

B6... A Forgotten B Vitamin

"I wonder how many billions of dollars spent on drugs each year could be saved by using B6 alone."

Know anyone who has been on birth control pills, hormone replacement, or antibiotics? How about someone who has been on diuretics or bronchodilators, or someone with a diet high in refined carbohydrates? With one or more of these factors, there is a good chance they have suboptimal levels or what we call a "functional deficiency" of B6. B6 has been one of the forgotten B vitamins this decade.

I'd like to show you a way to assess or extrapolate B6 deficiency function from a regular chem screen. Before we get there, let's just review some of the things B6 does.

B6 is an important co-enzyme for many of the intermediate steps in metabolism for many of the amino acids. Histamine, dopamine, serotonin, adrenalin, hemoglobin, and GABA are just a few of hormones and neurotransmitters that are dependent on B6. B6 is also a key link in the utilization of EFAs, partic-



ularly the conversion of ALA to EPA and DHA.

You can see by the names of these key regulators that a B6 deficiency could be the underlying factor for a lot of conditions. I wonder how many billions of dollars that are spent on drugs each year could be saved by the use of this simple B vitamin alone.

Obvious symptoms of vitamin B6 deficiencies include seizures, mental retardation, and anemia; however, there is a whole host of functional deficiencies that

include numbness, herberdens nodules, trigger finger, joint pain, joint stiffness, carpal tunnel syndrome, sensitivity to bright lights, tingling of extremities, sore tongue, depression, hypochlorhydria, fissures/cracks in the tongue, burning sensation in the mouth, history of birth problems like spontaneous abortions or fetal abnormality to name a few.

Vitamin B6 also prevents the formation of homocysteine. Increased homocysteine is a classic risk factor for heart diseases but also acts as a

marker for inflammation. Let's look at the tests to measure B6. I want to thank Dr. Harry Eidenier for sharing these diagnostic parameters. There are 4 indicators to examine as we look for a B6 deficiency. First and foremost is SGOT/AST. In decreasing order SGOT is found in the heart, skeletal muscle, brain, liver, and kidneys. The lab range is usually 0-40, optimal ranges are 10-30 U/L. However, if the SGOT is under 10, think B6 deficiency.

The next 2 places to look for a B6 deficiency is the Mean Corpuscular Volume (MCV) and the Mean Corpuscular Hemoglobin (MCH). Optimal range for MCV is 82.0- 89.9 microns. Optimal levels for MCH is 27.0 -34 micro-micrograms. When MCV and MCH are below their optimal levels, the first thing we think about is low iron and/or ferritin levels. We need iron for healthy hemoglobin. So if the iron is available, we look for other nutrient limiting factors.

Another indicator of low MCV and MCH is internal bleeding. One of the best ways to look for internal bleeding is the reticulocyte count. Reticulocytes will be elevated with bleeding. So when the reticulocytes are normal or low and you have sufficient iron, the B6 deficiency pattern emerges. A good way to confirm this is to do a homocysteine test, if the results are high or high normal (over 10) treat for B6 deficiency.

Remember B12, folic acid, and B6 are the major players to reduce homocysteine. Other minor nutrients for homocysteine include betaine and B2, or riboflavin. Another test that may reveal a need for B6 is C-reactive protein, or CRP. If we are using anti-inflammatory supplementation, addressing diet and still see elevation upon retesting, consider B6.

Dr. Carl Pfeiffer in his classic work, Mental and Elemental Nutrients, believed one of the

biggest indicators of B6 deficiency was an inability to remember dreams. The RDA for B6 is 2.0 mg per day. We all know that's not enough. Even stress increases the need for B6. Dr. Pfeiffer personally needed 50 mg in the morning to remember his dreams due to the stress of running the Bio-Brain Center. However, when he was on vacation the same 50 mg caused dreams so vivid he had to reduce the dose to 25 mg.

Let's discuss supplementation. What are the best forms and how much can be taken? B6 comes in the form of pyridoxine HCL. However, it must be converted by the body to pyridoxal-5-phosphate before it can be used. Fortunately both forms are available in supplemental form. Personally it takes me about 200 mg of pyridoxine HCL before I remember my dreams; however when I take 40 mg of the pyridoxal-5-phosphate form, I dream vividly.

Because this B6 is such a key nutrient, I always ask patients if they remember their dreams. If they don't, I recommend the pyridoxal-5-phosphate form until they do. I usually make sure they get 100 mg from nutrient sources and supplement for 30 days.

Biotics Research makes a pyridoxal-5-phosphate form called B6 Phosphate which contains 20 mg per tablet in their unique bio-available vegetable tableting base. Once dreams are remembered, reduce the dose to a level where patients can still remember their dreams. However if the above lab tests are available and patient shows a need, I treat more aggressively and start with 160-180 mg per day.

As I said, B6 is sometimes forgotten; but it's worthwhile to remember it, review its effectiveness, and how to test for deficiencies.

Thanks for reading this week's edition. I'll see you next Tuesday.