Lower serum vitamin D levels are associated with a higher relapse risk in multiple sclerosis.


Source

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Abstract

OBJECTIVE:

There is increasing evidence that vitamin D can be protective against the development of multiple sclerosis (MS), but it may also be beneficial for the clinical course of the disease. Our objective was to prospectively investigate if 25-hydroxy-vitamin D (25-OH-D) levels are associated with exacerbation risk in MS in a study with frequent serum measurements.

METHODS:

This was a prospective longitudinal study in 73 patients with relapsing-remitting MS. Blood samples for 25-OH-D measurements were taken every 8 weeks. Associations between 25-OH-D levels and exacerbation rates were assessed using Poisson regression (generalized estimating equations) with the individual serum levels as time-dependent variable.

RESULTS:

During follow-up (mean 1.7 years), 58 patients experienced a total of 139 exacerbations. Monthly moving averages of 25-OH-D levels were categorized into low (<50 nmol/L), medium (50-100 nmol/L), and high (>100 nmol/L) levels. Exacerbation risk decreased significantly with higher serum vitamin D levels: respective relative exacerbation rates for the medium and high-level category as compared to the low-level category were 0.7 and 0.5 (p value for trend: p = 0.007). The association between 25-OH-D concentrations and exacerbation rate was log linear without a threshold. With each doubling of the serum 25-OH-D concentration the exacerbation rate decreased by 27% (95% confidence interval 8%-42%. p = 0.008).
CONCLUSIONS:

Our finding that higher vitamin D levels are associated with decreased exacerbation risk in relapsing-remitting MS suggests a beneficial effect of vitamin D on disease course in MS. However, the possibility of reverse causality cannot be ruled out completely. Randomized intervention studies are therefore needed to investigate the effect of vitamin D supplementation in MS.

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Vitamin D in MS: A vitamin for 4 seasons.


Source

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Abstract

The results of 3 independent studies published in this issue of Neurology®(1-3) (table) suggest that higher levels of circulating 25-hydroxyvitaminD(25[OH]D) may reduce relapses and lesions on MRI in persons with multiple sclerosis (MS). Two of these studies also addressed a possible interaction between 25(OH)D levels and treatment with interferon-β (IFN-β), reaching opposite conclusions. How strong is this evidence and how should it affect clinical practice?

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