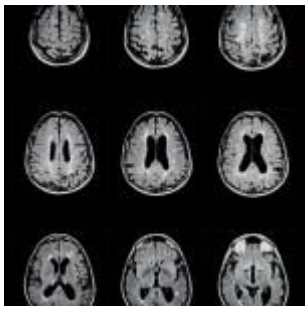
Research continues to show beneficial role of vitamin D in reducing MS attacks

Posted on February 9, 2012 by Dr John Cannell

Multiple Sclerosis (MS) is a terrifying disease It is a disorder in which antibodies attack the insulation of the nerves (myelin) leaving plaques that short out the nerves. Imagine, a healthy young woman in her 30s wakes up one morning with double vision and difficulty walking. By the end of that day, she tries to go to sleep after listening to her doctor tell her that her MRIs shows multiple neurological lesions, suggestive of multiple sclerosis.

If MS progresses, and it does not always do so, it is either via discrete attacks or by slow advancement. If it advances, permanent neurological problems often occur. Medications often have severe side effects that drive people to use many different kinds of alternative treatments. People live a relatively long life with MS — life expectancy is only shortened by about 5-10 years — but the quality of that life can be markedly decreased.



One Australian study even showed a greater than 80% reduction in attack rates for those whose 25(OH)D levels exceeded 40 ng/ml.

Readers know my recommendations, as it is the same for everyone with or without an illness. If you are well, take enough vitamin D and UVB light to maintain a 25(OH)D of about 50 ng/ml. If you are ill, take enough vitamin D and UVB light to maintain high normal levels of about 80 ng/ml. However, such recommendations are conservative, at least to many scientists researching vitamin D and MS.

My conservative views were recently seconded by Dr. Kassandra Munger and Alberto Ascherio, of the Harvard School of Public Health, who recently reviewed the effects of vitamin D in MS:

Munger KL, Ascherio A. Prevention and treatment of MS: studying the effects of vitamin D. Mult Scler. 2011 Dec;17(12):1405-11.

The data on sunlight, latitude, and UVB, together with two studies of vitamin D levels and the risk of developing MS, led the authors to state that while other explanations are possible, “a genuine protective effect of vitamin D itself remains the most parsimonious and plausible explanation for the results of both investigations.” If you had a relative with MS, were worried about getting it yourself, and read those words, what would you do?

The authors then shift from prevention to treatment, focusing on the three studies (out of four) that show seasonal variations in the disease and the two studies that show inverse relationships between vitamin D levels and attack rates (the higher your vitamin D levels the fewer the attacks). One Australian study even showed a greater than 80% reduction in attack rates for those whose 25(OH)D levels exceeded 40 ng/ml. All of these studies imply a treatment effect in established disease.

Finally, the authors reviewed six studies using vitamin D as treatment, although only one was a randomized controlled trial. Unfortunately, that trial was a monthly dose trial (vitamin D is a daily, not monthly, experience for humans), and the trial was negative. The open trials tended to be positive, but the definitive trial is underway. The SOLAR trial in Europe started 348 MS patients with 7,000 IU/day and then increases up to 14,000 IU/day for almost two years. Three other randomized controlled trials are underway, but they're not using daily dosing, so I feel these studies will need to be repeated. I was glad to see that all four of the trials underway use human vitamin D (cholecalciferol).

The interesting thing, note the authors, are the high doses to be used in the trials of MS; "It would have been desirable to also include a low-dose treatment arm, such as 4,000 IU/day." (I am glad I have lived long enough to hear Harvard researchers refer to 4,000 IU/day as "low dose.") I think the answer is desperation. The illness is so dreadful, for both the patient and the doctor, why not throw the kitchen sink at it?

However, the good Harvard doctors ask a good question, why not a 4,000 IU study arm? I would add, why not a UVB suntan parlor arm? Let's say the 14,000 IU/day is effective. Another study using lower doses is needed to answer the minimum effective dose question. Also, if the 14,000 IU of vitamin D is ineffective, it does not mean sunlight or suntan parlors are ineffective.

Remember the lab of Professor Hector DeLuca and the animal model of MS called EAE. His group concluded that UVB (sunlight or sun tan parlors), "is likely suppressing EAE independent of vitamin D production."

Becklund BR, Severson KS, Vang SV, DeLuca HF. UV radiation suppresses experimental autoimmune encephalomyelitis independent of vitamin D production. Proc Natl Acad Sci U S A. 2010 Apr 6;107(14):6418-23.

That's why it is important to let some UVB radiation touch your skin as often as you can and not put all your hope in a bottle of sunshine.

About Dr John Cannell

Dr. John Cannell is founder of the Vitamin D Council. He has written many peer-reviewed papers on vitamin D and speaks frequently across the United States on the subject. Dr. Cannell holds an M.D. and has served the medical field as a general practitioner, itinerant emergency physician, and psychiatrist.

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