

## Impact of Vitamin A Supplementation on Disease Progression in Patients with Multiple Sclerosis

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**Background:** Many studies have shown that active vitamin A derivatives suppress the formation of pathogenic T cells in multiple sclerosis (MS) patients. The aim of the present study is to determine the impact of vitamin A on disease progression in MS patients.

**Methods:** 101 relapsing-remitting MS (RRMS) patients were enrolled in a 1-yr placebo-controlled randomized clinical trial. The treated group received 25000 IU/d retinyl palmitate for 6 mo followed by 10000 IU/d retinyl palmitate for another 6 mo. Results for the expanded disability status scale (EDSS) and multiple sclerosis functional composite (MSFC) were recorded at

the beginning and the end of the study. The relapse rate was recorded during the intervention. Patients underwent baseline and follow up brain MRIs.

**Results:** The results showed "Mean±SD" of MSFC changes in the treated group was  $(-0.14±0.20)$  and in the placebo group was  $(-0.31±0.19)$ . MSFC was improved in the treatment group significantly ( $p<0.001$ ). There was no significant differences between the "Mean±SD" of EDSS changes in the treated  $(0.07±0.23)$  and the placebo  $(0.08±0.23)$  groups ( $p=0.73$ ). There was also no significant differences between the "Mean±SD" of annualized relapse rate in the treated group  $(-0.36±0.56)$  and placebo  $(-0.53±0.55)$  groups ( $p=0.20$ ). The "Mean±SD" of enhanced lesions in the treatment  $(0.4±1.0)$  and in the placebo  $(0.2±0.6)$  groups were not significantly different ( $p=0.26$ ). Volume of T2 hyperintense lesions "Mean±SD" was not significantly different between treatment  $(45±137)$  and placebo  $(23±112)$  groups after intervention ( $p=0.23$ ).

**Conclusion:** Vitamin A improved total MSFC score in RRMS patients, but it did not change EDSS, relapse rate and brain active lesions.

**Keywords:** Multiple sclerosis, vitamin A, disability evaluation, magnetic resonance imaging