

SOUTHWESTERN NEWS

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STUDY SHOWS DRUG LOWERS CHOLESTEROL IN DIABETICS, IMPROVES DIABETES CONTROL

DALLAS — September 15, 1994 — Patients with diabetes are at high risk for heart disease, in part because of elevated cholesterol levels. Now, because of a study done at The University of Texas Southwestern Medical Center at Dallas, doctors may have another option for treating these high-risk patients.

Dr. Abhimanyu Garg, associate professor of internal medicine, and Dr. Scott M. Grundy, director of UT Southwestern's Center for Human Nutrition, found that the drug cholestyramine is safe and effective for lowering cholesterol in patients with adult-onset (type II) diabetes. The drug also had the unexpected benefit of improving diabetes control. Their study appears in the Sept. 15 issue of *Annals of Internal Medicine*.

"Diabetes is a well-known risk factor for heart disease," Garg said. "Diabetics have at least two to three times higher rates of coronary heart disease than nondiabetics." Part of the risk is because of diabetics' increased cholesterol problems. "All diabetics should be candidates for active intervention as a high-risk group," Garg said.

Cholestyramine has been used for several decades for reducing cholesterol in patients without diabetes, but Garg said this study was the first to test the drug on diabetics under controlled conditions. The drug has not been used previously in diabetics because it has been known to raise triglyceride levels, and diabetics are likely to have triglyceride abnormalities. "But only about 25 percent of diabetics have high triglyceride levels; the majority of diabetics under good glucose control have normal triglyceride levels," Garg said.

The researchers studied 21 patients, all of whom had well-controlled adult-onset diabetes, normal triglyceride levels and high levels of low-density

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lipoprotein (LDL) cholesterol, the so-called "bad" cholesterol. After a five-day base-line period of study in the metabolic ward at the Dallas Department of Veterans Affairs Medical Center, patients were given either a placebo or cholestyramine for six weeks and were evaluated for another five days during the last week in the metabolic ward. Thereafter, patients who had been receiving the placebo received cholestyramine, and vice versa, for another six weeks, followed again by a five-day evaluation period. Neither researchers nor patients knew whether they were receiving the placebo or cholestyramine.

Compared with the placebo, cholestyramine reduced LDL cholesterol by an average of 28 percent. The drug did raise triglycerides by an average of 13.5 percent, but Garg said that increase was not clinically disturbing.

The surprising result of the study was that cholestyramine improved diabetes control. It lowered mean plasma glucose by 13 percent, reduced urinary glucose excretion and lowered glycosylated hemoglobin concentration.

Before this study, reductase inhibitors, such as lovastatin, were recommended for lowering cholesterol in diabetic patients. "This study tells us we have a choice now," Garg said. "Diabetics who are controlling their blood glucose levels very well and who do not have high triglycerides can use either bile-acid-binding resins like cholestyramine or statins."

Cholestyramine is especially beneficial for diabetics who have kidney disease or liver abnormalities. Because the drug remains in the intestinal tract and does not enter the bloodstream, it doesn't affect the kidneys or the liver.

Garg said it is important for physicians to look beyond simply controlling glucose levels when treating patients with diabetes. "The major killer of diabetics is coronary heart disease, so we believe physicians should not only target glucose but also lipid levels in order to prevent complications," he said.

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