Inositol Hexaniacinate

Nicotinic acid, which is better known as niacin or vitamin B3, is used by the body in the process of releasing energy from carbohydrates. It is needed to form fat from carbohydrates and to process alcohol. Vitamin B3 comes in two basic forms - niacin (also called nicotinic acid) and niacinamide (also called nicotinamide). The niacin form of vitamin B3 also regulates cholesterol, though niacinamide does not. A variation on niacin, called inositol hexaniacinate, is also available in supplements. Since it has not been linked with any of the usual niacin toxicity in scientific research, some doctors recommend inositol hexaniacinate for people who need large amounts of niacin.

There are many scientific studies showing that high doses of nicotinic acid (1.5-2 gm/day) are tremendously effective at positively influencing blood lipids. It raises levels of HDL (the "good" cholesterol) while lowering levels of LDL (the "bad" cholesterol) and triglycerides (also "bad"). High doses have been shown to increase HDL by 30% or more, which can make a significant improvement in your cardiovascular health.

As good as it is, though, nicotinic acid has certain drawbacks including headaches, reduced glucose tolerance, and elevated liver enzymes. The most common, however, is the "niacin flush" in which your skin gets warm, and red, and itchy for a few minutes after you take your dose. The flush is caused by a transient dilation of peripheral blood vessels due to a large release of histamine. It is annoying and uncomfortable but harmless, and if you continue to take nicotinic acid, you soon adapt to it and rarely experience it again even at high doses. But many people find the flush so unpleasant that they stop taking niacin, or they take doses that are too low to be effective.

A chemical cousin of nicotinic acid called inositol hexanicotinate (IHN) may be at least as effective in normalizing blood lipid levels, and it doesn't cause a flush. Although many people are just now becoming aware of IHN as a means of controlling cholesterol, it has actually been around for a long time in Europe for treating diseases of the peripheral circulation like intermittent claudication and Raynaud's syndrome.

What is IHN?

Be sure not to confuse IHN with "timed-released" or "sustained-release" niacin. These formulations are simply niacin packaged to dissolve more slowly and hence, be released more slowly into the blood stream. Although sustained-release niacin formulations usually do what they promise, they have been associated with an increased risk of liver toxicity.

Chemically, a molecule of IHN is simply six molecules of niacin attached to a single molecule of inositol. When it enters the body, IHN is broken down into its component parts, releasing niacin into the blood stream. Here it is free to perform its well-known anticholesterolemic act, which includes inhibited lipolysis, improved peripheral glucose utilization, and reduced levels of glycoalyisis products in serum. The addition of inositol, however, seems to slow the metabolism of the nicotinate molecules. This has two important beneficial effects:

- It prevents the flush that typically occurs with the rapid introduction of high doses of niacin, and
- It extends the anticholesterolemic effect of the niacin over a longer period of time. In one study, it took 10 hours before the maximum effect of an intravenous dose was reached.
Supporting Research

Studies showing that IHN improves lipid profiles date back as far as the early 1960s.\textsuperscript{11,12,13} In human subjects, IHN has been shown by two research groups to produce a reduction in cholesterol that was even more profound than that produced by niacin.\textsuperscript{11,14} In a clinical study conducted in Germany, IHN was compared with niacin and other nicotinic acid derivatives for their ability to control free fatty acid levels overnight. IHN, but not niacin, was found to be capable of producing a significant reduction in free fatty acids during the entire night. The authors suggested that IHN should be a good choice for producing a prolonged reduction in blood lipids.\textsuperscript{15}

Since virtually all the work on IHN has been carried out and published in Europe, it is not well-known in the United States. Nevertheless, the experience that has been gained in these studies suggests that it is a safe and effective alternative to niacin and does not cause the flush that many people find so unpleasant.

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