Background: Salivary gland biopsies play an important role in the classification and diagnosis of primary Sjögren’s syndrome (pSS). Currently, salivary gland biopsies are considered positive for pSS if the focus score (FS), calculated by the number of characteristic lymphocytic periductal infiltrates per 4 mm², is ≥1. However, the FS has several limitations, and other histopathological parameters, such as (pre-)lymphoepithelial lesions, IgA/IgG plasma cell shift and germinal centers, can also be present in salivary glands of pSS patients. Although the diagnostic value of these histopathological features in pSS was already shown separately, no study explored the added diagnostic value of these histopathological features together.

Objectives: To evaluate the diagnostic accuracy of the salivary gland biopsy based on multiple histopathological parameters (FS, (pre-)lymphoepithelial lesions, IgA/IgG plasma cell shift and germinal centers) in patients suspected for pSS.

Methods: Consecutive sicca patients who were clinically suspected for pSS and underwent a labial gland biopsy were included. Classification of patients as pSS or non-SS was based on clinical vignettes scored by an expert panel of three experienced rheumatologists. Labial gland biopsies were analyzed for four histopathological parameters: focus score (FS) and presence of (pre-)lymphoepithelial lesions, IgA/IgG plasma cell shift and germinal centers. Sensitivity and specificity of these histopathological parameters were calculated, and ROC analysis was used to determine the optimal cut-off value for the number of histopathological parameters needed to diagnose pSS.

Results: Of the 103 included patients, 38 patients were classified as pSS and 65 as non-SS sicca by the expert panel. In pSS patients, the prevalence of FS≥1 was 82%, followed by 68% for presence of (pre-)lymphoepithelial lesions, 63% for plasma cell shift and 24% for germinal centers. FS≥1 showed the highest specificity for pSS (82%), but specificity was higher for the other three parameters (98-100%, Table 1). Although the sensitivity of presence of ≥2 (out of 4) histopathological parameters was comparable to the sensitivity to FS alone, the specificity of presence of ≥2 (out of 4) histopathological parameters increased with 12% to 100%. Regarding the biopsy item in the ACR-EULAR criteria, specificity increased from 84% to 95% when FS≥1 was replaced by the presence of ≥2 histopathological parameters. This will lead to a lower number of false positive biopsies and a lower number of patients misclassified as pSS.

Conclusion: The diagnostic accuracy of the labial gland biopsy increases when other histopathological parameters besides FS are taken into account. Also, the performance of the ACR-EULAR criteria increases when the biopsy item is replaced by the presence of ≥2 histopathological parameters. This will lead to a lower number of false positive biopsies and a lower number of patients misclassified as pSS.
Figure 1. Changes in HRCT variables in patients with pSS-ILD during the follow-up period.

Plots are shown for the total extent (A) ground-glass opacities (GGO) (B), fine reticulation (C), coarse reticulations (D), coarseness score of fibrosis (E), and score of traction bronchiectasis (BE).

**Acknowledgements:** This research was supported by a grant of Patient-Centered Clinical Research Coordinating Center (PACEN) funded by the Ministry of Health & Welfare, Republic of Korea (grant number: HC21C0100). This work was also supported by the Soonchunhyang University Research Fund.

**Disclosure of Interests:** None Declared.

**DOI:** 10.1136/annrheumdis-2023-eular.973

---

### POS1458

**PREVALENCE OF SUBCLINICAL ATHEROSCLEROSIS IN PATIENTS WITH PRIMARY SJÖGREN’S SYNDROME**

**Keywords:** Cardiovascular disease, Sjögren syndrome

N. Zehrfeld1, S. Benz2, A. Derda3, S. Beider1, E. Kramer1, G. Sogkas1, T. Seeliger4, G. Ahrenstorf1, A. Dopfer-Jablonka1, T. Skripuletz1, T. Witte1, K. Sonnenschein1, D. Ernst1, 1Medizinische Hochschule Hannover, Rheumatology & Immunology, Hannover, Germany; 2University of Mannheim, Faculty of social sciences, Mannheim, Germany; 3Medizinische Hochschule Hannover, Cardiology & Angiology, Hannover, Germany; 4Medizinische Hochschule Hannover, Neurology, Hannover, Germany

**Background:** It is well established that patients with inflammatory rheumatic diseases have an increased cardiovascular risk [1]. Most data exists for rheumatoid arthritis, but there are also a few studies for primary Sjögren’s syndrome (pSS) [2].

**Objectives:** Aim of our study was to investigate the extent of subclinical atherosclerosis in a large group of patients with pSS compared to control subjects without pSS. Secondary, correlations with clinical factors, such as organ involvement or antibody positivity, and disease activity were investigated.

**Methods:** From September 2021 to April 2022, pSS patients from the outpatient clinic of our hospital were consecutively included after informed consent. In addition, age- and sex-matched control subjects were recruited in a 2:1 ratio via multimedia call for participation. All pSS patients fulfilled current EULAR classification criteria for pSS and had a disease duration of at least 5 years. Participants with additional rheumatic or inflammatory diseases, tumor disease in the past 5 years, or end-organ manifestations of atherosclerotic disease were excluded. Data collection was performed by standardized questionnaire and Doppler ultrasonography for evaluation of plaque extent and intima-media thickness measurements (cIMT).

**Results:** Analysis included data from 199 pSS patients and 100 control subjects. 38 (19.4%) subjects of the pSS cohort were male and the median age was 56.92 years [50.50-65.21]. The median disease duration (since initial manifestation) of all pSS patients was 136 months. The cohorts were analyzed for differences regarding clinical, biological, histological and ultrasonographic features of patients with a double positivity for anti-La/SSB antibodies in primary Sjögren's syndrome (pSS). The double positivity for anti-Ro52/anti-Ro60 has been associated with B-cell hyperactivity and a more prominent INF-α signature. Whether the positivity of anti-La/SSB antibodies influences the clinical features of triple positive pSS patients at the time of diagnosis remains unclear.

**Disclosure of Interests:** None Declared.

**DOI:** 10.1136/annrheumdis-2023-eular.2606

---

### POS1459

**THE WEIGHT OF ANTI-LA/SSB ANTIBODIES IN RO52-POSITIVE PATIENTS WITH A NEWLY DIAGNOSED SJÖGREN’S SYNDROME: A PHENOTYPE CHARACTERIZED BY A MORE SEVERE MAJOR AND MINOR GLANDULAR INVOLVEMENT AND A HIGHER BIOLOGICAL ACTIVITY**

**Keywords:** Biomarkers, Autoantibodies, Sjögren syndrome

S. Fonzi1, G. Fulvio1, G. La Rocca2, L. C. Navarro García3, G. Governo1, R. Izzetti1, V. Donati3, F. Ferro3, M. Mosca3, C. Baldini1, 1University of Pisa, Rheumatology Unit, Pisa, Italy; 2University of Pisa, Unit of Dentistry and Oral Surgery, Pisa, Italy; 3AOU, Unit of Pathological Anatomy, Pisa, Italy

**Background:** Recently, a growing interest has arisen in investigating the association between patients’ serological profiles and the different clinical phenotypes in primary Sjögren’s syndrome (pSS). The double positivity for anti-Ro52/anti-Ro60 has been associated with B-cell hyperactivity and a more prominent INF-α signature. Whether the positivity of anti-La/SSB antibodies influences the clinical features of triple positive pSS patients at the time of diagnosis remains unclear.

**Objectives:** 1.To compare the clinical, biological, histological and ultrasonographic distinct features of pSS patients presenting a triple positivity for anti-La/SSB and anti-Ro52/anti-Ro60 with those of patients with different serological profiles at the time of pSS diagnosis. 2. To specifically describe the presenting features of pSS patients with a triple positivity in comparison with the features of patients with a double positivity for anti-Ro52/anti-Ro60.

**Methods:** This is a cross-sectional study including newly diagnosed pSS patients (ACR/EULAR 2016 criteria) enrolled prospectively from 2016 to 2022. Patients were stratified in five groups according to the serological profile (i.e. seronegative, isolated anti-Ro52, isolated anti-Ro60, double positive and triple positive). Demographic, clinical, biological and histological data were compared among the groups. Ultrasonographic features of major and minor salivary glands were also analyzed. Data were presented as means±SD or as percentage frequency, as appropriate. Intergroup comparisons were made using the t-test/Mann–Whitney U test for continuous variables and Fisher’s exact test for categorical variables.

**Results:** We included 199 pSS patients (M:F= 19:180, mean age 56±13.7 years). 33/199 (16.58%) were seronegative, 50/199 (25.12%) presented isolated anti-Ro52, 49/199 (24.62%) had double positivity, 55/199 (27.64%) had triple positivity involved also a 1.74times increased odds of having plaque compared to pSS-patients without organ involvement.

**Conclusion:** PSS appears to accelerate the development and progression of atherosclerosis as an independent risk factor. It seems to promote not only an increased incidence of atherosclerotic changes, but also an earlier onset of wall thickening in the sense of vascular aging. An increased risk for patients with organ involvement was observed. Further longitudinal studies are required to answer the question if this subgroup of pSS patients in particular or all pSS patients could benefit of screening with Doppler ultrasonography and preventive medication with HMG-CoA reductase inhibitors or acetyl salicylic acid.

**REFERENCES:**


**Acknowledgements:** This study was funded by Else-Kröner-Fresenius foundation and Novartis AG.

**Disclosure of Interests:** Nadine Zehrfeld Grant/research support from: Novartis AG, Sabrina Benz: None declared, Anselm Derda: None declared, Sonja Beider: None declared, Emelie Kramer: None declared, Georgios Sogkas: None declared, Tabea Seeliger Grant/research support from: Ailyn Lam Pharmaceuticals, Bristol-Myers Squibb Foundation for Immuno-Oncology, Claudia von Schilling Foundation, CSL Behring, Else Kröner Fresenius Foundation, Novartis, Sanofi Aventis, VHV Stiftung, Abbvie, Gerrit Ahrenstorf: None declared, Alexandra Dopfer-Jablonka: None declared, Thomas Skripuletz Grant/research support from: A lexion, Alylam Pharmaceuticals, Bayer Vital, Biogen, Celgene, Centocence, CSL Behring, Euroimmun, Janssen, Merck Serono, Novartis, Roche, Sanofi Aventis, Siemens, Sobi, Teva, Torsten Wittte Grant/research support from: Abbvie, BMS, Chugai, Galapagos, Janssen, Lilly, Pfizer, UCS and Roche, Kristina Sonnenschein: None declared, Diana Ernst Consultant of: Abbvie, Galapagos, Amgen and Novartis, Grant/research support from: Abbvie, Amgen, BMS, Chugai, Cilag-Janssen, Galapagos, GSK, Medac, Lilly, Pfizer, Novartis, Roche.

**DOI:** 10.1136/annrheumdis-2023-eular.2606