

Vitamin D May Be Linked to Spine Disease

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Published: November 14, 2011

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2 comment(s)

Vitamin D was significantly lower in people with recurrent transverse myelitis, neuromyelitis optica, and related inflammatory spinal diseases, researchers found.

On the other hand, there appears to be no link between the vitamin and idiopathic transverse myelitis, which does not recur, according to Michael Levy, MD, PhD, of Johns Hopkins University, and colleagues.

The finding, from a retrospective analysis, is reminiscent of what has been seen in multiple sclerosis and other recurrent autoimmune illnesses, and may provide clues to the role vitamin D plays in immune regulation, Levy and colleagues argued online in *Archives of Neurology*.

Transverse myelitis, with symptoms including back pain and leg weakness, exhibits involvement of the myelin sheath that protects nerve fibers; between 75% and 90% of patients have nonrecurrent disease.

On the other hand, neuromyelitis optica and so-called neuromyelitis spectrum disorders affect the optic nerves and spinal cord and most patients have recurrent, rather than monophasic, disease. Neuromyelitis optica is considered to be a recurrent central nervous system disorder characterized by "longitudinally extensive (transverse myelitis) plus optic neuritis," the authors noted.

While low levels of vitamin D have been linked to several autoimmune conditions, including multiple sclerosis, the role of the vitamin in transverse myelitis and neuromyelitis optica is not known, the authors noted.

To try to clarify the issue, Levy and colleagues examined records of patients who had 25-hydroxyvitamin D levels taken for clinical reasons at the Johns Hopkins Transverse Myelitis Center and NMO Clinic within the past six years.

Of those, 44 were considered to have nonrecurrent transverse myelitis and were designated the ITM group, and 33 were considered to have recurrent disease and were designated the recurrent TM group.

Analysis showed that total 25-hydroxyvitamin D levels were significantly lower in those in the recurrent TM group, compared with those in the ITM group. Specifically:

On average, before adjusting for demographic differences, those in the ITM group had serum 25-hydroxyvitamin D levels of 33 ng/mL compared with 18 ng/mL for those in the recurrent TM group.

A level below 20 ng/mL is considered deficient while optimal levels are above 30.

After adjustment for age, race, sex, and season during which the sample was taken, the average difference between the groups was attenuated to 10 ng/mL, but was still significant at $P=0.002$.

Women and African Americans were more common in the recurrent TM group.

The analysis suggests, but cannot prove, a link between vitamin D and the recurrent disease, the authors concluded, raising the possibility that supplements might have an effect on the disease course, perhaps reducing the frequency of relapse. But a prospective study is needed to assess that possibility, they argued.

Levy and colleagues cautioned that the study was retrospective, so that some confounding variables might not have been accounted for. As well, they noted, the samples were not taken at the same time in the disease course for each patient. It is possible the disease influences vitamin D levels and

Action Points

Note that this study found that 25-hydroxyvitamin D levels were lower in patients with non-multiple sclerosis spinal cord diseases, including transverse myelitis and neuromyelitis optica, who had recurrent disease as opposed to monophasic disease.

Point out that this retrospective study cannot not determine causality and does not indicate that vitamin D supplementation would influence the course of the disease.

vice versa.

The study was supported by the Guthy Jackson Charitable Foundation. Levy reported financial links with ApoPharma and Amplimmune.

Primary source: Archives of Neurology

Source reference:

Mealy MA, et al "Low serum vitamin d levels and recurrent inflammatory spinal cord disease" *Arch Neurol* 2011; DOI: 10.1001/archneurol.2011.1974.

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