

Comparison the serum levels of vitamin D3 in Multiple sclerosis patients and the control group during one year

Abstract

Introduction: The World Health Organization states that the worldwide prevalence of MS is increasing. Due to the growth of people with MS, and because this disease involves the working youth community and is a debilitating illness and also there is no exact treatment for it, thus, eliminating the risk factors of this disease through new and cost-effectiveness methods is essential. It has been proven that vitamin D3 is an active role in the immune system. The effects of vitamin D on the immune system is increasing of phagocytic monocytes and also reducing the secretion of TNF- α , IL-12 and PGE2 by monocytes. Vitamin D3 serum Levels in MS patients had conflicting results in different studies. The Purpose of this study was to compare serum levels of vitamin D3 in patients with MS and healthy objectives, and also investigating the relationship between vitamin D3 serum levels and the severity and number of attacks in MS patients during a year.

Methods: In this case-control study, 60 patients with MS were selected for case group and 60 healthy people that were matched to the case group in terms of sex and living conditions, were selected as control group. Serum samples were collected for laboratory examination of vitamin D3 serum levels. Then, the collected data is analyzed by SPSS 16.

Results: There was 15 men (25%) and 45 women (75%) in each group. The mean age of the control group was 20 ± 4 years and the mean age of control group was 19.3 ± 2.8 years. The prevalence of deficiency and inadequate levels of vitamin D3 was higher in MS patients than healthy controls (45% deficiency of Vitamin D3 in MS patients versus 35% in control group, and 30% inadequate levels of vitamin D3 in MS patients versus 20% in control group). Deficiency of vitamin D3 was higher among women in both groups. In MS group, prevalence of inadequate levels of vitamin D3 was 35.6% among women while it was 13.3% among men; But in control group, prevalence of inadequate levels of vitamin D3 was higher among men (40% versus 13.3%). The incidence of recurrence was 13.3% (2 out of 15 patients), 11.1% (2 out of 18 patients), and 11.1% (3 out of 27 patients) among MS patients with normal levels of vitamin D3, MS patients with inadequate levels of vitamin D3, and MS patients with deficiency of Vitamin D3, respectively, that was not statistically significant (P-Value = 0.973).

Conclusion: The findings of this study shows that the serum levels of vitamin D3 is low in Ardabil and are even lower among women; and also, it is lower in MS patients related to healthy people. There was no significant relation between the number of attacks per year with serum levels of vitamin d3 and this subject needs further investigation.

Keywords: MS, vitamin D3.serum level