Dietary Oil Helps Weight Loss, Fat Mass Reduction

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COLORADO SPRINGS — Substituting moderate amounts of medium-chain triglycerides for other fats in a weight-loss program results in enhanced weight loss and a greater reduction in fat mass with no adverse impact on cardiovascular risk factors, according to the findings of a double-blind randomized trial.

"Medium-chain triglyceride oil can be safely advocated as an adjunct for weight loss in dietary management of overweight and obesity," Marie-Pierre St.-Onge, Ph.D., said at a conference sponsored by the American Heart Association.

In the 16-week study, 31 overweight patients consumed 10 g/day of either

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olive oil or medium-chain triglyceride (MCT) oil in m u f f i n s. Women in the study also consumed another 8 g/day of their assigned oil and the men consumed an additional 14 g/day. All of the subjects parti-

cipated in dieti-

tian-led weekly group weight-loss counseling sessions that stressed consumption of a low-energy-intensity diet, encouraged healthy eating patterns, and set a target energy intake of 1,500 kcal/day for the women and 1,800 kcal/day for the men. The study oils accounted for roughly 12% of participants' weight-loss energy prescription.

At 16 weeks, the MCT group had lost significantly more weight: an average of 3.2 kg, or 3.8% of their baseline body weight, compared with 1.7% in the olive oil group. The MCT group also had a 1.5% decrease in total fat mass as measured by CT scan, including a reduction in trunk fat mass in intra-abdominal adipose tissue; fat mass was unchanged in the comparison group, reported Dr. St.-Onge of Columbia University, New York.

There was no difference between the two groups in terms of change in waist circumference, lipid levels, or fasting glucose or insulin level after body weight was controlled for, she added.

Dr. St.-Onge explained that MCTs don't need to be repackaged into triglycerides and chylomicrons for transportation to the liver; they travel through the portal circulation, bypassing peripheral tissues. In contrast, long-chain triglycerides such as olive oil have to be repackaged and then travel throughout the peripheral circulation, where they can be deposited into adipose tissue before reaching the liver.

Studies in rats have shown that feeding MCTs to the animals resulted in smaller fat deposits and lower body weights than occurred in rats fed long-chain triglycerides. Moreover, Dr. St.-Onge's prior human studies demonstrated that controlled feeding of MCTs resulted in

greater energy expenditure and fat oxidation than were associated with long-chain triglycerides.

Some investigators have reported that MCTs appeared to worsen cardiovascular risk factors. However, they used far larger quantities of MCTs than in the randomized trial, suggesting there may be a doseresponse effect, with amounts used in the randomized trial being below the threshold for adverse effects, said Dr. St.-Onge.

Audience member Dr. Frank M. Sacks,

professor of medicine at Harvard Medical School, Boston, was troubled by the fact that cardiovascular risk factors in the MCT group didn't decline in Dr. St.-Onge's study in step with the weight loss. It raises the possibility that MCTs actually did have an adverse effect on cardiovascular risk factors that was counteracted by the slightly greater weight loss than with olive oil. He indicated that he would like to see longer-term results to put this concern to rest.

Other audience members had two pressing questions: How does MCT oil taste, and where can I get some?

Dr. St.-Onge replied that MCTs have a neutral flavor; study participants couldn't tell which group they were in. MCT oil can be found in health food stores or bought over the Internet.

The study was funded by the International Life Sciences Institute. Dr. St.-Onge reported having no financial conflicts of interest

