SERUM 25-HYDROXYVITAMIN D3 LEVELS AND FLARES OF SYSTEMIC LUPUS ERYTHEMATOSUS: A LONGITUDINAL COHORT ANALYSIS

Background and aims To study the relationship between serum 25-hydroxyvitamin D3 levels and flares of SLE in a longitudinal cohort of Chinese patients.

Methods Patients who fulfilled the ACR criteria for SLE were recruited and serum levels of 25-hydroxyvitamin D3 were assayed by liquid chromatography tandem mass spectrometry. Patients were stratified according to the 25-hydroxyvitamin D3 levels (group I: <15 ng/ml, deficiency; group II: 15–30 ng/ml, insufficiency; and group III: >30 ng/ml, adequate) and were serially assessed for disease activity and flares. Baseline and summated SLEDAI over time, and the annual incidence of lupus flares was compared among these groups.

Results 276 SLE patients were studied (94% women; age 41.0 ±13.8 years; SLE duration 8.7±6.6 years). 25-hydroxyvitamin D3 levels of <15, 15–30 and >30 ng/ml occurred in 26%, 54% and 20% of the patients, respectively. Group I had significantly higher baseline SLEDAI. After a follow-up of 32.5 ±5.5 months, 153 mild/moderate and 91 severe flares developed. The mean summated SLEDAI was 3.2±2.0 in group I, 2.4±1.9 in group II and 2.7±2.1 in group III patients (p=0.02). The annual incidence of mild/moderate and severe flares was 0.26±0.39 and 0.20±0.45 (group I); 0.20±0.33 and 0.09±0.22 (group II); and 0.14±0.46 group III), respectively (p>0.05). In a subgroup of 73 patients who were clinically and serologically quiescent at baseline, a similar trend of more flares was again observed in group I. New damage or vascular events did not differ significantly among the three groups.

Conclusions Vitamin D deficiency was frequent in SLE patients and was associated with more active disease at baseline and over time, as well as a trend of more severe lupus flares.