

Does vitamin D deficiency predict early conversion of clinically isolated syndrome? A preliminary Egyptian study

ABSTRACT

Background: It has been suggested that vitamin D influences the immunoregulation and subsequently affects the risk for conversion of clinically isolated syndrome (CIS) to clinically definite multiple sclerosis (MS). There is little information regarding the relationship between levels of vitamin D and CIS conversion to MS in Egyptian patients.

Objective: It is to study contribution of vitamin D deficiency to conversion of CIS to clinically definite multiple sclerosis (CDMS) and correlation of vitamin D level to cognitive and magnetic resonance imaging (MRI) results.

Patients and methods: A longitudinal prospective case control study was conducted on 43 Egyptian patients diagnosed as CIS according to McDonald criteria (2010). Clinical presentation, brain MRI and 25-hydroxyvitamin D levels were evaluated at baseline and after one-year follow-up.

Results: The CIS patients that converted to MS showed significant lower vitamin D level ($p < 0.001$) than the non-convertors. Multivariate logistic regression analysis revealed that the CIS patients with lower 25-hydroxyvitamin D level ($p < 0.001$) are at higher risk for early conversion to MS. There was a significant positive correlation between the vitamin D level and PASAT ($r = 0.36, p = 0.02$). It was found that there was a significant negative correlation between vitamin D level and MRI T2 load ($r = -0.38, p = 0.01$).

Conclusion: The low level of 25-hydroxyvitamin D may predict early conversion to clinically definite MS. Early vitamin D supplementation is recommended in patients with CIS.

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