Very-Low-Carb Diet Curbed Metabolic Syndrome

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NEW YORK — A very-low-carbohydrate diet was effective at raising serum levels of HDL cholesterol, lowering triglyceride levels, and producing weight loss in overweight patients with metabolic syndrome in a controlled study with 27 patients.

The beneficial effects on lipid measures of a very-low-carbohydrate diet was as good or better than single-drug therapy, Cassandra E. Forsythe said at an international symposium on triglycerides and HDL.

A low-carbohydrate, high-fat diet may be an option for selected patients. A low-fat diet is not the only good approach anymore, commented Samuel Klein, M.D., the William H. Danforth Professor of Medicine and Nutritional Science at Washington University, St. Louis.

Ms. Forsythe and her associates at the University of Connecticut in Storrs randomized a total of 40 patients, who were overweight, had metabolic syndrome, and were aged 18-55 years, to either of two diets.

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The first was a very-low-carbohydrate diet in which 5%-10% of total calories came from carbohydrates, 65%-70% of calories came from fat, and 20%-25% of calories came from protein.

The second was a low-fat diet in which 55%-60% of calories came from carbohydrates, 25%-30% of calories came from fat, and 15%-20% of calories came from protein. The study was designed to last 12 weeks.

Ms. Forsythe reported results for 11 patients who have so far completed the 12 weeks on the low-fat diet and for 16 patients who completed the low-carbohydrate diet.

After 12 weeks, serum levels of HDL cholesterol rose by an average of 14% from baseline in the patients on the low-carbohydrate diet, compared with an average 3% drop among those on the low-fat diet, said Ms. Forsythe, who works in the departments of nutrition and kinesiology at the University of Connecticut.

Serum triglyceride levels fell by a mean of 52% among patients on the low-carbohydrate diet, compared with an average 11% drop among those on the low-fat diet.

Weight loss was also greater in patients on the low-carbohydrate diet. On average, they lost 9.2 kg, compared with a mean drop of 5.5 kg in patients on the low-fat diet.

Serum level of LDL cholesterol was the only measure by which the low-carbohydrate diet underperformed the comparator.

LDL cholesterol rose by an average of 6% from baseline among patients on the low-carbohydrate diet, compared with a mean 5% drop among those on the low-fat diet.

But the low-carbohydrate diet led to an increase in the average size of LDL particles and produced a less atherogenic pattern of LDL particles compared with the low-fat diet, said Ms. Forsythe at the symposium, which was sponsored by the Giovanni Lorenzini Medical Foundation.

Patients had no problems staying on the low-carbohydrate diet, and they were pleased with their weight loss, she said. ■

Average Change in Serum Lipid Measures at 12 Weeks

	Low-carbohydrate diet (n = 16)	Low-fat diet (n = 11)
HDL cholesterol	+14%	–3%
Triglycerides	–52%	–11%
LDL cholesterol	+6%	–5%

Source: Ms. Forsythe