IS THERE A RELATIONSHIP BETWEEN VITAMIN D AND COMPLEMENT IN PATIENTS WITH JUVENILE SYSTEMIC LUPUS ERYTHEMATOSUS?

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Purpose
Complement consumption is a feature of active Systemic Lupus Erythematosus (SLE), and serum complement components measurement is used in clinical practice in the surveillance of these patients. Also, vitamin D deficiency is a common finding in SLE. This study aimed to evaluate the correlation between serum levels of 25-hydroxyvitamin D (25OH-D) and C3c/C4 in patients with juvenile SLE.

Methods
A population of juvenile SLE patients was retrospectively evaluated. Data on demographic and clinical characteristics was collected. Serum 25-OH-colecaldiferol (normal >30 ng/ml), C3c (normal >75 mg/dl) and C4 (normal >10 mg/dl) values were also gathered. Statistical analysis was performed using Pearson and Spearman correlation coefficient. Significance level was set as <0.05.

Results
Twenty-one patients were included, with a mean current age of 26,6 years (±7,44). Two patients were male (9,5%). Eleven patients (52,4%) had renal involvement: 9 with lupus nephritis class IV, 1 with class III and 1 with class II. More than half of them (63,6%) were in maintenance treatment with mycophenolate mofetil. Considering laboratory measurements, the mean serum 25OH-D was 22,1 ng/ml (±9,36), mean C4 17,5 mg/dl (±7,29) and median C3c 105 mg/dl (from 18 to 144 mg/dl). Only 14,3% (n=3) had serum 25OH-D above 30 ng/ml; 19,0% (n=4) had low C3c levels and 9,5% (n=2) low C4 levels. When correlating 25OH-D with C3c values, no statistical significant difference was found (r=0,005; p=0.9843). The same occurred with 25OH-D and C4 (r=0,127; p=0.5843).

Conclusion
Vitamin D has an important role on the immune system modulation, but still not fully understood. In SLE, other authors have described a positive correlation between serum levels of 25OH-D and complement components levels. Despite the small sample size, this hypothesis was not confirmed in the presented population.