Marvellous Magnesium L-Threonate

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MAGNESIUM IS INVALUABLE IN PROTECTING THE BRAIN'S STRUCTURE AND FUNCTION

Benefits Memory and Heals Neurological Damage

Most readers know about the importance of magnesium to numerous aspects of health, especially the cardiovascular system. This mineral is also vital to nervous system strength, pain control, muscle health, bone density, and blood sugar balance. Furthermore, magnesium enhances the activity of over 300 enzymes.

Magnesium comes in different forms and its function is determined, in part, by which vehicle is used to deliver it into the body. For example, magnesium citrate and magnesium oxide (or peroxide) are the forms best used to produce a laxative effect. Only a fraction of these forms are absorbed into the system and supplementation is usually effective as a way of treating constipation. Magnesium glycinate or bisglycinate, on the other hand, is much better absorbed for most magnesium benefits and produces a minimal laxative effect.

Now comes magnesium L-threonate, a new form of magnesium, complexed with the essential amino acid L-threonine, that has just become available from health food stores in Canada. Magnesium L-threonate offers some major advantages to the brain and nervous system that are not possible with other magnesium compounds. Prior to last month, magnesium L-threonate was only available in the U.S. It has just been approved now for sale in Canada.

What is L-Threonine?

L-threonine is an essential amino acid found in high amounts in animal protein foods. Though it's also found in many plant sources, strict vegans can become deficient in L-threonine if their food choices are inadequate in protein. So too can those become deficient who suffer from digestive challenges that prevent them from assimilating this amino acid. The best vegan sources appear to be leafy greens and whole grains.

Deficiency of L-threonine can lead to a fatty liver, digestive problems of many kinds, and emotional agitation. Although there is scant evidence for the clinical uses of this mineral, holistic practitioners have used it in high doses to treat numerous psychiatric and neurological conditions that include amyotrophic lateral sclerosis (ALS), multiple sclerosis (MS), and muscle spasms associated with spinal cord injuries.

Fortunately, L-threonine is considered to be safe at even very high doses (over 5000 mg) taken for years at a time. Occasionally, L-threonine can cause some mild stomach upsets in sensitive individuals.

Why Magnesium L-Threonate?

It is estimated that at least one half of all aging brains are magnesium deficient. Magnesium deficiency can affect the brain by causing symptoms such as apathy, anxiety, depression, chronic pain, psychoses, and memory loss. An insufficient amount of magnesium slows brain recovery from trauma and post-traumatic stress disorder. Deficiency accelerates brain cell aging.

Researchers at Massachusetts Institute of Technology (MIT) have recently determined that magnesium plays a vital role in protecting the aging brain's structure and function. The problem was that conventional nutritional supplements do not deliver enough magnesium to the brain. Even intravenous magnesium delivers only small amounts of this vital mineral to the brain. The good news is that magnesium L-threonate not only absorbs very well from the GI tract but is also able to concentrate in high levels in the brain.

Applications for Alzheimer's Disease

Magnesium L-threonate has been found to help repair damaged synapses. These are the spaces between two nerves that allow for information transmission from one nerve to the other through chemical messengers known as neurotransmitters. If synapses are damaged, information cannot be transmitted, hence memory and other nerve functions are interrupted. This is one of the mechanisms by which memory loss occurs in Alzheimer's disease and other types of brain disease. Alzheimer's disease is now the sixth leading cause of death in the U.S. and Canada. With our rapidly aging population, the destruction of synapses is going to be occurring at an increasingly rapid rate. The MIT study observed that regular consumption of magnesium L-threonate improved short-term memory loss by 18%, and long-term memory loss by 100%. Learning, cognitive performance, sleep quality, and memory can be improved by this rebuilding of damaged synapses. No other form of magnesium was able to duplicate these results, mainly because concentrations could never be created in high enough doses for any benefits to be achieved.

Admittedly, rat studies are not conclusive proof that magnesium L-threonate is the answer to Alzheimer's disease and dementia, but human studies are currently being conducted that could provide the necessary evidence for the broad scale use of this new supplement.

Although this has not yet been established either, the dose of magnesium needed to be transported by L-threonine is approximately 600 mg daily. The amount of L-threonine needed to do that would be about 1500 mg daily. Higher or lower doses could be used depending on stomach and bowel tolerance.

Other Approaches To Improving Memory

Following a healthy organic diet and lifestyle, while controlling stress, can go a long way toward preventing brain damage. This includes avoiding nutritional stressors like gluten-containing grains and other personal food allergens, as well as sugar (including high fructose corn syrup) and refined carbohydrates, while getting plenty of essential fatty acids in daily meals.

This is the same strategy used for controlling blood sugar levels and preventing diabetes. Dr. David Perlmutter calls Alzheimer's disease 'Type 3 diabetes' in his book, *Grain Brain*, and makes an excellent argument for preventing, and treating, Alzheimer's as if it were a form of diabetes. There are also other supplements that virtually anyone can use to help enhance brain function. These include:

Supplements for Brain Health

1) Omega-3 fatty acids – 4000 mg (combined DHA and EPA) daily. Omega-3 fats prevent brain cell damage and lower the risk of Alzheimer's primarily by controlling chronic inflammation.

2) Curcumin – 1000 to 2000 mg daily. This powerful antioxidant extract from the spice turmeric is one of the most powerful ad natural brain-protecting substances ever documented. Tumeric contains only 3% curcumin. Known as a potent anti-inflammatory for the whole body, curcumin boosts overall cognitive function and has recently been shown to work as an effective antidepressant. Make sure the brand of curcumin you buy is the natural BCM95 type, due to its very high absorption and bioavailability.

3) Vitamin D – 5000 to 10,000 IU daily. Receptors do exist in the brain for this hormone-like vitamin. Vitamin D is anti-inflammatory, and the evidence is clear that vitamin D levels are tied intimately to optimal brain function. It helps nourish brain glial cells that repair damaged neurons.

4) Vitamin B12 – 5000 mcg methylcobalamin daily, dissolved under the tongue. There is now good evidence that regular vitamin B12 consumption can reduce the risk of Alzheimer's. As well, vitamin B12 injections and sublingually dissolved oral supplements will boost mood, energy, and sharpen thinking in general.

5) Coconut oil – 20 grams daily of MCT (medium chain triglycerides) is a type of healthy fat that nourishes the brain. According to some studies, along with anecdotal evidence, daily consumption of virgin cold-pressed coconut oil has reportedly reversed Alzheimer's disease (20 grams = 4 tsp).

6) N-Acetyl-L-carnitine – 1000 mg twice daily is an amino acid that has been shown to improve memory in addition to heart health.

7) Coenzyme Q10 – 600 to 1200 mg daily. Best known for its benefits for cardiovascular disease and cancer treatment, CoQ10 may slow down and help prevent dementia and Alzheimer's. Recent studies do show enhancement of brain function after using high doses of CoQ10.

8) Phosphatidylserine (PS) – 300 mg or more daily. This is a natural substance used by the brain to basically improve communication between neurons. Supplementation with phosphatidylserine has been used effectively for many types of age-related mental functioning decline as well as for Alzheimer's, ADHD, depression, and for the improvement of athletic performance.

9) Ginkgo biloba extract – 120 mg daily of the standardized extract. This extract from the ancient ginkgo tree has been shown to increase blood flow to the brain and can be used to both prevent and reduce the progression of Alzheimer's.

10) Zinc picolinate or citrate – 50 to 100 mg daily. Remember the slogan "no zinc, no think" because this mineral is crucial to normal brain function and memory.

For an individualized program of diet and supplements, see your natural health care provider.

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