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Your Brain on B Vitamins

When North Americans are polled about what health conditions they fear most, cancer almost always comes up Number One—almost everyone has lost someone special to cancer. A very strong second is Alzheimer's disease or losing memory. That makes sense. We fear living a long life without being able to enjoy the people we've come to know along the way. That's why a recent study from the United Kingdom is very interesting.

The Study

The Homocysteine and B Vitamins in Cognitive Impairment Study (VITACOG) is attempting to discover the relationship between homocysteine levels, B vitamin intake, and decreases in cognition. Homocysteine is a measure of inflammation that is usually assessed when you have blood lipids checked. The B vitamins being examined are folic acid, vitamin B6, and vitamin B12. The decline in learning ability is assessed via various tests administered to subjects. In the current study, the researchers examined MRI scans of the subjects' brains to determine the rate of atrophy over two years with and without supplementation with high doses of B vitamins (1).

The subjects were an average of 76 years old when the study began. The initial measurements included an MRI of the brain, blood levels of homocysteine, and blood levels of the B vitamins. At the beginning of the study, half the subjects were given supplements that contained 800 mcg folic acid, 20 mg B6, and 500 mcg B12; the other half were given a placebo. Two years after they started in the study, the subjects were tested again.

The Results

The subjects in the experimental group—the ones taking the supplements—experienced less of a decline in brain atrophy than subjects taking the placebo. In everyday terms, their brains shrank less. Further, those subjects with the highest levels of homocysteine benefited the most. That makes sense; the B vitamin supplements were designed to lower homocysteine, which they did. It also stands to reason that if homocysteine levels were not as high, neither was the inflammation, and thus the B vitamins wouldn't have been as effective because the need wasn't as great. But they were effective for those who needed them the most—that's the important thing.

What the researchers did not evaluate yet was the degree of cognitive decline. That doesn't mean that there was no protective effect, but they haven't published that data yet. When they do, you can be sure I'll report it to you right away.

The Bottom Line

Your first impulse may be to start megadosing on the B vitamins included in the study. Don't do that. Why? Two reasons.

First, folic acid is added to bread and cereal products in the U.S. and Canada, but not in the U.K. Here in North America, we may not need as much folic acid as we do vitamins B6 and B12.

Second, the supplements appeared to benefit only those with the highest homocysteine levels. That means the first step is to get your homocysteine levels checked before you do anything else—you know that visit to your doctor you've been putting off? It's time to schedule your physical. If your homocysteine levels are normal, you

wouldn't need the B vitamins for this particular reason. Remember also, the subjects were an average 76 years old when the study began; there may also be an age factor present. Because we absorb B vitamins less when we're older, deficiency of these vitamins may not be a factor until we're 60 or even 70 years old. That doesn't mean that we shouldn't take extra vitamins, but your philosophy should be to take what you need exactly when you need it, and that's why your blood test results are fundamental to your supplement plan. Another important tool in determining your supplement needs is the Vitamin and Mineral Hand-Scored Assessment—you can learn more about it at my Store at drchet.com. These two tests will save you money in the long run because you'll be taking only what your body needs.

The simplest solution may be to use energy drinks that are high in B6 and B12. Whether we are in a state of inflammation or not, we can always use the extra B vitamins to make energy.

What are you prepared to do today?

Dr. Chet

Reference: PLOS 2010; September. 5(9):e12244

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