lucency in the head of left femur. We started conservative management of joint pain. After 10 months, she newly complained of bilateral knee pain. X-ray of knee joint demonstrated joint space narrowing in both knees on medial aspect and severe bony sclerotic changes in both lateral condyles of femur. Results The risk factors for AVN in SLE have been reported by several studies. There is a strong causal relationship between corticosteroid intake and AVN development in SLE patients. However, in this case, the patient had never taken corticosteroid since diagnosis of SLE.

Conclusions The pathophysiology of AVN is not clear yet, however SLE itself should be considered an important risk factor of AVN.

PO.1.26 CONNECTIVE TISSUE SYSTEMIC DISEASES AND ITS ORAL HEALTH IMPLICATIONS

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10.1136/lupus-2022-elm2022.56

Purpose The aim of the study was to asses oral health conditions in connective tissue diseases.

Material and Methods Ninety nine women aged from 25 to 74 years were enrolled in the study. The study group comprised patients with systemic lupus erythematosus (n=36) and scleroderma (n=14). The control group consisted of healthy women.

Clinical examination of the oral cavity included the assessment of the dental condition in terms of the occurrence of caries, periodontal disease and mucous membrane disease, the level of oral hygiene and the occurrence of subjective complaints in the oral cavity.

Results Statistically significantly higher values of oral hygiene indices i.e. Approximal Plaque Index (API), Oral Hygiene Index – Simplified (OHI – S) and the Calculus Index – Simplified (CI – S) and Debris Index-Simplified (DI-S) were observed in patients with connective tissue systemic diseases (API 38.32 ± 29.66 vs. 25.21 ± 18.61 ; p = 0.016 OHI-S 1.54 ± 1.09 vs. 0.92 ± 0.80 ; p = 0.001 CI-S 0.88 ± 0.61 vs. 0.56 ± 0.59 ; p = 0.002 DI-S 0.66 ± 0.56 vs. 0.37 ± 0.29 ; p = 0.011).

The Sulcus Bleeding Index – modified (mSBI index) was statistically significantly higher in the group of patients with connective tissue systemic diseases compared to the control group (27.64 \pm 28.57 vs. 12.17 \pm 18.13, p = 0.001). The Sulcus Bleeding Index – modified (mSBI index) was statistically significantly higher in the group of patients with connective tissue systemic diseases compared to the control group (27.64 \pm 28.57 vs. 12.17 \pm 18.13, p = 0.001). In these patients oral mucosal abnormalities were more prevalent compared to the control group (60% vs. 26.53%).

Conclusions Patients with systemic connective tissue disease have impaired salivation, a lower salivary pH and a lower buffer capacity, although the differences are not significant in the case of the last two parameters. Worse condition of dental and oral health of female patients with systemic connective tissue disease indicates the need to provide this group of women with a dental prophylactic and therapeutic program

that considers the specificity of the impact of the underlying disease on dentition, periodontium, mucous membrane and saliva parameters.

Thursday 06 October 2022 from 13:00 to 14:10

PO.2 E- poster session 2: adaptive immunity including autoantibodies, APS, diagnostic and classification criteria

PO.2.27

EARLY CHANGES IN THE CIRCULATING B CELL
COMPARTMENT ASSOCIATED WITH RESPONSE TO
TREATMENT AND OCCURRENCE OF FLARES IN
PATIENTS RECEIVING THERAPY FOR ACTIVE SYSTEMIC
LUPUS ERYTHEMATOSUS

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10.1136/lupus-2022-elm2022.57

Purpose To investigate changes in B cell subsets and serological markers in relation to clinical response and flares in patients with systemic lupus erythematosus (SLE) treated with standard therapy (ST) with or without add-on belimumab.

Methods We analysed data from the BLISS-76, BLISS-SC and BLISS Northeast Asia trials (N=1712). Circulating CD19+ B cell subsets were determined by flow-cytometry. We studied associations of relative to baseline percentage changes in circulating B cell subsets, anti-dsDNA antibody and complement levels with SLE Responder Index (SRI)-4 response after 52 weeks of treatment or occurrence of disease flares during follow-up. B cell changes occurring through week 8 were termed 'rapid' and through week 24 'early'. Non-parametric tests were employed as appropriate.

Results In the entire cohort, more prominent decreases in CD20-CD27br plasmablasts (-44.9% vs. -33.3%; P=0.011), and CD20-CD138+ LLPC (-48.2% vs. -37.1%; P=0.024) were seen in SRI-4 responders (47.8%), while less prominent early decreases in CD20-CD138+ LLPC (-23.5% vs -39.4%; P=0.028) and CD27brCD38br SLE-associated plasma cells (-19.0% vs -27.8%; P=0.045) were shown in patients developing severe flares (12.2%), holding true for patients on ST alone. A rapid decrease in CD20+CD138+ short-lived plasma cells (-50.4% vs -16.7%; P=0.019) and CD20-CD27br plasmablasts (-50.0% vs -29.9%; P=0.020) followed by a subsequent return to near-baseline values distinguished patients developing a renal flare. By contrast, plasma cell subsets gradually decreased in patients who did not develop a renal flare.

Memory B cells showed a more prominent rapid (+92.0% vs +66.7%; P=0.002) and early (+60.0% vs +49.5%; P=0.033) expansion in SRI-4 responders versus

non-responders. After adjustment for rapid changes, early increases or no return after a rapid expansion in CD20 +CD27+ memory B cells portended subsequent severe flares (HR: 1.58; 95% CI: 1.18–2.11). In stratified analysis, patients on ST developing renal flares exhibited a rapid decrease in the memory B cella (-34.8% vs 0.0%; P=0.006), while belimumab induced increases in memory B cells irrespective of renal flaring.

SRI-4 responders on belimumab displayed rapid reductions in anti-dsDNA (-14.8% vs -8.7%; P=0.043) and increases in C3 (+4.9% vs +2.1%; P=0.014) and C4 levels (+11.5% vs +8.3%; P=0.017). Patients who developed flares of any severity showed no or less prominent rapid or early (P<0.001 for both) decreases in anti-dsDNA levels. Conversely, early changes in serological biomarkers did not distinguish patients developing renal flares.

Conclusions Specific changes in composition and pattern of circulating B cell subsets upon treatment for active SLE can portend disease flares or treatment response. Importantly, most B cell changes are related to treatment effectiveness rather than to treatment targets, although anti-B cell therapies can incite certain peculiar alterations which require awareness i.e. increasae in memory B cells. Modifications in circulating B cell subsets occur soon after treatment initiation and may therefore prove a useful complement in SLE patient surveil-lance and early treatment evaluation.

PO.2.28 INTRACELLULAR OXIDATIVE STRESS IN T-CELLS IS ASSOCIATED WITH THE DISEASE ACTIVITY OF LUPUS

¹A Tandon*, ¹A Sharma, ²A Bhatnagar. ¹PGIMER ~ Chandigarh ~ India; ²Department of Biochemistry, Panjab University ~ Chandigarh ~ India there is significant implication of oxidative stress in pathology of SLE. The abnormality in cell mediated immunity largely contributes to many autoimmune diseases like SLE. To understand the association between intracellular oxidative stress and antioxidant status, alterations in proportions (TH, Tc and Treg) and severity of Lupus, the cell-specific study was carried out in T-cell subtypes of SLE patients

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A36

Methods Lupus Patient and healthy subjects: Lupus patients were enrolled from outpatient department (OPD) of rheumatology clinic, PGIMER, Chandigarh.

Flowcytometric analysis PBMC isolated were incubated with antibodies conjugated to APC, PE, PerCP/cy5.5 for surface staining of antigens CD3,CD4,CD8 and CD25(Biolegend,USA). Primary antibodies for Keap1/Nrf2 (from Santacruz biotech, USA) were utilized for intracellular staining followed by FITC labelled Goat anti-mouse IgG(santacruz biotech,USA). DCFDA dye method used for analysis of oxidative stress.

Magnet -associated cell sorting for isolation of CD4+ and CD8+ T-cells: CD4+ and CD8+ T-cells were sorted using isolation Kits manufactured by StemcellTM, USA,

Quantitative real-time polymerase chain reaction cDNA was synthesized from RNA separated from these sorted subtypes and were utilized for evaluating expression of genes Keap1/Nrf2/HMOX-1. Quantitative PCR was done on the StepOne-Plus RealTime PCR Systems and was analyzed with StepOne Software V2.1 (Applied Biosystems New York, USA).

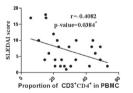
Statistical analysis Quantitative data were presented as mean ± standard error mean (SEM), were analyzed using unpaired Student's T-tests for parametric quantitative data and Mann-Whitney U test for non-parametric data. Likewise, the correlational study of parametric data was done with Pearson's

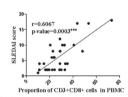
correlation and for non-parametric data Spearman's rank correlation. The software Graphpad prism version5.1 was used for analysis

Results

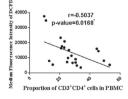
- Intracellular oxidative stress was higher in T-cell subtypes: CD3+CD4+, CD3+CD8+ and CD4+ CD25hi cells of lupus patients.
- Keap1levels were significantly higher in CD3+CD8+ and CD4+ CD25Hi in SLE patients.
- Intracellular concentration of Nrf2 were significantly higher in CD3+CD8+ of SLE patients.
- Relative mRNA expression of Nrf2 in CD8+ cells were higher in SLE patients as compared to healthy controls
- Relative mRNA expression of HMOX-1 was higher in CD4+ and CD8+ of SLE patients
- Proportion of CD3+CD4+ , CD3+CD8+ and CD4+ CD25hi were significantly reduced in SLE patients.
- Median Fluorescence Intensity (MFI)of Dcfda(or ROS levels) were directly correlated with disease activity score in CD3 +CD4+ & CD3+CD8+ of SLE patients.
- Intracellular levels of Nrf2 directly correlates with proportion of CD3+CD4+ and CD3+CD8+ cells.
- Concentration of Keap1 in CD3+CD4+ and CD3+CD8+ and relative mRNA of Keap1 expression in CD4+ & CD8+

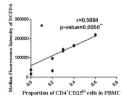
➤ Proportion of helper cells and CD3-CD56^{dim} cells had negative correlation with SLEDAI score whereas cytotoxic T-cells had positive correlation with SLEDAI score



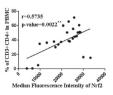


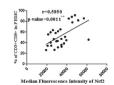
➤ The proportion of CD3⁺ CD4⁺ cells in SLE patients associates negatively with intracellular oxidative stress while proportions of CD3⁺ CD4⁺ and CD4⁺ CD25^{hi} correlates positively with the oxidative stress





> Nrf2 had cytoprotective role in lupus patients





Abstract PO.2.28 Figure 1