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Low-carb diet reduces inflammation and blood saturated fat in metabolic syndrome

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Metabolic syndrome is a condition afflicting one quarter to one third of adult men and women and is an established pre-cursor to diabetes, coronary heart disease, and other serious illnesses. Patients have long been advised to eat a low-fat diet even though carbohydrate restriction has been found to be more effective at reducing specific markers, such as high triglycerides, characteristic of the syndrome.

Now, a new study indicates that a diet low in carbohydrates is also more effective than a diet low in fat in reducing saturated fatty acids in the blood and reducing markers of inflammation.

While there have been contradictory and confusing messages directed at health conscious consumers about dietary recommendations, most researchers agree on the need to limit inflammatory agents. In a report published in the on-line version of the journal Lipids, researchers at the University of Connecticut with co-authors from SUNY Downstate Medical Center in Brooklyn, the University of Minnesota, and the University of California show much greater improvement in inflammatory markers in patients with metabolic syndrome on a very low carbohydrate approach compared to a low fat diet.

Lead researcher Jeff S. Volek, PhD, RD, associate professor of kinesiology at the University of Connecticut, describes the study as “adding to the evolving picture of improvement in general health beyond simple weight loss in keeping blood glucose and insulin under control.” The work is part of a larger study (currently under review) showing

numerous improvements in blood lipids. The current work concludes that “lowering total and saturated fat only had a small effect on circulating inflammatory markers whereas reducing carbohydrate led to considerably greater reductions in a number of pro-inflammatory cytokines, chemokines, and adhesion molecules. These data implicate dietary carbohydrate rather than fat as a more significant nutritional factor contributing to inflammatory processes.”

Richard Feinman, PhD, professor of biochemistry at SUNY Downstate Medical Center, adds, “The real importance of diets that lower carbohydrate content is that they are grounded in mechanism – carbohydrates stimulate insulin secretion which biases fat metabolism towards storage rather than oxidation. The inflammation results open a new aspect of the problem. From a practical standpoint, continued demonstrations that carbohydrate restriction is more beneficial than low fat could be good news to those wishing to forestall or manage the diseases associated with metabolic syndrome.”

One of the remarkable effects in the data presented that may have contributed to the results is that despite the three-fold greater saturated fat in the diet for the low carb group, saturated fat in the blood turned out to be higher in the low fat group due to the process known as carbohydrate-induced lipogenesis. Dr. Volek points out that “this clearly shows the limitations of the idea that ‘you are what you eat.’ Metabolism plays a big role. You are what your body does with what you eat.”

Source: SUNY Downstate Medical Center