Abstract

Vitamin d3 concentration correlates with the severity of multiple sclerosis.

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BACKGROUND: To investigate the possible association between serum 25(OH) vitamin D3 concentration and the severity of disease in Iranian patients with multiple sclerosis (MS) and to compare this concentration with a matched control group.

METHODS: This was an analytical cross-sectional study performed at Jondishapour Neurology Clinic in Tehran, Iran. Patients with relapsing-remitting MS were categorized by disease severity: mild [0≤ Expanded Disability Status Scale (EDSS) ≤3], moderate (3.5≤EDSS≤5.5), and severe (6≤EDSS). Serum concentrations of 25(OH) vitamin D3, calcium, phosphorus, magnesium, and parathyroid hormone were measured in 98 MS patients and 17 healthy age- and sex-matched controls. Fisher's exact, Kruskal-Wallis, Mann-Whitney U test, and independent t and Spearman rank correlation tests were used.

RESULTS: Serum 25(OH) vitamin D3 concentration was significantly lower in patients with MS, especially in the severe MS subgroup, compared with healthy controls (P=0.047). There was a statistically significant inverse correlation between 25(OH) vitamin D3 concentration and EDSS score (P=0.049, R=-0.168 by Spearman rank correlation test), which was observed in women only (P=0.044, R=-0.199).

CONCLUSIONS: Our findings not only further disclose the lower level of vitamin D in MS patients in comparison with healthy controls, but also support the association between vitamin D and disease severity in MS.

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