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High-fat diet lowered blood sugar and improved blood lipids in diabetics

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People with Type 2 diabetes are usually advised to keep a low-fat diet. Now, a study at Linköping University shows that food with a lot of fat and few carbohydrates could have a better effect on blood sugar levels and blood lipids.

The results of a two-year dietary study led by Hans Guldbrand, general practitioner, and Fredrik Nyström, professor of Internal Medicine, are being published in the prestigious journal *Diabetologia*. 61 patients were included in the study of Type 2, or adult-onset diabetes. They were randomized into two groups, where they followed either a low-carbohydrate (high fat) diet or a low-fat diet.

In both groups, the participants lost approximately 4 kg on average. In addition, a clear improvement in the glycaemic control was seen in the low-carbohydrate group after six months. Their average blood sugar level dropped from 58.5 to 53.7 mmol/mol (the unit for average blood glucose). This means that the intensity of the treatment for diabetes could also be reduced, and the amounts of insulin were lowered by 30%.

Despite the increased fat intake with a larger portion of saturated fatty acids, their lipoproteins did not get worse. Quite the contrary – the HDL, or 'good' cholesterol, content increased on the high fat diet.

No statistically certain improvements, either of the glycaemic controls or the lipoproteins, were seen in the low-fat group, despite the weight loss.

"You could ask yourself if it really is good to recommend a low-fat diet to patients with diabetes, if despite their weight loss they get neither better lipoproteins nor blood glucose levels," Nyström says.

In the low-carbohydrate diet, 50% of the energy came from fat, 20% from carbohydrates, and 30% from protein. For the low-fat group the distribution was 30% from fat, 55-60% from carbohydrates, and 10-15% from protein, which corresponds to the diet recommended by the Swedish National Food Agency.

The participants were recruited from two primary health care centres and met for four group meetings during the first year of the study. All 61 participants remained in the study for the follow-up.

"In contrast to most other studies of this type, we lost no patients at all, which vouches for the good quality of our data," Guldbrand says.

More information: In type 2 diabetes, randomisation to advice to follow a low-carbohydrate diet transiently improves glycaemic control compared with advice to follow a low-fat diet producing a similar weight loss by H. Guldbrand, B. Dizdar, B. Bunjaku, T. Lindström, M. Bachrach-Lindström, M. Fredriksson, C. J. Östgren and F. H. Nyström. Diabetologia online first 9 May 2012.

Provided by Linköping University

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