The correlation between the serum 1,25(OH)\(_2\)D3 level and clinical data of patients with Primary Sjogren’s Syndrome

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**Background:** The role of vitamin D in regulating immune function in autoimmune diseases has been extensively studied. While there is less research on vitamin D in Sjogren’s syndrome. This study will explain the relationship between vitamin D and Sjogren’s syndrome.

**Objectives:** To explore the relationship between the serum 1,25(OH)\(_2\)D\(_3\) level and the changes of disease activity in patients with Primary Sjogren’s Syndrome (PSS), and to explore whether supplementation of VD could be a potential therapy for the treatment of PSS.

**Methods:** PSS patients (n=60, according to the 2002 International Classification (Diagnostic) Standard for Sjogren’s Syndrome) were enrolled and health individuals were normal controls. Laboratory examinations were analyzed including that serum levels of 1,25-dihydroxycholecalciferol (1,25(OH)\(_2\)D\(_3\)), lymphocytes and CD4+T cell subsets by flow cytometry, urine pH value, ALT, AST, BUN, Cr, IgG, C3, C4, ESR, CRP, serum levels of 1,25(OH)\(_2\)D\(_3\), physical examination data include Salivary flow rate, secretion of tears, breakup time of tear film (BT), and labial glands biopsy. Patient’s disease activity was accord to ESSDAI (EULAR SS disease activity index, 2010) classification.

**Results:** Compared with that in normal controls, the levels of serum VD in patients with PSS was decrease significantly, Z= -7.367, P <0.001(Figure 1). Spearman correlation analysis and comparison with the collected indexes, showed that VD was significantly correlated with secretion of tears (r=-0.455, p<0.002), IgG (R=-0.581, p<0.000), B cell absolute count (R=-0.474, p<0.002), B cell percent (R=-0.391, p=0.005), Th1 absolute count (R=0.318, p=0.023), Th17 absolute count (r=-0.297, p=0.034), Th17
disclosure of interests: None declared

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**Table 2. Correlation between the serum 1,25(OH)\(_2\)D3 level and clinical data**

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<tr>
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<td>0.24</td>
<td>0.00</td>
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<tr>
<td>stimulant salivary flow rate</td>
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<td>0.06</td>
<td>0.18</td>
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<td>0.381</td>
<td>0.22</td>
<td>0.24</td>
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**Disclosure of Interests:** None declared

**SAT0203**  
THE CORRELATION BETWEEN THE SERUM 1,25(OH)\(_2\)D3 LEVEL AND CLINICAL DATA OF PATIENTS WITH PRIMARY SJOGREN’S SYNDROME

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Pattern of B and Th17, and radios of Th1/Th2 and Th17/Tregs. Results are given as median (P 25,P75), Z=-7.37 P<0.001

Disclosure of Interests: None declared

Background: Fatigue is highly prevalent in systemic lupus erythematosus patients (SLE) and primary Sjogren's syndrome (pSS) and represents one of its unmet needs.[1] Its pathogenesis is multifactorial, with the activity of the underlying disease exerting a prominent role, along with psychological factors and co-morbid conditions. Previous studies evaluating fatigue and cytokines in patients with SLE and pSS have yielded inconclusive results.

Objectives: We aimed to evaluate patient-reported outcome measures reflecting fatigue and their correlation to serum cytokines in patients with SLE and pSS and healthy volunteers (HV). A panel of circulating cytokines, chemokines and growth factors was compared between groups, correlated to the level of fatigue and within SLE and pSS to global disease activity. The objective was to identify cytokines reflecting the degree of fatigue, which could be exploited as biomarkers and therapeutic targets.

Methods: We performed a cross-sectional study on subjects included in the Swiss SLE Cohort Study (SSCS). All subjects were evaluated clinically and had a serum sample taken. Fatigue was assessed by FAS (Fatigue Assessment Scale) and by the vitality subscale (VT) of the Medical Outcomes Study 36-Items Short Form Healthy Survey. Clinical activity in SLE and pSS patients was determined by a 4-point Likert-scale Physician's Global Assessment (PGA). SLE activity was assessed with the SLE Disease Activity Index score with the Safety of Estrogens in SLE National Assessment modification (SELENA-SLEDAI). Serum cytokines were assessed by multiplex bead array analysis (PlexMap, Thermofischer Scientific USA). P values were adjusted for multiple comparisons.

Results: Fifty-six patients with SLE, 18 with pSS and 18 healthy volunteers (HV) were included between November 2015 and June 2016. There were no significant differences between groups regarding to age, gender and body mass index (BMI). FAS and VT correlated strongly (Spearman’s rho -0.87, p<0.01). FAS was significantly higher in patients than in healthy individuals (median FAS 23 [16-31], 28[20.5-35], 17 [15-27] in SLE, pSS and HV respectively; p=0.02). Patients with SLE and pSS displayed higher serum levels of interferon (IFN)-gamma (median [IQR] 10.29 [9.49-15.25] pg/mL in SLE, 9.64 [6.25-13.86] pg/mL; undetectable in HV; P<0.01). Interleukin (IL)-10 also was only detected in pSS and SLE. Hepatocyte growth factor (HGF) was more expressed in patients than in controls (p= 0.01). The levels of most other cytokines (IFN-alpha, IL-1 alpha, IL-2, IL-4, IL-6, IL-17, IL-21 and IL-23) were not detectable.

Conclusion: Fatigue in patients with SLE and pSS is highly prevalent and can be assessed by patient-reported outcome measures. The panel of cytokines and chemokines analyzed in this study offer promising results for the identification of biomarkers for fatigue in systemic lupus erythematosus and primary Sjogren syndrome.

REFERENCES