What are the health implications of low cholesterol?  [1]

Dear Alice,

What are the implications of low cholesterol? Mine has been running between 100 to 110 for several months. Do I have anything to worry about?

? Skinny

Answer

Dear Skinny,

You?re very health savvy to be monitoring your cholesterol levels. Cholesterol [2] is a lipid, or fat, in the blood that plays a critical role in physiological functions and overall health. The standard ?total cholesterol? count is really just the number of molecules of high-density lipoproteins [3] (HDL), low-density lipoprotein [4] (LDL), and 20 percent of your triglyceride [5] level. High total cholesterol is clearly linked to an increased risk of cardiovascular disease, which is why there?ts often a lot of talk about health concerns surrounding high cholesterol levels. With that in mind, a low total cholesterol level is usually better than a high one. But, having very low levels of LDL or a very low total cholesterol level has also been associated with some health concerns. Studies have shown some health implications associated with hypolipodemia ? which is just a fancy name for LDL levels less than 50 milligrams/deciliter (mg/dL) or a total cholesterol level less than 120 mg/dL ? but, more on that later. It?ts not clear from your question which type of cholesterol you?re concerned about, but read on for more information on hypolipodemia.

Typically, the goal is to strive for low LDL or a low total cholesterol level, because this is usually associated with healthy individuals. Research has shown that as LDL numbers decrease, so does the risk for conditions like heart disease and cancer. However, even people with low LDL levels can be at risk for coronary heart disease based on other factors such as age, gender, smoking status, family history, low HDL levels, high triglycerides, and other pre-existing conditions like hypertension [6] and diabetes [7]. When LDL and total cholesterol numbers get too low, that?ts when hypolipodemia may be a concern.

The causes of hypolipodemia are split up into primary and secondary causes. The primary causes are very uncommon and consist of three disorders in which genetic mutation(s) may be the culprit behind an underproduction of LDL. The first is abetoproteinalipodemia [8], a rare, inherited disorder with symptoms that often manifest in infancy. It affects fat metabolism and results in malabsorption of dietary fat and some essential vitamins. This condition may also
produce a wide range of symptoms that impact the gastrointestinal tract, neurological system, eyes, and blood. The second primary cause is family hypobetalipoproteinemia \[9\] (FHBL). This inherited disorder affects the body's ability to absorb and transport fats and fat soluble vitamins - such as vitamin A and E. This inability to absorb fat may result in excess fat in feces and, among children, an inability to grow or gain weight at the expected rate. Issues or complications from FHBL can range from mild to severe. The third and last primary cause is chylomicron retention disease \[10\]. Chylomicron retention disease is characterized by the inability to make chylomicrons - lipoproteins that move cholesterol and triglycerides from the small intestine to tissues after eating - and symptoms are very similar to those of abetoproteinalipodemia. Some folks with these conditions may be advised to supplement their diet with fats, vitamin E, and other vitamins.

Secondary causes of hypolipodemia are much more common and treatment involves treating the underlying disorders, which include:

- Hyperthyroidism \[11\]
- Chronic infections (including hepatitis C \[12\] infection) and other inflammatory conditions
- Hematologic and other cancers
- Undernutrition (including undernutrition accompanying chronic alcohol use)
- Malabsorption

_List adapted from the Merck Manual \[13\]._

Additionally, some studies looking at people with anxiety, depression, preterm birth and low birth weight, and hemorrhagic stroke tend to find low LDL as a common factor. However, experts aren't sure whether it's the cholesterol levels that may cause the conditions or if it's the other way around.

Skinny, there are also a few other factors you may want to consider before jumping to any conclusions. If you're testing your cholesterol levels at home, as opposed to in a medical setting, the results may vary depending on the test you're using. And, it's great that you're keeping an eye on your cholesterol levels but keep in mind that they're just one of many factors to consider when taking a look at your overall health. If you're concerned about your low cholesterol levels or any health issues that may be causing it, it may be helpful to get speak with your health care provider to figure out if anything else is going on.

Alice!

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