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Assessment of vitamin D level in SLE patients and its correlation with disease parameters

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Abstract:

Background: Systemic lupus erythematosus (SLE) is a complex autoimmune disease involving multiple organs and tissues. Recently, vitamin D deficiency has been implicated as a potential environmental factor triggering several autoimmune disorders such as SLE.

Objective: our aim is the assessment of serum vitamin D level in SLE patients and detecting its relation with various disease parameters.

Subject and Methods: Our study was conducted on 30 female patients with systemic lupus erythematosus attending the outpatient clinic or were admitted in the inpatient unit of the Rheumatology & Rehabilitation and Internal Medicine Departments, Faculty of Medicine ,Cairo University hospitals. All patients fulfilled the ACR criteria for systemic lupus erythematosus. 20 age and sex matched healthy individuals were included, serving as a control group. All the patients were subjected to full clinical examination, laboratory investigation, disease Activity Assesments (SLEDAI), disease damage assessment (SLICC), and estimation of serum level of 25(OH) D level using ELISA.

Results: We found that the mean 25(OH)D level in the lupus patients was 28.8 ± 26 ng/ml, vs 97 ± 47 ng/ml in healthy controls, the difference between them was highly statistically significant [$P < 0.001$], we classified our patients into 3 groups; group of normal 25 (OH) D level (>30 ng/ml), group of insufficient D level (12-30 ng/ml) and group of deficient D level (<12 ng/ml). We found statistical significant difference among the 3 SLE groups as regard the skin rashes as a whole [$p=0.039$], the malar rash in particular [$p=0.026$] and serum creatinine ($p=0.04$). Also Highly statistical significant difference was found as regards the presence of haematological parameters [$p < 0.001$] and serum ca level ($P < 0.001$) among the 3 SLE groups. Serum Ca level showed positive statistical significant correlation with 25(OH) D level ($r=0.9$, $p < 0.001$). While, No statistical significant correlation was found between the serum 25(OH) D level and each of the following; demographic data, clinical, laboratory parameters and the received medications in our SLE group.