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Medscape Conference Coverage, based on selected sessions at the:

American Headache Society (AHS) 50th Annual Scientific Meeting

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From Medscape Medical News

Vitamin D Deficiency Common in Patients With Chronic Migraine

Caroline Cassels

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July 7, 2008 (Boston, Massachusetts) - New research showing that vitamin D deficiency is common in patients with chronic migraine suggests that this patient group, like other vitamin D-deficient populations, is at increased risk for cardiovascular disease, malignancy, and other serious illnesses that have been linked to low levels of this "good-health" vitamin.

Investigators presented the results of an observational study here at the 50th Annual Meeting of the American Headache Society, which showed that 41.8% of patients with chronic migraine were deficient in 25-hydroxyvitamin D. The study also showed that the longer individuals had chronic migraine, the more likely they were to be vitamin D deficient.

"As far as I am aware, no one has looked at vitamin D deficiency in migraineurs before. Recognizing that vitamin D deficiency is epidemic in the general population, we know that patients with migraine have other health concerns, among them an increased risk for cardiovascular disease, cerebrovascular disease, and fibromyalgia, conditions that have also been linked to vitamin D deficiency.

"So in this population, where we know there's a good chance other health issues are present, treating vitamin D deficiency is something that we can easily assess and treat to try to minimize some of these other health issues," study investigator Steve Wheeler, MD, from the Ryan Wheeler Headache Treatment Center, in Miami, Florida, told *Medscape Neurology & Neurosurgery*.

'The First Person I Tested Was Myself'

Dr. Wheeler decided to investigate vitamin D deficiency in his own clinic population of chronic migraineurs after reading a paper published in 2007 (*Arch Intern Med.* 2007;167:1159-1165). The study showed a strong link between the prevalence of cardiovascular risk factors and serum levels of 25-hydroxyvitamin D.

"Until that point, I had no idea vitamin D deficiency was a cardiovascular risk factor, although I was aware there was a link between migraine and cardiovascular disease."

A migraineur himself, Dr. Wheeler has a strong family history of cardiovascular disease, cerebrovascular disease, cancer, and diabetes. Dr. Wheeler said he read several other studies on the negative effect of vitamin D deficiency on health, including a seminal review by world expert Michael Holick, MD, PhD, from Boston University Medical Center, in Massachusetts (*N Engl J Med.* 2007;357:266-281).

He pointed out that the research shows that vitamin D deficiency is associated with a variety of diseases in multiple-organ systems, including hypertension, diabetes, cancer, multiple sclerosis, rheumatoid arthritis, fibromyalgia, depression, stroke, and myocardial infarction.

After looking at the literature and considering vitamin D deficiency in the context of his own family history, Dr. Wheeler said the issue "became personal."

"The first person I tested was myself, and I found I was severely vitamin D deficient (with a 25-hydroxyvitamin D level of 8.2 ng/mL). Levels greater than 30 ng/mL are considered sufficient, but only for bone health. Optimal levels for other conditions, such as cardiovascular disease, are still unknown, although it is believed they should be much higher," he said.

Underrecognized

Dr. Wheeler then decided to look at levels in his patients. He reviewed the records from consecutive chronic migraine patients who had vitamin D levels assessed at a single outpatient laboratory over a 6-month period.

The study consisted of 55 migraineurs. Of these subjects, 54 had chronic and 1 had frequent migraine attacks. The

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mean age of the subjects was 49.8 years. Vitamin D level consisted of total 25-hydroxyvitamin D, 25-hydroxyvitamin D₃, and 25-hydroxyvitamin D₂.

Optimal or sufficient total vitamin D was defined as levels greater than 30 ng/mL. Levels between 20 and 30 ng/mL were defined as insufficient, and levels less than 20 ng/mL were defined as deficient.

The study showed that 41.8% of patients had levels of 30 ng/mL or less. Of these, 27.3% had insufficient levels and 14.5% had deficient levels.

According to the study, there was a trend toward hypertension (26.1% vs 18.8%) and type 2 diabetes (13% vs 3.1%) in vitamin D-deficient patients. The researchers also found a trend toward earlier onset of headache (14.3 vs 18 years) and migraine (16.7 vs 22.2 years) in vitamin D-deficient patients.

There was also a trend toward osteopenia (71.4% vs 44.4%) with vitamin D sufficiency and a trend toward osteoporosis (22.2% vs 0%) with vitamin D deficiency.

According to Dr. Wheeler, the high frequency of vitamin D deficiency, with its concomitant risk for cardiovascular disease, malignancy, and other illnesses, suggests that it is an unrecognized yet treatable cause of cardiovascular disease and morbidity in migraine.

"Clinicians generally don't recognize the importance of vitamin D deficiency, and so they don't screen for it - not just in migraineurs, but in all of their patients. But it is a condition that is easily treated and may confer major, wide-ranging health benefits," he said.

American Headache Society 50th Annual Scientific Meeting: Abstract S33. Presented June 28, 2008.

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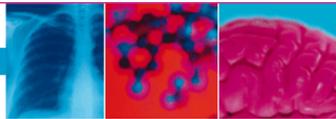
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