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If You Ask The Right Question

Finally!

There have been so many negative reports about supplementation recently because the investigators asked the wrong questions. Someone has finally asked the right question.

Dr. Gladys Block and colleagues at UC Berkeley recentlypublished (Free Radical Biology and Medicine, 46: 70-77, 2009) a study on the effects of vitamin C supplementation on blood levels of something called C-reactive protein (CRP).

In case you didn't know CRP is a marker of inflammation and a number of studies have suggested that an elevated (> 1 mg/L) level of CRP in the blood is an independent risk factor for heart disease.

In fact, after a recent study called the JUPITER trial some cardiologists are recommending that people with elevated CRP be given a statin drug even if their cholesterol levels are normal.

This is why the study by Dr. Block and her colleagues is so significant.

They gave healthy, non-smoking adults (both men and women) with an average age of 44 either 1000 mg of vitamin C or placebo each day for two months and asked whether the vitamin C supplementation caused a significant reduction in CRP levels.

If they had just asked whether vitamin C reduced CRP levels in the total population group (the wrong question) you would have been reading about another negative study that showed supplementation didn't work.

But they were smart enough to ask the right question. They divided their study group into those who had elevated CRP levels and those whose CRP levels were normal.

For those people whose CRP levels were normal (and were, therefore, at low risk of heart disease according to their CRP levels), vitamin C had no effect on their CRP levels.

As Dr. Block observed those results were not particularly surprising. She said "Common sense suggests, and our study confirms, that biomarkers are only likely to be reduced if they are not already low."

However, in the group with CRP levels > 1 mg/L, vitamin C supplementation decreased CRP levels by 25% (34% if their CRP levels were > 2 mg/L).

In fact, for individuals with elevated CRP levels, vitamin C supplementation was just as effective at lowering CRP levels as statin drug treatment!

Dr. Block concluded by saying: "It has recently been suggested by some researchers that people with elevated CRP should be put on statins as a preventive measure. For people who have elevated CRP but do not have elevated LDL cholesterol, our data suggest that vitamin C should be investigated as an

alternative to statins,or as something to be used to delay the time when statin use becomes necessary."

In short, because she and her colleagues asked the right question we now know that vitamin C supplementation does make sense for people with elevated CRP levels rather than mistakenly assuming that vitamin C supplementation is worthless.

I do want to make the distinction here that elevated CRP is only one risk factor for heart disease and this study alone does not prove that vitamin C reduces the risk of heart attack or stroke.

However, this study is fully consistent with the Women's Health Study (Lee et al., JAMA, 294:56-65, 2005).

You may remember from one of my previous health newsletters that vitamin E supplementation did not decrease the risk of cardiovascular death, heart attack and stroke in the total population group studied and the headlines said "Vitamin E is ineffective at reducing heart attacks and stroke in women".

Yet when they looked at women who were over 65 (the ones actually at high risk for heart disease), vitamin E supplementation reduced cardiovascular deaths by 24%, heart attacks by 26% and strokes by 21%.

Dr. Block and her colleagues concluded that "[future] research on clinical benefits of antioxidants should limit participants to persons with elevations in the target biomarkers [risk factors]"

Now that is the right question!

To Your Health!

Dr. Stephen G Chaney