

Progressive Brain Atrophy

"Are you ready for your brain to start shrinking because in the elderly, the brain shows progressive atrophy?"

Don't take this the wrong way but is your brain shrinking? Maybe a better question might be "are you ready for your brain to start shrinking" because in the elderly, the brain shows progressive atrophy. The atrophy occurs even in healthy cognitive adults. The greater the levels of cognitive decline however, the greater the atrophy as seen on MRIs.



In a study, researchers found an interesting variable, plasma level of homocysteine. Raised homocysteine is associated with both regional and whole brain atrophy, not only in Alzheimer's disease but also in healthy adults. 168 participants 70 years and older were placed in 2 groups. The treatment group had 85 participants supplemented with the homocysteine lowering B vitamins: folic acid, B12 and B6. 83 remaining participants in the control group received a placebo. Both groups were given MRIs before and after the two year

study. The mean rate of brain atrophy after 2 years was 1.08% for the control group and .76% for the treatment group.

Ouch, I don't like the thought of my brain atrophying even .76% in a 2 year period. The treatment response was related to baseline homocysteine levels. In the treatment group if levels were greater than 13, the results were more dramatic. The rate of atrophy was 53% lower. The greatest rate of atrophy was associated with a lower final cognitive test score. In

other words the more your brain atrophies, the lower your ability to think, to remember and problem solve.

In the past, elevated levels of homocysteine in the blood have been associated with atherosclerosis, an increased risk of heart attacks, strokes, blood clot formation and Alzheimer's disease. Elevated levels of homocysteine have also been linked to increased fractures in elderly persons. It appears that reducing homocysteine levels does not affect bone density. In a trial, subjects with prior stroke and ele-

vated homocysteine levels were given folate and B12. There was an 80% reduction in fractures, mainly hip, after 2 years. Interestingly, bone density (and the number of falls) was identical in the vitamin and the placebo groups.

So homocysteine is a marker. No clear data indicates that reducing homocysteine will reverse these conditions. But the results of this study show by using these low dose B vitamins you can slow down brain atrophy especially in the cases where elevated homocysteine is present.

Let's consider several key points of the study. First, the study took place over 2 years. Nutrients are needed on an ongoing basis to reduce the factors that cause the brain to be inflamed. Next, when plasma levels of homocysteine were greater than 13, treatment results were more dramatic. Typically, most clinicians I know like to see levels of 10. Some suggest less than 7.0.

Homocysteine is made in the body from methionine. Homocysteine has two primary end products: conversion back to L-methionine or conversion to L-cysteine. Elevated homocysteine is a marker for a malfunctioning metabolism that is depleted of folic acid, B12, B6 and perhaps methyl donors like betaine. Remember we need B12 and folic acid for our genes to work properly. I think of homocysteine as the canary that dies in the coal mine, warning the miners that gases are present. Why should we wait till it hits 13 before we start supplementing? Testing should be done on a regular basis to monitor progress and patient compliance. Another factor in the study, low doses were used. 800

mcg of folic acid, 500 mcg of cyanocobalamin and 20 mg of pyridoxine HCL, yet significant changes were seen. Considering the many benefits of folate, B12 and B6, higher doses and optimised forms can be utilized safely.

After reading the results of this study, I remembered that B12-2000 Lozenges from Biotics Research contains all the ingredients used in the study. B12-2000 Lozenges have been a “go to” product for me for years. People love the cherry taste so compliance is great. B12-2000 contains 800 mcg of folic acid, 2000 mcg of hydroxocobalamin and 2.5 mg of B6 as P-5-P.

Let me mention that elevated levels of homocysteine are not only produced from inflammation, but the oxidative stress generated from elevated homocysteine levels will again promote inflammation. As it relates to brain atrophy, wouldn't it make sense to try to keep inflammation at a minimum?”

As I say this, your brain is probably firing with ideas: fish oil, reducing both sugar and trans fats, increasing antioxidants, mineral balance to keep heavy metals from accumulating, plant based diets to keep the bowel healthy with the good bacteria. Yep, we are talking about a Wellness life style.

Encourage your patients to keep on keeping on. It does make a difference. Tell them it's kind of like that old commercial we've seen for years, “a mind is a terrible thing to waste.” It's true, no matter who you are or how old you get.

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