

News

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****Diabetics need special treatment for
high cholesterol and triglycerides

Controlling high blood lipids in patients with non-insulin-dependent diabetes mellitus (NIDDM) requires special treatment. According to an article in the February issue of Diabetes Care, the current recommendations of the National Cholesterol Education Program for detecting, evaluating and treating high cholesterol in non-diabetics may be inadequate or even harmful for people with NIDDM.

Abhimanyu Garg, M.D., assistant professor of clinical nutrition and internal medicine, and Scott Grundy, M.D., Ph.D., director of the Center for Human Nutrition at The University of Texas Southwestern Medical Center at Dallas, wrote the article for Diabetes Care, published by the American Diabetes Association for physicians who treat diabetes. In it they suggested ways to adapt the guidelines of the National Institutes of Health's National Cholesterol Education Program (NCEP) for the treatment of patients with NIDDM.

"The most frequent cause of death among adult-onset diabetics is coronary heart disease," Grundy said. "They are also twice as likely as non-diabetics to have abnormal blood lipids, which contribute to heart disease."

Lipids, which include cholesterol and triglycerides, are fats derived from food or produced within the body itself. They are carried through the bloodstream in protein-covered particles called lipoproteins. Low-density lipoprotein (LDL) contains mostly cholesterol. LDL is the "bad cholesterol" because it is found in the plaque that clogs arteries. Very-low-density lipoprotein (VLDL) contains a high proportion of triglycerides and is converted to LDL after triglycerides are removed. High-density lipoprotein (HDL)

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is considered the "good cholesterol" because it is thought to help carry cholesterol out of the body. LDL, VLDL and HDL are the elements included in a total cholesterol count.

"I think it is safer to consider both VLDL and LDL -- all the non-HDL cholesterol -- in deciding whether NIDDM patients are at risk of developing heart disease because VLDL as well as LDL appear to be atherogenic for them," Garg said.

"Although many patients with NIDDM may not appear to have high LDL, this may be because their triglycerides are high in proportion to total cholesterol, which can cause a spuriously low LDL figure due to the formula commonly used to calculate LDL. Furthermore, even moderate elevations in LDL may contribute to coronary heart disease in NIDDM patients," Garg added.

Grundy and Garg make the following recommendations to physicians for adapting the NCEP guidelines for patients with NIDDM:

- * Cholesterol-lowering treatment should target both VLDL and LDL cholesterol -- in other words, all non-HDL cholesterol -- instead of LDL alone.

- * The goal for maximum non-HDL (VLDL plus LDL) cholesterol should be 160 milligrams per deciliter (mg/dl). This would be consistent with an LDL cholesterol level of 130 mg/dl and a total cholesterol under 200 mg/dl.

- * Dietary treatment to lower lipids should be tried first in conjunction with insulin or oral anti-diabetic drugs. If the lipids are high because of a genetic condition, then diet plus lipid-lowering drugs may be necessary initially.

- * Treatment through diet should replace saturated fats with monounsaturates rather than carbohydrates, especially for people who have high triglycerides, because a high carbohydrate diet can raise triglycerides. They also recommend such a diet for people with low HDL, for the elderly and for pregnant women with diabetes mellitus.

- * Weight reduction is especially important in obese diabetics, but gradual weight loss with three meals a day and careful monitoring of glucose is recommended. Exercise is suggested, but it should be consistent with the person's physical ability.

- * Drug treatment for high blood lipids in NIDDM is different from

treatment for non-diabetics. For high cholesterol and moderately high triglycerides, lovastatin is preferred over bile acid sequestrants because the latter may raise triglycerides. Gemfibrozil seems a better choice than lovastatin only for NIDDM patients with very high triglycerides, Garg and Grundy say. Nicotinic acid, which is one of the first drugs of choice according to the NCEP guidelines for non-diabetics, has an adverse effect on glucose control and is not recommended for NIDDM patients.

Grundy was on the National Institutes of Health committee that formulated the National Cholesterol Education Program. Garg has published studies on diets for diabetic patients, based on research at the Dallas Veterans Administration Medical Center and the N.I.H.-supported General Clinical Research Center at UT Southwestern.

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Note: The University of Texas Southwestern Medical Center at Dallas comprises Southwestern Medical School, Southwestern Graduate School of Biomedical Sciences and Southwestern Allied Health Sciences School.