



January 8, 2011 – Anaheim, CA

Omega-3s in Diabetes

If you've read what I write for any length of time, you know that I believe we need omega-3 fatty acids. We can get them in our diet from fish, which provide EPA-DHA, and nuts which provide ALA. More than likely, we will take them in supplement form, but we need them every day. A recent study in the *New England Journal of Medicine* examined low-dose omega-3 intake and found omega-3s wanting in being protective against future cardiac events (1). But as you've grown to expect, there's more to this study than the scientists concluded, especially if you have diabetes.

The Study

Researchers recruited close to 5,000 subjects who had heart attacks during the previous 10 years from 32 hospitals in the Netherlands. Subjects were 60 to 80 years old at the beginning of the study and were followed for an average of 3.5 years. The researchers provided omega-3 fatty acids in margarine to the subjects during the follow-up period. Subjects received margarine without any omega-3s, margarine with an EPA-DHA blend of omega-3s, or margarine with ALA omega-3s only, which are plant-based omega-3s. The researchers wanted to see if there were any reductions in primary cardiac events, which included fatal and non-fatal cardiovascular disease and cardiac interventions such as stents and by-pass surgery. They also looked at secondary endpoints such as fatal and non-fatal deaths from any type of cardiovascular disease including fatal and non-fatal arrhythmias.

Based on the data collected, there didn't seem to be any reduction in cardiac events between the subjects that ate the placebo margarine and either of the other two types of margarines that included omega-3s. The exceptions were a non-significant reduction of 9% in CVD events in all subjects and a non-significant 27% reduction in events in women who used the margarine with ALA.

I have two observations about these results. First, the lack of results in patients getting the EPA-DHA margarine was not surprising. Based on the margarine consumed in the study, patients in the EPA-DHA group got only an additional 226 mg of EPA and 150 mg of DHA per day. That's just one-third of the amount used in the GISSI Study that did find significant reduction in cardiovascular events (2). But the patients who used the ALA margarine received an additional 1.9 g of ALA per day. That's almost five times the amount of marine-sourced omega-3s and may better reflect that there's a dose-response effect. In other words, the more omega-3s a person gets, whether from marine or plant sources, the better the reduction in CVD events.

A Closer Look

The patients in the study included 1,000 subjects who were diabetic; they were evenly distributed between the groups tested. In a secondary analysis, the researchers examined the effects of the omega-3s in only the diabetic subjects. For diabetics taking the EPA-DHA margarine, there were significant reductions in both primary and secondary end points of CVD. The reductions did not take place in the placebo or the ALA margarine group. Because it was a post-hoc analysis, the results could not be used to draw conclusions—only to propose future research.

I don't agree. It seems at times that most researchers churn the data until they come up with something, running statistical test after statistical test. While I respect the authors for sticking to their original questions, the results are meaningful if you're a diabetic.

The Bottom Line

What this study illustrated is that if you're going to take omega-3s, you need to take enough to get a benefit. For marine-sourced omega-3s, the effective amount seems to be at least one gram of omega-3s—not just fish oil, but the omega-3 amount itself. If you're a vegetarian, then the amount of ALA should be over two grams per day.

But the results are even more significant if you are a diabetic. As a diabetic, you're more prone to arrhythmias and sudden death. You could wait until they did more research, or you can start taking your fish oil today. I'm not a diabetic, but I still take at least two grams of omega-3s from fish oil every day; my wife, who has a family history of diabetes, takes 1.2 grams of omega-3s from fish oil plus 1.6 grams from flaxseed oil a day.

Talk to your doctor about this study, but to me it's a no brainer: get your omega-3s every day.

What are you prepared to do today?

Dr. Chet

References:

1. N Engl J Med 2010;363:2015-26.
2. Lancet. 1999;354(9177):447-55.

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