Low-fat, high-carbohydrate diets and risk factors for ischemic heart disease

Dear Sir:

Jeppesen et al (1) "question the wisdom of recommending that postmenopausal women consume low-fat, high-carbohydrate diets" because of adverse metabolic changes that "would increase the risk of ischemic heart disease . . . ." In fact, their data suggest only that the isoenergetic substitution of dietary fat (mostly unsaturated) for carbohydrate results in increased insulin resistance, higher fasting triacylglycerols, and lower high-density-lipoprotein cholesterol. These observations are of little clinical utility because they appear to be largely due to a self-fulfilling experimental design. In the real world few people follow a diet with a prescribed amount of energy in the long run if the energy prescription requires them to consume less (or more) energy than their appetites demand (2). Indeed, attempts to keep weight off by eating less than the body demands may be the initial step in the etiology of most eating disorders (3).

It has been shown that under ad libitum conditions, increasing the percentage of energy from fat by adding fat to very-low-fat foods results in increased energy intake and weight gain (4). Many studies comparing the metabolic effects of a low-fat diet with those of a moderate-fat (primarily monounsaturated) diet have shown adverse metabolic effects similar to those observed by Jeppesen et al (1). However, these adverse metabolic effects associated with a low-fat diet have been shown to largely disappear when the higher-carbohydrate diet was fed ad libitum instead of isoenergetically (5, 6). Indeed, 24-h serum triacylglycerols were lower and low-density-lipoprotein cholesterol significantly lower with the low- compared with the moderate-fat diet when both diets were fed ad libitum (5). In addition, much of the drop in high-density-lipoprotein cholesterol was mitigated with the ad libitum compared with the isoenergetic low-fat diet (5, 6).

It has been shown that over a 12-y period, increased adiposity is a significant component in the deterioration in plasma lipid profiles (7). If clinicians want to see favorable long-term effects on their patient's blood lipids, they may be better advised to encourage them to eat a very-low-fat, nearly vegetarian diet. This type of diet has been shown not only to promote weight loss but also regression of atherosclerosis (8). Perhaps more importantly, a very-low-fat, high-carbohydrate diet was found to not only reduce deaths from ischemic heart disease but also to reduce all-cause mortality over a 12-y period in a group of older men and women known to be at high risk for cardiovascular disease (9). Similar beneficial results have not been shown for diets with a higher fat content. Until such time that superior clinical benefits can be shown with a diet higher in fat, it seems unwise to suggest that postmenopausal women (concerned about ischemic heart disease) consume more dietary fat and less carbohydrate-rich foods like fruits, vegetables, beans, and whole grains. Nevertheless, Jeppesen et al have some reason for concern if the high-carbohydrate foods chosen are highly refined or processed and consumed in sufficient quantity to prevent loss of body weight. Consumption of such high-carbohydrate foods has recently been associated with the development of non-insulin-dependent diabetes mellitus (10).

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REFERENCES