat, and eggs.

There are two main types of cholesterol — high-density lipoprotein (HDL) and low-density lipoprotein (LDL) cholesterol.

- LDL cholesterol is also called bad cholesterol. High levels of LDL cholesterol can negatively impact your health by increasing your risk of heart problems or stroke.
- HDL cholesterol is known as good cholesterol. It carries the bad cholesterol from your blood to the liver and gets rid of it. HDL cholesterol protects your body from health problems.

Why Is High Cholesterol Bad for You?

Cholesterol flows through your blood. High LDL cholesterol levels can form plaque buildup on the walls of your blood vessels. This blocks your blood vessels and prevents healthy blood circulation. It can affect your heart and increase your risk of heart problems or stroke.

LDL cholesterol levels can increase due to risk factors such as smoking, high blood pressure, diabetes, or a high-fat diet. Your body contains fats known as triglycerides. High triglycerides with high LDL and low HDL cholesterol levels can increase the chances of plaque buildup in your blood vessels.

Also, eating foods with saturated fats can increase your blood cholesterol levels. Saturated fats are unhealthy fats that are solid at room temperature. These fats increase the levels of LDL cholesterol in your blood. High LDL cholesterol levels can result in blockages in blood vessels, heart problems, or stroke.

The American Heart Association suggests that only 5% to 6% of your calories should come from saturated fats in your diet.

10 Surprising Foods That May Raise Your Cholesterol

To maintain your cholesterol levels, you should reduce the amount of saturated fats in your diet. You may be surprised that many commonly eaten foods are high in saturated fats. They can increase your harmful cholesterol levels, which can have adverse health effects.

The following ten foods are worst for cholesterol:

1. Chocolate and Chocolate Spreads

Commercially available chocolate spreads contain added sugar and a lot of saturated fats. Milk and white chocolate also have high levels of saturated fats. They are bad for cholesterol.

Don't forget to check the label before you buy chocolates and chocolate spreads. Meanwhile, dark chocolate can be a better alternative to satisfy your sweet tooth.

2. Cheese

Cheese is high in saturated fats, especially those made with whole milk. Though a small portion of cheese isn't harmful, overeating can increase cholesterol levels.

3. Coconut Oil

Made up of almost 90% saturated fats, coconut oil can be worse than butter or lard. Coconut oil is known to increase both HDL and LDL levels. Too much coconut oil can be unhealthy for your heart.

More research is needed to study the effects of coconut oil on cholesterol levels. Until then, use coconut oil sparingly in your diet.

4. Liver and Offal

Offal or organ meats like the liver are excellent sources of nutrients, but their cholesterol content is exceptionally high. Beef liver, lamb liver, kidney, and heart have high saturated fats and cholesterol levels. If you're trying to reduce your cholesterol, avoid eating liver or other offal.

5. Fried Fast Food

Deep-fried fast foods like french fries or fried chicken contain saturated fats, salt, and high calories. They are bad for your cholesterol levels. Regular and high consumption of fried fast food can reduce your HDL cholesterol and increase LDL cholesterol levels. Limit your intake of fast food to maintain healthy cholesterol levels.

6. Butter and Lard

Animal fats like butter and lard contain high amounts of saturated fat, which can increase your harmful cholesterol levels.

Replace butter with healthy vegetable oils like olive oil.

7. Red Meat

Red meat like beef and lamb is high in saturated fats and cholesterol.

Choose lean meats like chicken or alternative protein sources if you're trying to decrease your cholesterol levels.

8. Processed Meat

Processed meats like bacon or sausages are high in salt and fat. Canned, salted, smoked, dried, or cured meats are also high in saturated fats, which can increase your harmful cholesterol levels.

Foods like salami, ham, corned beef, and beef jerky can be bad for you if you are trying to reduce your cholesterol.

9. Cream

Heavy cream made with whole milk is usually loaded with saturated fats. Commercially available whipped cream can also be sour for you. Along with high calories, it can give you high cholesterol levels.

10. Packaged Foods

Packaged snacks and sweets like chips, donuts, cakes, biscuits, and cookies have high saturated fats and calories. Eating a lot of these regularly can drastically increase your cholesterol levels.

Foods That Lower Your Cholesterol

Instead of consuming high-fat and cholesterol-rich foods, try adding the following to your diet to maintain your cholesterol levels:

- Foods like vegetables and fruits that are rich in fiber
- Whole-grain foods like bread or noodles
- Legumes such as chickpeas and lentils for protein
- Nuts and seeds that contain good fats
- Healthy cooking oils like olive, canola, sunflower, or soybean
- Low-fat or skim milk and dairy products like cheese or yogurt
- Lean meats like chicken without fat or skin
- Seafood like oysters, mussels, or clams

Hypertriglyceridemia

Triglycerides (TGL) are formed by the esterification of a glycerol molecule and three fatty acids, the latter providing the energy reserve. Dietary TGLs are transported from the alimentary tract as chylomicrons (CM) (containing TGL, Cholesterol esters, phospholipids, and also lipoproteins); the liver also synthesizes TGL-Containing lipoproteins, known as the very

low-density lipoproteins (VLDL). CM and VLDL differ in their apolipoproteins (CM: Apo -B 48, VLDL: Apo B 100).

Lipoprotein lipase (LPL) hydrolyses TGL and releases free fatty acids (FFAs) for energy generation in muscle adipose tissue and is transported back to the liver for reprocessing into VLDL. Apolipoproteins regulate LPL. Apo C 11 activates, and ApoC111 inhibits LPL.

VLDL synthesized in the liver exchanges some of its TGL for cholesterol esters found in high-density lipoprotein (HDL) using cholesterol-ester transfer protein (CETP) to become an intermediate-density lipoprotein (IDL). LPL hydrolyzes IDL to become VLDL. A hepatic enzyme triglyceride lipase (HTGL) aids in removing TGL remnants from the blood.

Thus, the enzymes LPL, CETP, and HTGL, which have a genetic coding, regulate TGL.

TGL 150-199 mg/dl are considered borderline high, 200-499 mg/dl are considered high, and more than 500 mg /dl are considered very high. TGL values are influenced by dietary intake. Hence, some advocate the measurement of non-fasting TGL, which should be less than 200 mg/dl in ordinary people.

Most cases of mild and moderate hypertriglyceridemia present asymptomatically. Background conditions like obesity, hypertension, and insulin resistance cells for estimations of lipids, including TGL. Only very high levels of TGL above 1000 mg/ dl show physical findings like eruptive xanthomas on the extensor surfaces of arms and legs, lower back and buttocks and, rarely, lipid infiltration of retrails, usually called lipemia retinalis.

Familial combined hyperlipidemia (FCHL) is the most common genetic cause. Familial hypertriglyceridemia (FHTG) (due to VLDL overproduction and reduced clearance) is a modest increase in TGL 200-500 mg/dl with relatively normal LDL. Alcoholism and estrogens are exacerbating factors. FHTG does not manifest until adulthood.

Hypertriglyceridemia is strongly associated with metabolic syndrome (abdominal obesity, low HDL, hypertension, and low blood sugar).

Triglycerides may be an independent risk factor for cardiovascular disease. The

intermediate breakdown products of TGL metabolism, referred to as TGL remnants, may be involved in atherosclerosis.

All patients with an increase in TGL should be advised a lifestyle modification (same as for insulin resistance and metabolic syndrome), namely weight loss, limitation in the use of refined sugar and refined carbohydrates, and following a diet rich in vegetables, fruits, and unsaturated fatty acids) and reduction in alcohol consumption. Drug therapy involves statins, fish oils, niacin, ezetimibe fenofibrate saroglitazar, and several new drugs in the trial stages, targeting the influencing mechanisms such as Apo C 111.

Conclusion

In understanding hypertriglyceridemia, we delve into the intricate interplay of lipoproteins, enzymes, and genetic factors that regulate triglyceride levels. Recognizing the significance of lifestyle modifications, we emphasize the pivotal role of individual choices in managing triglyceride levels and mitigating associated risks.

Transitioning to the realm of cholesterol, we unravel the dual nature of high-density lipoprotein (HDL) and low-density lipoprotein (LDL), illustrating their impact on cardiovascular health. The perils of high cholesterol levels are elucidated, emphasizing the dire consequences of plaque buildup and the importance of a balanced diet in cholesterol management.

As we uncover the surprising culprits in elevating cholesterol, a list of foods high in saturated fats emerges, serving as a guide for those seeking to make informed dietary choices. Conversely, we provide a roadmap to healthier eating habits, highlighting cholesterol-friendly alternatives that contribute to overall well-being.

In this exploration of lipid metabolism and dietary impacts, our aim is not just to inform but to empower individuals to make health-conscious decisions, fostering a harmonious balance between their lifestyles and cardiovascular health. Remember, your choices today shape the vitality of your tomorrows.

Dr. Sanjay Agrawal,
Leading Pharmaceutical Consultant and
Editor-in Chief of IJM Today
Post Graduation Diploma in Naturopathy and Yoga,
6/146, Malviya Nagar,
Jaipur -302017
Rajasthan