



JOYFUL LIVING SERVICES

Treating Triglycerides

Fat travels in the blood in two forms. One is cholesterol. This is a structural fat; it glues cells together, insulates nerves, and provides raw material for making hormones. But fat also travels as energy packages. These are called triglycerides - transformed butter and dietary oils circulating in the blood. Triglycerides have a cholesterol coating.

A "normal" triglyceride level is considered to be 40-180 mg/dL. A high blood fat level, also known as hypertriglyceridemia, is usually caused by an increase in stress hormone (cytokine) levels. The stressor is uncontrolled infection. While the upper limit of normal is 250 mg/dL, cytokines can kick triglyceride levels up to 750 or 1000. In this scenario, fat is circulating in the blood but not being burned up as fuel as it should. Even higher triglyceride numbers (1200-2000) are seen in people taking protease inhibitors, especially Norvir/Ritonavir.

A triglyceride count in the 250-750 range used to cause a bit of a stir in medicine, because levels this high over a number of years increase the risk of heart disease. Because of the close relationship between triglycerides and cholesterol, the higher risk is from elevated blood/serum cholesterol levels. AIDS patients usually have low cholesterol levels, so a sudden increase may be related to a triglyceride problem.

Triglyceride levels greater than 750 mg/dL take on a bigger significance due to their risk of causing inflammation of the pancreas (pancreatitis). In this condition, pancreatic enzymes begin to digest the pancreas itself; researchers are not sure what causes pancreatitis, but it may lead to kidney failure, ARDS (acute respiratory distress syndrome), coma, or multisystem organ failure. Many AIDS care physicians mention that they have patients with high triglycerides whom they are "watching". Are they watching daily, weekly, or monthly, and what good does watching do? At worst they may watch high triglycerides provoke pancreatitis. Stop watching (or being watched) and start treating.

Classic dietary treatment for high triglycerides is to reduce dietary fat to 20%-25% of total calories. A person living on 2500 calories may have to limit themselves to 53-67 fat grams per day. Olive oil is the best tolerated dietary fat for triglyceride watchers. Eating a high fiber diet, i.e., more beans, bran cereals, fruit, and vegetables, can be of some help. Two doses a day of psyllium can lower triglyceride levels. Simple white sugar in the diet, such as candy and sodas, might need a little trimming too, since sugar (and alcohol) calories can turn to fat when eaten in large quantities.

Aerobic exercise, something as simple as a 20-30 minute brisk walk (although 45 minutes would be better), can help lower triglyceride levels a few hundred points. The effect of weight training on triglycerides is less clear.

There are supplements and medicines that have a strong impact on high triglycerides. Lowering the high cytokine level is a good step. Cytokines rise because of the build-up of too many stray electrons - also known as oxidative stress. This can be affected by comprehensive antioxidant supplementation, including beta-carotene, Vitamins C and E, N-acetyl cysteine, and selenium. Interestingly, antioxidant supplements (especially selenium and sodium selenite) have a role in reducing recurrent pancreatitis and in stopping acute attacks.

Nature's Sunshine carries "Guggul Advantage" which supports the circulatory system and has been used to lower triglyceride levels. Soluble fiber dissolves completely in fluids and has the ability to lower cholesterol and triglyceride levels, lower blood pressure, help to normalize blood sugars, and help with the excretion of fats include psyllium hulls which are 80% soluble (oat bran is 15-30% soluble), LOULO which is the most soluble fiber mixture available from Nature's Sunshine, and Fat Grabbers which contain psyllium hulls, guar gum, chickweed, and lecithin which help with the elimination and emulsification of fat.

Supplemental fish oils, providing 5-9 grams per day of omega-3 fatty acids, are helpful according to some studies and poster sessions. Nature's Sunshine carries flax seed oil which is high in the essential fatty acids. People with AIDS often have low platelet levels (a condition called thrombocytopenia), placing them at risk for poor blood clotting. Fish oils can also change blood clotting rates, increasing the risk of undesirable, spontaneous bleeding. Therefore, people with AIDS must use fish oils with caution.

Another treatment, according to a few small studies and a lot of anecdotal reports, is L-carnitine. Its function is to help fats pass through certain parts of cells (the mitochondria) so that the fats can be used for fuel. Effective doses range from 2-6 grams per day: the higher dose was used in a two-week study that wanted to show rapid results. Two or three grams a day is a more normal dose. There are reports of diarrhea at 4 grams per day. Of note: in the study using 6 grams per day, several subjects who had high levels of the cytokine TNF-alpha saw them drop to normal.

Carnitine is an amino acid, found plentifully in beef, but not so much in chicken and fish. It is also produced in the body, from lysine, methionine, and vitamin C. But methionine is used up in cysteine production, and cysteine levels are often low when fighting HIV infection. AZT is also known to inhibit carnitine synthesis. There is a prescription form of L-Carnitine, Carnitor, indicated for use in "failure to thrive".

Clinics using high doses of the B-vitamin niacin to lower triglyceride levels are also known. This was traditional cholesterol treatment for years. As niacin may affect the circulatory system, dosages can be ramped up from 500 mg per day to help the body adjust. But liver enzyme levels should be watched on high-dose niacin.

Gemfibrozil/Lopid is commonly used to treat high triglyceride levels in heart patients, and is equally effective under these circumstances. The "statin" drugs (such as Mevacor), which block cholesterol production in the liver, are not appropriate here. They may be contraindicated with some protease inhibitors.

You've made it through PCP, multiple rises and falls in CD4 counts, and are now doing great on a triple drug mix. Don't let a treatable condition land you in intensive care with pancreatitis. Treat hypertriglyceridemia.