Butter leads to lower blood fats than olive oil

February 9 2010

High blood fat levels normally raise the cholesterol values in the blood, which in turn elevates the risk of atherosclerosis and heart attack. Now a new study from Lund University in Sweden shows that butter leads to considerably less elevation of blood fats after a meal compared with olive oil and a new type of canola and flaxseed oil. The difference was clear above all in men, whereas in women it was more marginal.

The main explanation for the relatively low increase of blood fat levels with butter is that about 20 percent of the fat in butter consists of short and medium-length fatty acids. These are used directly as energy and therefore never affect the blood fat level to any great extent. Health care uses these fatty acids with patients who have difficulty taking up nutrition - in other words, they are good fatty acids.

“A further explanation, which we are speculating about, is that intestinal cells prefer to store butter fat rather than long-chain fatty acids from vegetable oils. However, butter leads to a slightly higher content of free fatty acids in the blood, which is a burden on the body,” explains Julia Svensson, a doctoral candidate in Biotechnology and Nutrition at Lund University.

The greater difference in men is due to, among other things, hormones, the size of fat stores, and fundamental differences in metabolism between men and women, which was previously known. This situation complicates the testing of women, since they need to be tested during the same period in the menstruation cycle each time in order to yield reliable results.

“The findings provide a more nuanced picture of various dietary fats. Olive oil has been studied very thoroughly, and its benefits are often extolled. The fact that butter raises blood cholesterol in the long term is well known, whereas its short-term effects are not as well investigated. Olive oil is good, to be sure, but our findings indicate that different food fats can have different advantages,” emphasizes Julia Svensson.

“Finally, all fats have high energy content, and if you don’t burn what you ingest, your weight will go up, as will your risk of developing diseases in the long run,” she reminds us.

Here’s how the test was done: 19 women and 28 men participated in the study. Each individual ate three test meals containing canola-flaxseed oil, butter, or olive oil. The day before the test they had to fast after 9 p.m. The following morning a fasting blood sample was drawn to check their health status and all blood fats. The test meal consisted of the test fat mixed into hot cream of wheat, 1.5-% milk, blackberry jam, and a slice of bread with ham. The meal contained 35 g of test fat and about 810 Kcal. Blood samples were then drawn 1, 3, 5, and 7 h after the meal, and all blood fats were analyzed. The participants fasted during the day.

Julia Svensson is on parental leave until April. When she returns she will primarily finish studying how women react to various fats.

She and her colleagues will also be studying whether fats lead to varying degrees of satiety. What’s more, they will be evaluating parameters such as hormone status, exercise, waist measurement, and how the daily diet otherwise affects how the body takes up fat after a meal.

Source: Expertanswer