p=0.03). Upregulation of selected targets was confirmed at the protein level (e.g. p16 and PD-L1 by flow cytometry, APS vs HC p=0.002 and p=0.03 respectively). Diminished mitochondrial respiration and ATP production (p<0.01) coupled with elevated glycolysis (p=0.02) was seen in APS vs HC ECFC. Mitochondrial parameters positively correlated with proliferative capacity (r=0.5, p<0.01) and negatively correlated with senescence and inflammation (r=-0.4, p<0.05), indicating a relationship between endothelial health and mitochondrial function. Glycolysis negatively correlated with proliferation (r=0.8, p<0.01). Comparing ECFC from patients with previous cardiovascular events (CVE, n=9) vs those without (no-CVE, n=8) revealed more pronounced senescence and mitochondrial dysfunction in CVE, while greater loss of proliferative capacity was observed in no-CVE. Inflammatory markers differed between the two patient groups, e.g. PTX3 was higher in CVE and CXCL10 in no-CVE. Collectively, these observations suggest different underlying biological processes in patients with severe thrombotic complications compared to those without.

Conclusion: We propose APS as a paradigm disease for immune-mediated endothelial ageing, defined by a hyperproliferative-senescent, inflamed and metabolically perturbed phenotype. Evidence for a more severe dysfunctional phenotype in ECFC from patients with CVE compared to no-CVE, agrees with published studies associating vascular ageing and mitochondrial damage with cardiovascular risk. Ongoing work is assessing the impact of ex vivo treatment with IgG aPL, cytokines and relevant drugs capable of modulating senescence and immunometabolic processes.

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**POS1416**

IL-6, IL-8, TNF-α ARE SIGNIFICANTLY INCREASED IN CEREBROSPINAL FLUID AND ASSOCIATED WITH ALTERATIONS OF EYE SIGN IN PATIENTS WITH NEUROPSYCHIATRIC LUPUS ERYTHEMATOSUS

**Keywords:** Biomarkers, Systemic lupus erythematosus, Cytokines and chemokines

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**Background:** Several pro-inflammatory cytokines such as interleukin (IL)-6, IL-8 have been implicated in the pathogenesis of in patients with neuropsychiatric systemic lupus erythematosus (NPSLE) [1]. The alterations of eye sign has been reported and correlated with disease activity in NPSLE [2].

**Objectives:** To ascertain whether the intrathecal levels of cytokines/chemokines relative to serum levels is associated with microvascular changes of eye sign in the patients with neuropsychiatric systemic lupus erythematosus (NPSLE).

**Methods:** SLE Patients (>18 years) were consecutively enrolled, for whom the cerebrospinal fluid (CSF) and serum samples were collected at the same time, 6 kinds of cytokine/chemokine concentrations in the CSF and serum samples were measured by Chemiluminescent Immunoassay. The diagnosis of NPSLE was evaluated and based on the consensus from rheumatologist, neurologist, radiologist and psychiatrist. Bulbar conjunctival microvascular changes in eye sign were performed and scored for all SLE patients by rheumatologist using our criteria. NP assessments were evaluating in all SLE patients by psychiatrist, including the mini-mental state examination (MMSE), self-rating anxiety scale (SAS), self-rating depression scale (SDS). Demographic and clinical data were compared between two groups and to identify potential predictors for NPSLE by using multivariable logistic regression analysis.

**Results:** 120 SLE patients were recruited (30 [24-41] years) including 30 NPSLE and 90 non-NPSLE. In multivariable logistic analysis, total score of eye sign in model 1 and ramified loops, microangioma and wound spot of eye sign in model 2 were predictors for NPSLE. p=0.027 (Figure 1). The association between IL-6, IL-8, TNF-α in CSF and total score microangioma in eye sign and between TNF-α in CSF and ramified loops, wound spot in eye sign were found (Figure 1), moreover, significant positive correlation between IL-6, IL-8, TNF-α in CSF and total score microangioma in eye sign and between TNF-α in CSF and ramified loops, wound spot in eye sign were found (Figure 1), moreover, significant positive correlation between IL-6, IL-8, TNF-α in CSF and SLEDAI were also observed (r=0.35, p<0.001, r=0.43, p<0.001, r=0.22, p=0.027, respectively), while no significant positive correlation was observed between CSF levels and serum levels of each cytokines/chemokine in these 120 SLE patients.

**Conclusion:** In NPSLE the production of IL-6, IL-8, TNF-α in CSF might take place in the nervous system, especially in active disease state. These increased CSF cytokines/chemokines along with ramified loops, microangioma and wound spot in eye sign might have an interaction and prerequisite role in the pathogenesis of NPSLE.

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