

### **Requirement of vitamin D supplementation in patients with systemic and discoid lupus erythematosus**

Lupus patients have multiple risk factors for vitamin D deficiency. The symptoms of vitamin D deficiency are nonspecific and include musculoskeletal pain, paraesthesiae and cramps. Photoprotection inhibits vitamin D synthesis in skin. Chronic steroid use may result in altered metabolism of vitamin D. Antimalarials which are widely used in lupus treatment inhibit the hydroxylation 1,25dihydroxy-vitamin D and lowering the vitamin D plasma levels. Renal involvement can also inhibit active vitamin D formation in kidneys.

For these reasons serum concentration of 25(OH)D<sub>3</sub> in patients with discoid and systemic lupus erythematosus was analyzed in relation to selected clinical and laboratory parameters. We also evaluated the frequency of antibodies directed against 1,25(OH)<sub>2</sub>D<sub>3</sub>.

Results showed low concentration of vitamin D in patients with systemic and discoid lupus erythematosus, in comparison to healthy controls (respectively  $p=0.027$  and  $p=0.0001$ ). The cold period of the year ( $OR=5.47$ ;  $p=0.01$ ) and regular photo protection ( $Beta=-0.39$ )  $p=0.04$ ) turned out to be the main causes of vitamin D deficiency. The correlation between decreased vitamin D concentration with leucopenia and renal involvement were found (respectively,  $p=0.048$  and  $p=0.006$ ), and indicated that patients with these changes need special evaluation because of risk for vitamin D deficiency. Autoantibodies directed against 1,25(OH)<sub>2</sub>D<sub>3</sub> were found in 10% of patients, however they were not associated with vitamin D deficiency. Supplementation with cholecalciferol was effective ( $p=0,0014$ ) and safe management in the treatment of vitamin D deficiency in patients with systemic lupus erythematosus.