



Dynamic Chiropractic – November 22, 1991, Vol. 09, Issue 24

Study Shows Niacin-Bound Chromium Reduces Cholesterol

By Stephen R. Summey, DC, FACO, CCSP

A new study has shown that a niacin-bound chromium supplement can significantly lower serum cholesterol. The evidence offers encouragement to nutrition advocates who seek alternatives to America's fixation with pharmaceuticals.

Working with 34 male athletes at Auburn University, Robert Lefavi, Ph.D., found that simply adding a niacin-bound chromium supplement to their diet significantly lowered serum cholesterol by an average of 14 percent. This translates into a 28 percent decrease in heart attack risk. Additionally, the ratio of protective high-density lipoproteins (HDL) to total cholesterol, an important indicator of cardiac risk, improved by seven percent. Besides the supplement, no other changes were made in either diet or physical activity.

The blind, placebo-controlled study was announced at the 1991 meeting of the Federation of American Societies for Experimental Biology. Dr. Lefavi is very encouraged by the results, perhaps all the more so because his subjects had moderate cholesterol levels to begin with. Supplementing with dietary chromium may be "an effective alternative to conventional drug therapy for reducing cholesterol levels in some people," Lefavi suggests.

The chromium supplement that Lefavi used in his study is unique, having received a U.S. patent for its ability to lower blood lipids, including cholesterol. This form of niacin-bound chromium is found as an ingredient in vitamin/mineral supplements sold in health food stores and through suppliers to the chiropractic profession.

An essential trace mineral, chromium is required in the human diet in minute amounts. The National Research Council recommends 50 to 200 micrograms of chromium daily as the safe and adequate intake. Even so, most Americans are probably deficient in chromium: A U.S. Department of Agriculture study found that nine out of ten Americans are receiving less than the minimum suggested amount. Food processing methods that remove most of the chromium from foods are at fault. But even the most

concentrated natural sources of chromium -- brewer's yeast, wheat germ, liver, and black pepper -- contain inadequate amounts of chromium for most people. To compound the problem, eating sugary foods promotes chromium depletion from the body, which is also exacerbated by diabetes, stress, physical exercise, and pregnancy.

The primary physiological role of chromium is to potentiate the effects of insulin. This was discovered over 30 years ago by U.S. Department of Agriculture (USDA) researcher Dr. Walter Mertz, who identified a niacin-bound chromium cofactor to insulin, which he called glucose tolerance factor, or GTF chromium. With a central role in glucose metabolism, chromium nutrition affects energy levels as well as fat and protein metabolism. A chromium deficiency can lead to hypoglycemia, maturity-onset (Type II) diabetes, and elevated cholesterol -- a major cardiovascular risk factor.

Since chromium levels are known to decrease with age, while heart and blood sugar problems tend to rise, mounting evidence suggests that a chromium supplement could be beneficial for many people, particularly in light of the deficiency that occurs in the American diet.

Currently, niacin is the most widely prescribed treatment for elevated cholesterol. However, the megadoses necessary to obtain benefits (500 mg to 4500 mg) are known to cause side effects including skin flushing, gout, and liver damage.

Studies have shown that chromium and niacin work synergistically, and together, can reduce cholesterol at doses that avoid niacin's side effects. The chromium supplement used in the Auburn study contained less than 2 mg of niacin, a level which effectively eliminates niacin's side effects altogether.

Now serving as Director of Research for the Health and Human Performance Laboratory at Georgia Southern University, Dr. Lefavi's plans to expand his research on niacin-bound chromium to include candidates for cardiovascular disease. Meanwhile, considering the relationship between chromium deficiency and cardiovascular disease, the lack of chromium in the American diet, and Dr. Lefavi's new research data, recommending a niacin-bound chromium supplement to patients with cholesterol problems, may be a prudent step in achieving total health, as part of a program with regular exercise and a low-fat, high-fiber diet.

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[IMAGE]

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