High Fiber May Cut Marker For Inflammation

By Stephen Daniells

3/15/2007- **High fiber intake, from the diet or from fiber supplements, significantly reduced levels of a protein that is associated with inflammation, diabetes and heart disease, say scientists, giving yet more support for high-fiber diets.**

C-reactive protein (CRP) is produced in the liver and is a known marker for inflammation. Increased levels of CRP are a good predictor for the onset of both type-2 diabetes and cardiovascular disease.

An estimated 19 million people are affected by diabetes in the EU 25, projected to increase to 26 million by 2030. CVD causes almost 50 per cent of deaths in Europe, and is reported to cost the EU economy an estimated €169 billion ($202 billion) per year.

"The results of the current study demonstrate that a diet high in fiber (near 30 g/d), whether achieved naturally or from supplement, can reduce levels of CRP," wrote lead author Dana King in the *Archives of Internal Medicine*.

"The findings indicate that modification of dietary fiber may be helpful in modulating inflammation to a certain degree."

The new randomized crossover intervention study, by researchers from the Medical University of South Carolina, included 35 subjects (average age 38.3, average BMI 28.4 kg per sq. m, 28 women) and assigned them to follow a high-fiber (30-g/d) Dietary Approaches to Stop Hypertension (DASH) diet or fiber-supplemented diet (30 g/d psyllium), after a consuming a baseline diet for three weeks.

Eighteen of the subjects were lean and with normal blood pressure (normotensive) and 17 were obese with elevated blood pressure (hypertensive).

King and coworkers report that, overall, mean CRP levels decreased by 13.7 percent as a result of consuming the high-fiber DASH diet and by 18.1 percent for the fiber-supplemented diet group.

When the lean normotensives and the obese hypertensives were considered separately, differences in the CRP response were observed, said the researchers. Indeed, CRP levels decreased by 30 and 40 percent for lean normotensives consuming the high-fiber DASH diet and the fiber-supplemented diets, respectively, while no significant change in CRP levels was observed for either diet.

"The result is surprising because many proposed mechanisms for how fiber affects CRP levels, such as modulation of metabolism in abdominal fat, would tend to be more pronounced in the obese participants rather than the lean individuals," wrote the researchers.

"The finding of less relative effect in obese individuals is somewhat disappointing because one would hope that the intervention would work best in the people who need it most, but this was not the case in the current study."

No effects on cholesterol or triglyceride levels were observed in either intervention groups.

The researchers noted several limitations with their study, including that the fiber supplement also contained magnesium, previously reported to reduce inflammation, and that the length of the intervention (three weeks) was also relatively short.

"Further research is needed to more clearly elucidate the differential effect seen in lean versus obese individuals and whether modification of dietary fiber may be helpful in modulating inflammation and its consequent cardiovascular consequences," they said.

Source: *Archives of Internal Medicine*
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"Effect of high-fiber diet vs a fiber-supplemented diet on C-reactive protein level"
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