Evidence on the overall impact of low-carbohydrate diets is insufficient for making general recommendations to patients seeking weight loss advice, according to the findings of a metaanalysis.

Based on a review of five randomized controlled trials comparing low-fat and low-carb diets, Dr. Alain J. Nordmann of the Basel (Switzerland) Institute for Clinical Epidemiology and his colleagues concluded that while low-carb diets lead to greater short-term weight loss, their effect on lipid levels and other cardiovascular risk factors appeared to be mixed.

Across all studies, the 222 participants in the low-carb diet groups were permitted a carbohydrate intake of no more than 60 g/day but had no calorie restrictions. The 225 participants in the low-fat diet groups were allowed no more than 30% of daily calories from fats, and those with a body mass index of 25 kg/m² or more had calorie restrictions (Arch. Intern. Med. 2006;166:285-93).

The 247 participants had a mean age range of 42-49 years. All five trials were unblinded. At 6 months' follow-up, patients on low-carbohydrate diets had lost more weight than those on low-fat diets and were more likely to have completed the trial than were their low-fat diet counterparts (weight ed mean difference −5.3 kg vs. −1.4 kg). The investigators also noted a trend toward lower systolic and diastolic blood pressure among low-carb dieters. In addition, compared with low-fat dieters, low-carb participants had better HDL and triglyceride levels. However, they also had less favorable total cholesterol and LDL cholesterol values.

Differences in weight loss between the groups diminished in the three studies with 12-month follow-up (weighted mean difference −3.5 kg vs. −1.5 kg). Also, the attrition advantage for the low-carb group had become statistically insignificant, and the low-carb group's blood pressure advantage over the low-fat group was no longer detectable.

Moreover, the low-fat dieters' more favorable serum LDL and total cholesterol profile remained favorable at the 12-month mark, as did their more favorable change in serum triglyceride, while the HDL level advantage seen at 6 months for the low-carb group was no longer definitive at 12 months. The authors concluded that "there is still insufficient evidence to make recommendations for or against low-carb diets, "especially for durations longer than 6 months."

It's uncertain whether the positive effects of a low-carb diet on HDL cholesterol and triglyceride levels outweigh its less favorable effects on serum LDL cholesterol levels, they said.

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The authors noted that, "in addition to the regression of the carotid lesion size, the lesion itself may be considered less atherogenic after pomegranate juice consumption, as its cholesterol and oxidized lipid content decreased, and since its ability to oxidize LDL was significantly reduced.

A group of California researchers including Dr. Dean Ornish also has been evaluating pomegranate juice in 45 patients with coronary heart disease and myocardial ischemia. Patients were randomized to receive 240 mL/day of pomegranate juice or a sports drink of similar caloric content, taste, and appearance. They were evaluated by single-photon emission computed tomographic imaging at rest and during pharmacologically induced stress testing at baseline and at 3 months, and the degree of inducible ischemia was calculated.

Myocardial perfusion improved by an average of 17% in the pomegranate group after 3 months, and worsened by an average of 18% in the control group, for a relative between-group difference of 35% (Am. J. Cardiol. 2005;96:810-4). Angina episodes decreased by 50% in the treatment group and increased by 38% in the control group.

The benefits were seen without any change in cardiac medications.

The investigators acknowledged that their sample size was small, but said that the clinically and statistically significant improvements seen "suggest that daily consumption of pomegranate juice may have important clinical benefits in this population."

—Nancy Walsh

Dallas — Is it better from the standpoint of cardiovascular risk to be fat and fit, or lean and unfit?

That's a question in the minds of many roly-poly regular exercisers and skinny couch potatoes who are contemplating a lifestyle change. And Dr. Charles B. Eaton provided the answer at the annual scientific sessions of the American Heart Association.

Young adults who are lean and have poor cardiopulmonary fitness have a coronary heart disease risk profile that is clearly better than that of overweight individuals with high fitness. But the best CHD risk factor profiles of all belong to individuals with high fitness and a normal body mass index (BMI), according to Dr. Eaton.

He analyzed cross-sectional data on a representative sample of 2,178 Americans aged 20-49 years who were included in the National Health and Nutrition Examination Survey for 1999-2002. Dr. Eaton categorized the subjects as having low, medium, or high cardiopulmonary fitness based upon their estimated VO2 max compared with age- and gender-specific norms. He further cross-stratified participants as normal-weight—meaning a body mass index of less than 25 kg/m²—overweight, or obese as defined by a BMI in excess of 30.

When Dr. Eaton plugged in data on each subject's total cholesterol, HDL, blood glucose, and insulin levels, as well as insulin resistance and systolic blood pressure, the composite CHD risk factor profile that came down the hypothesis that fat but fit is better than lean but unfit.