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Get D Tested

The vitamin D bandwagon is easy to jump on because of all the diseases and conditions associated with low levels of vitamin D, and that includes me. But I also think that what we do to improve our health should be based on testing as many variables as we possibly can. Last week I wrote about stress tests and why they're a good idea. Today, I'm going to focus on why the serum vitamin D test, more accurately called the plasma 25(OH)D, should be added to that list.

The Study

A study published last week in the *American Journal of Clinical Nutrition* didn't get much press (1). Researchers in Sweden examined the serum vitamin D levels in close to 1,200 older men (average age 71) and then followed them for almost 13 years. In that time, 584 men died, and researchers wanted to see how serum vitamin D levels corresponded to mortality. What they found was surprising. It was a U-shaped curve. That means that those men with the lowest and those with the highest serum vitamin D levels died at a higher rate than those in the middle.

Huh? We thought vitamin D was protective. Why would the higher vitamin D levels be associated with a higher death rate, including deaths from cancer? There are a couple of problems with the study and some things to think about.

The Problems

The most important issue that the researchers never addressed was that they only tested the serum vitamin D level once at the beginning of the study. They talked about how accurate the test was but never that it was only a snapshot in time. What would have been better is if they had tested the levels on a regular basis or gave some explanation of how serum vitamin D levels vary. To assume they were static over 12 years doesn't make sense. To be fair, they did what most analyses of cancer mortality do and threw out the cancer deaths for the first few years, since that would be too soon for whatever is being tested to have a significant effect. They spent a lot of time talking about how vitamin D might explain an increase in cancer mortality, but in my opinion, they were seriously jumping the gun.

The way they broke down the data was also different. Instead of breaking the subjects into thirds or fifths as is usually done in this type of analysis, they broke it into 5-90-5 percentiles, comparing the middle with either end. That tells me that they kept playing with the data until they found something. That "something" may very well prove to be important, but that's not the way research and analysis is done. You can't keep chunking data until you find something.

There are two important questions that we need to ask. First, what were those serum vitamin D levels? And second, were those with the highest levels taking vitamin D supplements or was their vitamin D coming from only sunlight and food?

For the first question, the middle serum vitamin D level corresponded to 17 to 39 ng/ml (or 40 to 98 nmol/L). That means less than 17 ng/ml and greater than 40 ng/ml were associated with higher mortality. Second, there was no relationship between vitamin D from sunlight, food, or supplements with mortality. That means the increased mortality was not related to the source of vitamin D level.

My Opinion

Where does that leave us? What should we do, especially those of us who have increased our vitamin D intake? Relax. Remember, this was one study with a group of elderly male subjects and a whole lot of data missing. It could mean that people with cancer metabolize vitamin D differently. In other words, it's the result, not the cause, so let's not get crazy because of a single study.

What I think it does mean is that we should base our lifestyle on the facts. If our vitamin D level is 30 to 40 ng/ml, what we're doing is probably correct and we should stay the course. If our levels are below 30, we should probably supplement our diet, and if they're higher than that, we should back it down a little. But the critical thing is that we base what we do on the results of the tests we've had done—if you haven't had your vitamin D level tested, you have no idea where you stand.

The Bottom Line

Time may find that this study was important or that it pointed a scientist to look in another direction to find a solution. We can only base what we do on what we know today. The Institutes of Medicine hasn't released the new RDAs for vitamin D as of this date, so we can't just follow that recommendation and hope for the best. The simplest thing is to use the serum vitamin D test to determine whether we need to increase or decrease our vitamin D intake. That's the responsible thing to do. But in order to do that, we must work with our physicians. So as I challenged you last week, have you made the appointment for your physical yet?

What are you prepared to do today?™

Dr. Chet

Reference: Am J Clin Nutr 2010;92:841-8

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