Diet induced weight loss associated with lower serum amyloid A and CRP in women

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Diet-induced weight loss in obese (but otherwise healthy) women is associated with lower levels of two inflammatory markers of cardiovascular disease risk: serum amyloid A and C-reactive protein, a University of Washington study reports.

"Elevated levels of serum amyloid A (SAA) and C-reactive protein (CRP) have been associated with increased cardiovascular risk. Although levels of CRP decrease with weight loss, it is not known whether SAA decreases with weight loss or whether dietary macronutrient composition affects levels of either SAA or CRP," wrote K.D. O'Brien and colleagues.

"SAA and CRP levels were measured retrospectively on baseline and 3-month plasma samples from 41 obese (mean body mass index 33.63±1.86 kg/m(2) women completing a randomized trial comparing a low-fat diet (n) and a very low-carbohydrate diet (n")," according to the researchers' report.

"For the 41 participants, there were significant decreases from baseline to 3 months in both logSAA (p=0.049) and logCRP (p=0.035). The very low-carbohydrate dieters had a significantly greater decrease in logSAA (p=0.04), but their weight loss also was significantly greater (-7.6±3.2 vs. -4.3±3.5 kg, p<0.01)," said O'Brien and associates.

"In this study, the decreases in inflammatory markers correlated significantly with weight loss (r=0.44, p=0.004 vs. logSAA and r=0.35, p=0.03 vs. logCRP). Also, change in logSAA correlated with change in insulin resistance (r=0.35, p=0.03).

"Thus, in otherwise healthy, obese women, weight loss was associated with significant decreases in both SAA and CRP," the researchers concluded. "These effects were proportional to the amount of weight lost but independent of dietary macronutrient composition."

O'Brien and coauthors published their study in the Journal of Clinical Endocrinology and Metabolism (Diet-induced weight loss is associated with decreases in plasma serum amyloid A and C-reactive protein independent of dietary macronutrient composition in obese subjects. J Clin Endocrinol Metab, 2005;90(4):2244-2249).

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