Reduce Carbs or Lose Weight to Lower Cholesterol

BY SHERRY BOSCHERT
San Francisco Bureau

SAN FRANCISCO — Reducing dietary carbohydrates can improve atherogenic dyslipidemia, even in the absence of weight loss, Dr. Ronald M. Krauss said at a meeting on diabetes and endocrinology sponsored by the University of California, San Francisco.

Weight loss also improves dyslipidemia, mainly in people who have not already limited carbohydrates. For patients already restricting carbohydrates, weight loss offers little additional benefit to their lipid profiles, said Dr. Krauss, director of atherosclerosis research at Children's Hospital Oakland (Calif.) Research Institute.

To take the reduced-carbohydrate path, focus on avoiding high-glycemic starches and fructose.

DR. KRAUSS

To take the reduced-carbohydrate path, focus on avoiding high-glycemic starches and fructose, he advised.

He and his associates randomized 178 otherwise healthy overweight or obese men to one of four diets: one based on standard dietary recommendations (made up of 54% carbohydrates, 30% fat, and 16% protein), a diet with moderate carbohydrate reduction (to 39%), or one of two low (26%)-carbohydrate diets. To keep calorie levels the same initially, the researchers increased protein intake to 29% of the reduced-carbohydrate diet, and in the lowest carbohydrate diets increased either saturated or monounsaturated fat intake.

After 3 weeks ("which is enough to stabilize lipids with no weight change," he said), they found a linear relationship between greater carbohydrate restriction and a change in the type of LDL cholesterol (Am. J. Clin. Nutr. 2006;83:1025-31). Carbohydrate restriction converted men from phenotype B individuals (who had dense, small-diameter LDL particles that confer higher atherogenic risk) to phenotype A (with medium-to-large-diameter LDL that's less risky).

Investigators then restricted calories, and patients in all groups lost similar amounts of weight. The type of diet "didn't make any difference as long as they learned to eat less," he said. Lipid levels improved with weight loss, but less so in the low-carbohydrate groups that already had shown improvements.

The only significant reductions in LDL levels were seen with the low-carbohydrate, low-saturated-fat diet. "This is certainly the most effective diet in terms of LDL lowering that we've seen just by manipulating fat," he added.

The reductions in small LDL particles from lowering carbohydrate intake were independent of saturated fat intake. Higher saturated fat intake did not attenuate the lipid benefits of lowering carbohydrates. Saturated fat intake "doesn't make it any worse. That's provocative, but that's what we found," he said.

Previous studies of the lipid effects of low-carbohydrate diets didn't control for the effects of weight loss.

"You can get there either way. If you want to get the optimal result, you can either lose weight or you can drop carbohydrates. If you drop carbohydrates, it may not be as critical how much weight you lose," Dr. Krauss said.

Other studies are attempting to replicate the findings. A recent study randomized dyslipidemic patients to one of four diets for 1 year: the severely low-carbohydrate Atkins diet, the more moderately carbohydrate-restricted Zone diet, a diet based on standard dietary recommendations, or the low-fat, high-carbohydrate Ornish diet.

The four groups had similar success in losing weight. Patients on the Atkins diet had somewhat better changes in body mass index, compared with the other groups, and profoundly better effects on lipid profiles, notably increases in HDL cholesterol and decreases in triglyceride levels (JAMA 2007;297:969-77).

Changes in the different types of LDL cholesterol were not measured in this cohort, but "there's just no doubt this would correspond to the same sort of changes we had seen," Dr. Krauss said.

The most effective diet probably will be one that patients are able to maintain, he added. "In the end, that will be the biggest test of whether or not this works." ■