Vitamin D, Statins, and Migraines

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A combination of Vitamin D3 and simvastatin had an impressive effect on migraine frequency in a controlled study. How will this combo perform in real life? I'm cautiously optimistic.

In the September issue of *Annals of Neurology*, Buettner and colleagues\(^1\) report on their randomized, double blind, placebo controlled study using Vitamin D3 and simvastatin and its reduction in migraine frequency. A combination of supplemental vitamin D3 1000 IU and simvastatin, 20 mg each twice daily, significantly decreased the number of migraine days. Over a 24 week period there was an average decrease of 8 to 9 migraine days for those taking the medications versus only a 1 day decrease in those taking placebo. Put in another way, 25% to 29% of the patients experienced a 50% reduction in migraine versus only 3% of those taking placebo.

I should be excited! I have plenty of patients who come to see me about their migraines and the first words they say to me are “I have tried everything!” This Vitamin D3/simvastatin combination provides another option that I can offer these patients.

But then again, I have seen plenty of medications that have been promising in smaller studies that turn out to be only mildly or even ineffective in the “real world.” Take riboflavin, magnesium and Coenzyme Q10. I frequently recommend these supplements to patients who “don’t want another medicine” for their migraines. The study data of the effectiveness of these 3 supplements look good.

A trial of riboflavin, at a dose of 400 mg once daily, showed that an impressive 59% of migraine patients had a 50% reduction in migraine attack frequency by the 12th week.\(^2\)

Magnesium also appeared to be a winner in a 1996 study that showed an impressive 41% reduction in attack frequency by the third month (600 mg of trimagnesium dicitrate versus placebo in patients with migraine without aura).\(^3\)

Coenzyme Q10 has also shown efficacy in the prophylactic treatment of migraine.\(^4\) The study was small but showed that 47% of patients had a 50% or more reduction in migraine attack frequency at a dose of 100 mg three times a day by the 3rd month of treatment.\(^4\)

Yet, when I look back at my migraine patients over the 20 years of practice, I realize that I can recall only one, very motivated patient who has done well with any of these supplements. I don’t necessarily know why. Maybe I need to keep in mind the nocebo effect noted in a recent study of migraine medications\(^5\) and to place more a more positive viewpoint on all of these supplements. It may be a matter of which supplements are available to the patient. I have been lackadaisical in recommending a specific type of supplement outside of “riboflavin,” “Coenzyme Q10” or “magnesium.” In the case of magnesium, the particular salt of the magnesium may be critical for adequate absorption, since poorly absorbed magnesium (such as magnesium oxide) is associated with higher rates of diarrhea and has been found to be of little benefit in the study of treatment of migraines.\(^6\)

Simvastatin and vitamin D individually have been intermittently reported to be helpful in migraines. Most of the data have been from individual cases or sampling of population studies and the strength of the data is low. There has even been individual reports of worsening of migraines with supplemental vitamin D.

In a 2011 review article identified vitamin D as being beneficial in migraines.\(^7\) More importantly, the authors make a distinction between vitamin D2 and Vitamin D3 supplements. They suggest that Vitamin D2 may actually block some of the benefit from Vitamin D through its metabolites. This is an interesting point in that the particular type of Vitamin D supplement may be critical.

I am ready to “throw my hat in the ring” and try the Vitamin D3 and simvastatin combination in patients who are having a poor response to other prophylactic treatments. I plan to be more careful in recommending a particular supplement (D3 not D2) and even to be positive about its possible benefit to reduce the nocebo effect.

In the end, I remain cautiously optimistic about this “newer treatment” for migraines.
References:


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