

Sun exposure, vitamin D intake, serum vitamin D and IgG-NMO in patients with NMOSD; Are the any association

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Introduction: Neuromyelitisoptica Spectrum Disease (NMOSD) or Devic's disease is a recurrent disease of the central nervous system (CNS) that affects mainly the optic nerves and spinal cord. In recent years, the condition has raised enormous interest among scientists and clinical neurologists, fuelled by the detection of a highly specific serum immunoglobulin (Ig)G autoantibody (NMO-IgG) targeting the most abundant astrocytic water channel AQP4. The immunological significance of vitamin D was first recognized when the vitamin D receptor (VDR) was identified in lymphocytes in both T- and B cells.

Objective: To investigate the relationship between sun scale exposure, dietary vitamin D, serum vitamin D levels and IgG-NMO titration in serum.

Method: 25-hydroxyvitamin D (25(OH)D) and IgG-NMO were assessed in serum in 29 patients with NMO. Also dietary intake of vitamin D were assessed with food frequency questionnaire (FFQ) with 168 items and average sunshine exposure was measured using a questionnaire to quantify the amount of time patient spent in the sun.

Results: IgG-NMO titration in 9 patients was positive and in others was negative. All of dietary intakes of vitamin D, sun exposure scale and serum levels of vitamin D in patients with negative IgG-NMO is more than positive IgG-NMO; although sun exposure scale different was not significant. Age, gender and latitude were not confounder variables.

Conclusion: Physiological variation in vitamin D may exert a major impact on IgG-NMO synthesis in patients with NMO and vitamin D may dose play role in pathogenesis of NMO.

Keywords: Neuromyelitisoptica, vitamin D, Diet, Sun exposure, Immunoglobulin G