A Low-Carbohydrate Diet in Overweight Patients Undergoing Stable Statin Therapy Raises High-Density Lipoprotein and Lowers Triglycerides Substantially

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Summary

Background: A low-carbohydrate diet remains controversial, especially in patients with arteriosclerotic heart disease.

Hypothesis: This study was undertaken to evaluate the effect of a low-carbohydrate diet on the lipid levels in obese patients with known arteriosclerotic heart disease on chronic statin therapy.

Methods: Thirty-eight overweight patients with angiographically documented arteriosclerotic heart disease were followed in a private cardiology practice setting. All patients were undergoing stable statin therapy. Patients received a 15-min consultation and a 4-page pamphlet explaining a low-carbohydrate diet; no other diet instruction was given. Patients were followed weekly for 2 weeks, then monthly for 3 months, then every third month. A fasting finger stick lipid panel (cholesterol, high-density and low-density lipoprotein [HDL/LDL], triglycerides, and glucose) was obtained with each visit and patients were weighed in street clothes.

Results: The 38 patients were followed for an average of 11.8 months (range 6–22 months). Average body mass index declined from 33.5 kg/m² before to 27.9 kg/m² at the end of the study. Weight loss averaged 31 lbs (range 16–107 lbs). Triglyceride levels were lowered by 29.5%, HDL raised by 17.6%, and cholesterol decreased by 8.4%. The cholesterol/HDL ratio changed from 5.31 to 3.78 and LDL cholesterol decreased by 5%.

Conclusion: The addition of a low-carbohydrate diet for overweight patients with known coronary artery disease undergoing stable statin therapy causes significant weight loss and a favorable change in the lipid panel.

Key words: low-carbohydrate diet, statins, arteriosclerotic heart disease, lipids