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Low-carb, higher-fat diets add no arterial health risks to obese people seeking to lose weight

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Overweight and obese people looking to drop some pounds and considering one of the popular low-carbohydrate diets, along with moderate exercise, need not worry that the higher proportion of fat in such a program compared to a low-fat, high-carb diet may harm their arteries, suggests a pair of new studies by heart and vascular researchers at Johns Hopkins.

"Overweight and obese people appear to really have options when choosing a weight-loss program, including a low-carb diet, and even if it means eating more fat," says the studies' lead investigator exercise physiologist Kerry Stewart, Ed.D.

Stewart, a professor of medicine and director of clinical and research exercise physiology at the Johns Hopkins University School of Medicine and its Heart and Vascular Institute, says his team's latest analysis is believed to be the first direct comparison of either kind of diet on the effects to vascular health, using the real-life context of 46 people trying to lose weight through diet and moderate exercise. The research was prompted by concerns from people who wanted to include one of the low-carb, high-fat diets, such as Atkins, South Beach and Zone, as part of their weight-loss program, but were wary of the diets' higher fat content.

In the first study, scheduled to be presented June 3 at the annual meeting

of the American College of Sports Medicine in Denver, the Hopkins team studied 23 men and women, weighing on average 218 pounds and participating in a six-month weight-loss program that consisted of moderate aerobic exercise and lifting weights, plus a diet made up of no more than 30 percent of calories from carbs, such as pastas, breads and sugary fruits. As much as 40 percent of their diet was made up of fats coming from meat, dairy products and nuts. This low-carb group showed no change after shedding 10 pounds in two key measures of vascular health: finger tip tests of how fast the inner vessel lining in the arteries in the lower arm relaxes after blood flow has been constrained and restored in the upper arm (the so-called reactive hyperemia index of endothelial function), and the augmentation index, a pulse-wave analysis of arterial stiffness.

Low-carb dieters showed no harmful vascular changes, but also on average dropped 10 pounds in 45 days, compared to an equal number of study participants randomly assigned to a low-fat diet. The low-fat group, whose diets consisted of no more than 30 percent from fat and 55 percent from carbs, took on average nearly a month longer, or 70 days, to lose the same amount of weight.

"Our study should help allay the concerns that many people who need to lose weight have about choosing a low-carb diet instead of a low-fat one, and provide re-assurance that both types of diet are effective at weight loss and that a low-carb approach does not seem to pose any immediate risk to vascular health," says Stewart. "More people should be considering a low-carb diet as a good option," he adds.

Because the study findings were obtained within three months, Stewart says the effects of eating low-carb, higher-fat diets versus low-fat, high-carb options over a longer period of time remain unknown.

However, Stewart does contend that an over-emphasis on low-fat diets

has likely contributed to the obesity epidemic in the United States by encouraging an over-consumption of foods high in carbohydrates. He says high-carb foods are, in general, less filling, and people tend to get carried away with how much low-fat food they can eat. More than half of all American adults are estimated to be overweight, with a body mass index, or BMI, of 26 or higher; a third are considered to be obese, with a BMI of 30 or higher.

Stewart says the key to maintaining healthy blood vessels and vascular function seems – in particular, when moderate exercise is included -- less about the type of diet and more about maintaining a healthy body weight without an excessive amount of body fat.

Among the researchers' other key study findings, to be presented separately at the conference, was that consuming an extremely high-fat McDonald's breakfast meal, consisting of two English muffin sandwiches, one with egg and another with sausage, along with hash browns and a decaffeinated beverage, had no immediate or short-term impact on vascular health. Study participants' blood vessels were actually less stiff when tested four hours after the meal, while endothelial or blood vessel lining function remained normal.

Researchers added the McDonald's meal challenge immediately before the start of the six-month investigation to separate any immediate vascular effects from those to be observed in the longer study. They also wanted to see what happened when people ate a higher amount of fat in a single meal than recommended in national guidelines. Previous research had suggested that such a meal was harmful, but its negative findings could not be confirmed in the Johns Hopkins' analysis. The same meal challenge will be repeated at the end of the study, when it is expected that its participants will still have lost considerable weight, despite having eaten more than the recommended amount of fat.

"Even consuming a high-fat meal now and then does not seem to cause any immediate harm to the blood vessels," says Stewart. However, he strongly cautions against eating too many such meals because of their high salt and caloric content. He says this single meal -- at over 900 calories and 50 grams of fat -- is at least half the maximum daily fat intake recommended by the American Heart Association and nearly half the recommended average daily intake of about 2,000 calories for most adults.

All study participants were between the age of 30 and 65, and healthy, aside from being overweight or obese. Researchers say that in the first study, because people were monitored for the period they lost the same amount of weight, any observed vascular differences would be due to what they ate.

More information: www.acsmannualmeeting.org/

Provided by Johns Hopkins Medical Institutions