

Can Magnesium Stop Migraines?



by Margy Squires

Throbbing temples. Increasing nausea. Sensitivity to light, noise and movement. A kaleidoscope of colors dancing in front of my eyes. Could I be having a migraine or is this just a weird headache?

Migraines are a mystery. Pain is often one-sided and ranges from a dull ache to intolerable. Theories abound as to why 36 million Americans are vulnerable. According to the American Migraine Foundation, these types of headaches are “poorly understood and current treatments are inadequate”. Triptans like Imitrex® are commonly taken once a migraine starts yet do little to prevent onset. Are there other options? Researchers since 1995 have been advocating prevention as an alternative approach and magnesium the nutrient to put the brakes on to avoid a migraine brain crash.

What causes a migraine?

Ah! The mystery continues. Possibly over stimulation of neurons, affecting several neurotransmitters. On MRI, pronounced dilation of blood vessels occurs just before a migraine, suggesting a vascular problem. Perhaps inflammation of a major facial nerve (trigeminal). A genetic defect (chromosome 19) is a familial predisposition. Mitochondrial dysfunction (lack of brain energy) may be involved. An imbalance of key minerals (too much calcium, low magnesium and zinc) further complicate the process. Low serotonin adds to the pain and vascular aspects. Maybe it's a combination or overlap of multiple factors that make up the complex event we call a migraine.



What are migraine triggers?

Substances, both internal and external, can provoke or “trigger” a migraine. Many triggers over-excite brain neurotransmitters, chemicals responsible for communication between nerve cells. Nitrates and amines found in aged cheese and wine; MSG in Chinese foods. The sweetener aspartame. Excitatory chemicals in coffee and chocolate. Food allergies. Too much stress or exercise and too little water which affect blood vessel function. Even weather, bright lights and hormonal shifts (in women) are potential triggers. Without knowing the cause of a migraine, the prime trigger(s) is unknown.



Why suggest nutrient therapy?

Nutrients are involved in all the theories mentioned, especially magnesium (Mg). Deficiencies of CoQ10, Mg and zinc in brain cells and tissues are known. Synthesis of the neurotransmitter serotonin requires Mg. Both Mg, B2, B6 and CoQ10 support the high energy needs of the brain. Too much calcium can potentiate an inflammatory cascade if magnesium is too low to correct. Riboflavin (B2) and B6 help facilitate magnesium metabolism and support nerve cell health. F.R. Taylor writes “nutrition must affect structure and functioning of the brain” and notes with its high metabolic activity, the brain depends on nutrients consumed for its “moment to moment” function [*Headache* 3/11].

Common drugs for relief of migraine symptoms include those which block calcium and pro-inflammatory chemicals, influence serotonin receptors (triptans), relieve pain (over the counter analgesics, NSAIDs) and decrease nausea (antiemetic). The drawbacks? These therapies are taken once a migraine begins, not as preventative measures. Plus the list of who cannot take triptans is long. And, according to the American Migraine Foundation, “the medical side effects often limit the use of migraine medications”. So why not try nutrient therapy?

Is Mg specifically recommended in studies?

Absolutely; in fact around the globe in the USA, Canada, India, Iran, Italy and Turkey. Research shows 50% of the migraineurs are low in Mg; however if based on serum testing, this number is probably underestimated. When 1 to 2 grams are given IV migraine symptoms stop in 15 minutes! The conclusion of the researchers in the majority of magnesium studies is that Mg be given to all migraine patients. Even patients not low in Mg responded to therapy.



In his book *The Magnesium Solution for Migraine Headaches*, Jay Cohen, M.D., states, “magnesium comes with scientific evidence that dwarfs the evidence of top selling prescription drugs”. Cohen goes on to say that “a basic principle of good medical care is to use the safest medicine in treating any

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disorder and sometimes that medicine is a nutrient". Cohen takes his own advice: he reports in his book being migraine free since starting Mg therapy.

"Magnesium is an essential intracellular cation that plays a role in many facets of migraine biogenesis" cites director and neurologist Alexander Mauskop M.D., F.A.A.N. of the New York Headache Center. Furthermore, "both oral and intravenous Mg are simple, safe, inexpensive and well-tolerated" and he suggests a minimum dose of 400 mg of Mg daily. More than 200 doctors from around the world have learned advanced treatment techniques, such as Botox® injections, and magnesium infusion from this pain expert. Dr. Mauskop is also author of *The Headache Alternative: A Neurologist's Guide to Drug-Free Relief*, based on his more than 20 years of clinical experience.



Burton Altura, Ph.D., has studied Mg since 1961. Mg can inhibit the blood vessel contraction response and platelet clumping, influence serotonin and inflammatory prostaglandins, stabilize blood vessels, improve energy and calm nerve excitability. According to Dr. Altura's research, countries with high Mg intake have the lowest rate of migraines, such as in Japan.

Are there any problems to Mg therapy?

Dr. Cohen believes the "most important problem is getting Mg into your body because most products are poorly absorbed". Naturopathic Michael Murray recommends organic Mg for that reason, stating it is four times more absorbable over inorganic oxides, sulfates and hydroxides. Albion TRAACS® is an example of an organic mineral.

The second problem is that doctors rely on serum magnesium tests as evidence for deficiency. The body maintains Mg blood serum levels at any expense, "borrowing" from bones and red blood cell (RBC) stores if necessary. Thus, checking the RBC Mg level may be the better indicator of deficiency.

What is the recommended nutrient protocol?

Dr. Mauskop recommends a dose of at least 400 mg daily. Dr. Murray has a comprehensive program that starts with a high potency multi-vitamin. He advises organic Mg 300-400 mg and CoQ10 100 mg to be taken three times a day. Murray also suggests omega-3 1000 mg, 5-HTP 50-100 mg, B6 50-75 mg, B2 400 mg* and either grapeseed or Pycnogenol at 95% proanthocyanidins as part of the daily program. Other researchers add B-12 1000 mg daily and zinc 50 mg at bedtime. You may want to start with the three most cited and recommended supplements: organic magnesium, B2 and CoQ10. [*Note: Studies show that when taken with Mg, B2 can be reduced to 25 mg and still be effective.]



When will I see results?

In the studies with magnesium and CoQ10, the frequency

MIGRAINES: JUST THE FACTS

- ◆ Affect 36-41 million Americans (8% kids, 6% men, 18% women)
- ◆ Occur in 1 in 4 U.S. households
- ◆ 60% are one-sided; 25% have aura
- ◆ 50% have identifying triggers
- ◆ Cost the U.S. \$20 billion a year
- ◆ Rated by WHO as 1 of 20 most disabling medical conditions
- ◆ No cure exists



and severity of migraines were reduced 50% at the end of one month and best results by the end of three months. This article only briefly touches on the full benefits of nutrient therapy. In orthomolecular medicine, substances natural to the body are used and work on a cellular level, thus time is needed to see results.



Are there precautions?

In some disorders with deficiencies, intake is needed above the recommended daily intake (RDI). Magnesium is considered "safe and well-tolerated" and CoQ10 (dose 100 mg three times a day) is "efficacious and well-tolerated" per researchers. If you want to take "above labels" amounts, consult with your individual health care professional for advice, especially if you have impaired kidney function.

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