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Poster Presentation

Vitamin-D Deficiency as a Potential Risk Factor in Multiple Sclerosis

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Abstract

Multiple sclerosis (MS) is a multifactorial disorder caused by the effects of several genes in combination with environmental factors. This disease is characterized by myelin loss, varying degrees of axonal pathology and inflammatory lesions. It is an important cause of disability in young adults, seen to be more prevalent in the woman, and affects 2.5 million people worldwide. Great efforts are being made in identifying the role of Vitamin-D in MS, where Vitamin D deficiency seems to contribute to disease activity and Vitamin-D supplementation investigations have proved this issue. Two significant prospective studies showed a protective effect of Vitamin-D in MS. A case-control s tudy reported that high serum concentrations of 25-hydroxycholecalciferol associated with decreased MS risk. Recent prospective studies confirmed these results and reported that levels of Vitamin-D over 75 nmol/L were related to a decreased MS risk. Numerous observational investigations have consistently proved a relation of low serum levels of Vitamin-D with increased MS risk and supported the results from the prospective studies. Vitamin-D intake was found to relatively decrease the risk of MS in a large prospective study (n= 187,563). Vitamin-D status associated inversely with escalation risk in relapsing-remitting MS and recommended a beneficial outcome on MS disease activity. This effect was also seen in patients on interferon-β therapy, where the lowest rate of new lesions was found in patients with Vitamin-D levels over 100 nmol/L. Whether and how Vitamin-D contributes to the pathophysiology of MS is unknown. Further insight into the role of Vitamin-D, in neuro inflammatory diseases, especially as it relates to the immune system, neuroprotection, and inflammation, will help shed light on the causal pathophysiology of these conditions and may aid the design of better treatment strategies for future.

Keywords: Multiple Sclerosis, Vitamin D Deficiency, Neuro Inflammatory Diseases

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