

March 30th, 2011

Obesity is known to be an inflammatory state, and chronic inflammation in the colon is related to an increased risk of colorectal cancer. New research shows that weight loss reduces several markers of inflammation, which in turn reduces risk of colorectal cancer.

WEIGHT LOSS REDUCES RISK OF COLORECTAL CANCER

Epidemiologic data have shown that obesity independently increases colorectal cancer (CRC) risk, but the mechanisms are poorly understood. Obesity is an inflammatory state, and chronic colonic inflammation induces CRC.

Researchers recently analyzed evidence of obesity-related colorectal inflammation and the effects of diet-induced weight loss. Using mucosal biopsies, scientists measured several well-known markers of inflammation in obese premenopausal women before and after weight loss from a very-low-calorie diet.

Subjects in this study lost an average of 10.1% of their initial weight. Weight loss significantly reduced fasting blood glucose, total cholesterol, triglycerides, and LDL cholesterol. After weight loss, biopsies showed a 25–57% reduction in several important markers of inflammation, as well as a reduction in the activity of pro-inflammatory pathways and metabolism. Weight loss also reduced the expression of certain genes related to oxidative stress.

The results of this study show that diet-induced weight loss in obese individuals reduces colorectal inflammation and greatly modifies inflammatory and cancer-related gene pathways. These results suggest that obesity is accompanied by inflammation in the colorectal mucosa, and diet-induced weight loss reduces this inflammatory state and may thereby lower CRC risk.

Pendyala S, Neff LM, Suárez-Fariñas M, Holt PR. Diet-induced weight loss reduces colorectal inflammation: implications for colorectal carcinogenesis. *Am J Clin Nutr* February 2011 vol. 93 no. 2 234-242.