

Arterial Function Deteriorates on Atkins Diet

BY NEIL OSTERWEIL

BOSTON — Proponents of the Atkins low-carbohydrate/high saturated fat diet say that you can have your steak and eat it, too, and still lose weight.

But the adverse metabolic consequences are too heavy a price to pay, Australian investigators reported at a symposium sponsored by the International Atherosclerosis Society.

After 1 year, overweight and obese patients randomly assigned to the Atkins diet or to a low-saturated-fat, high-carbohydrate diet lost similar amounts of weight. But patients on the Atkins diet had a deterioration in flow-mediated arterial dilatation, a marker for cardiovascular disease, and higher levels of LDL cholesterol than at baseline, reported Dr. Peter Clifton of the Commonwealth Scientific and Industrial Research Orga-

nization in Adelaide, South Australia.

“What I really want to know is, does the early elevation of HDL, which has been shown convincingly [with the Atkins diet], and lowering of triglycerides plus the lowering of blood pressure and glucose, outweigh the rise in LDL cholesterol that you see in some individuals in some studies?” said Dr. Clifton.

He and colleagues analyzed the effects of two diets on flow-mediated di-

latation (FMD), a measurement of the ability of blood vessels to dilate in response to increases in blood flow. FMD is reduced in both cardiovascular disease and diabetes, but whether it improves with significant weight loss is unclear; if so, it might be related to either decreases in glucose or in LDL, Dr. Clifton said.

The study’s aim was to evaluate the effects on markers of endothelial dysfunction and cardiovascular disease risk of a very-low-carbohydrate/high-saturated-fat diet, and an isocaloric high-carbohydrate/low-saturated-fat diet.

The outcomes were FMD and markers of endothelial dysfunction, including cellular adhesion molecules, inhibitors and promoters of fibrinolysis, adiponectin, glucose, insulin, C-reactive protein (CRP), lipids, and apolipoprotein B.

The study involved 70 men and women aged 16-60 years with body mass index be-

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The meat-heavy Atkins diet increased both HDL and LDL cholesterol.

tween 27 and 40 kg/m², and markers for the presence of the metabolic syndrome.

After 1 year, the 33 patients on the Atkins diet lost slightly more weight on average (14.5 kg), than did the 36 patients on the low-fat diet (11.5 kg), but this difference was not significant.

There was no diet-specific effect on blood pressure, glucose, insulin or CRP, but the Atkins diet was superior to the low-fat diet at decreasing triglycerides and increasing HDL. The Atkins diet also was associated with increases in LDL levels.

Overall, 49 patients (26 on the Atkins diet, 23 on the low-fat diet) underwent FMD assessment. Endothelial function decreased by almost half from baseline among patients in the Atkins diet, compared with no change among patients on the low-fat diet. “Overall, FMD deteriorated after 12 months on a high-saturated-fat Atkins diet, despite their fantastic weight loss and improvement in all those other things,” Dr. Clifton said. “Solely because the LDL increased, it outweighed all the other measures of weight loss. The other measures of endothelial function that we took actually improved except ICAM-1 on the Atkins diet, so there seems to be a separation of endothelial functions as expressed by nitric oxide and these other endothelial markers.

“This really calls into question that fantastic elevation of HDL [with the Atkins diet] as being a good thing or having anything much to do with cardiovascular health,” he added.

Dr. Clifton disclosed that he has coauthored diet books, but they do not include the information he presented. ■

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