SAT0431

THE ACR-EULAR CLASSIFICATION CRITERIA IN PRIMARY SJÖGREN'S SYNDROME: THE CONTRIBUTING ROLE OF ULTRASOUND

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Background: Salivary gland ultrasound (SGUS) is cheap, non-invasive and easy to perform in an outpatient setting. The ACR-EULAR criteria were recently developed to reach international consensus regarding the classification of primary Sjögren's syndrome (pSS), but SGUS is not yet included as a classification item.

Objectives: To assess the performance of the ACR-EULAR criteria when salivary gland ultrasound (SGUS) replaces current items, in a large cohort of patients clinically suspected or diagnosed with pSS in daily clinical practice.

Methods: Included were all consecutive outpatients who underwent SGUS between October 2014 and July 2017 and had a complete data-set on all ACR-EULAR items. Classification according to the criteria was determined separately in patients who were subjected to a labial or parotid gland biopsy. For SGUS, the average score for hypoechogenic areas in the parotid and submandibular glands on one side was applied (range 0–3)¹. The optimal cut-off value for our SGUS score was determined using ROC analysis. Clinical diagnosis by the treating physician was used as gold standard. Area under the curve (AUC), absolute agreement, sensitivity and specificity of the original and adjusted ACR-EULAR criteria sets were determined.

Results: Of the 363 consecutive patients, 243 patients had a complete data-set, of whom 147 patients were diagnosed with pSS. Accuracy of SGUS to predict clinical diagnosis was good, with an AUC of 0.860 and optimal cut-off value of ≥ 1.5 . When applying a weight of 1 point for a positive SGUS, the cut-off value of the ACR-EULAR criteria to discriminate between pSS and non-pSS remained 4, irrespective of the type of biopsy used.

In patients who underwent a labial gland biopsy (n=124), the original ACR-EULAR criteria showed an AUC of 0.965 (figure 1A). Absolute agreement with clinical diagnosis was 94.4%, sensitivity was 95.9% and specificity was 92.2%. When SGUS replaced the labial gland biopsy, absolute agreement was 87.9%, sensitivity was 82.2% and specificity was 96.1%. When SGUS replaced anti-SSA antibody status, absolute agreement was 89.5%, sensitivity was 86.3% and specificity was 94.1%. When SGUS replaced the ocular staining score (OSS), Schirmer's test or unstimulated whole saliva flow (UWS), absolute agreement varied between 89.5%–93.5%, sensitivity varied between 90.4%–95.9% and specificity varied between 88.2%–92.2%. In patients who underwent a parotid gland biopsy (n=198), similar results were found (figure 1B).

Abstract SAT0431 – Figure 1. Ultrasound replacing current ACR-EULAR items in patients who underwent a labial gland biopsy (A) or a parotid gland biopsy (B).

Conclusions: SGUS cannot be used as a replacement for salivary gland biopsy or anti-SSA antibody status in the ACR-EULAR criteria because of a substantial reduction in sensitivity. For diagnostic purposes, a high sensitivity is preferred over a high specificity.

Replacement of the OSS, Schirmer's test or UWS by SGUS only resulted in negligible changes in accuracy of the ACR-EULAR criteria. With SGUS being able to replace one of these function tests, clinicians are offered more options that could lead to fulfilment of the ACR-EULAR criteria.

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MEMBRANOUS VERSUS PROLIFERATIVE LUPUS NEPHRITIS: TWO DIFFERENT DISEASES?

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Background: Lupus nephritis (LN) is currently classified according to the 2003 International Society of Nephrology/Renal pathology Society (ISN/RPS) classification system, which is based on histology. Most patients have proliferative lupus nephritis (PLN), which has been the most studied type of LN. Membranous lupus nephritis (MLN) is less frequent, accounting for 10%–20% of the cases. In some patients there is a combination of the two types.

Objectives: To compare MLN and PLN with respect to demographic, clinical and laboratory characteristics.

Methods: Single-centre retrospective observational study. All patients with biopsy-proven proliferative (class III and IV), membranous (class V) and mixed (class III or IV+V) LN (according to the 2003 ISN/RPS classification), followed at UCLH Rheumatology department from 1975 to 2017, were included. Individual clinical files were reviewed to obtain demographic, clinical, laboratory and pathological data. We also recorded data on treatment with corticosteroids, immunosuppressants and antimalarials. We compared groups using Pearson's chi-squared test for qualitative variables and Mann-Whitney test for quantitative variables. Renal survival was analysed through the Kaplan-Meier method. Significance level was defined at 0.05.

Results: 187 patients were included (table 1). Age at diagnosis was not significantly different between groups (p=0.474). The groups differ regarding ethnicity – higher proportion of Caucasians with PLN versus higher proportion of Afro-Caribbeans with MLN. Patients with MLN present with higher C3 levels and significantly lower anti-dsDNA levels than the ones with proliferative changes. Thirty-four patients with PLN, 3 with MLN and 2 with mixed nephritis, progressed to end-stage renal disease. Cumulative renal survival rates at 5, 10, 15 and 20 years were 91, 81, 75% and 66% for PLN and 100, 97, 92% and 84% for MLN, respectively (Image 1).

Abstract SAT0432 – Table 1. Comparison between the three groups of patients

		Class III and IV	Class V	III+V or IV+V	p
Total, N		135	38	14	
Sex					
	F, N (%)	123 (91)	33 (87)	11 (79)	0.303
	M, N (%)	12 (9)	5 (13)	3 (21)	
Ethnicity					0.044
	Caucasian, N (%)	67 (50)	12 (32)	3 (21)	
	Afro-Caribbean, N (%)	35 (26)	18 (47)	6 (43)	
	Asian, N (%)	33 (24)	8 (21)	5 (36)	
uPCR at LN diagnosis, median; IQR		261.5; 372	254.0; 276	143.0; 195	0.663
Creatinine at LN diagnosis, median; IQR		73.5; 40	54.5; 17	73; 58	0.106
Albumin at LN diagnosis, median; IQR		32.5; 13	31; 9	35; 4	0.624
C3 at LN diagnosis, median; IQR		0.61; 0.34	0.81; 0.57	0.64; 0.32	0.002
Anti-dsDNA at LN diagnosis, median; IQR		863.0; 1616.75	80; 149.5	296; 242	0.000
Ever Low C3, N (%)		107 (80)	35 (92)	11 (79)	0.203
Ever anti-dsDNA positive, N (%)		111 (83)	32 (84)	12 (86)	0.950
Ever anti-Sm positive, N (%)		25 (19)	16 (42)	6 (43)	0.004
Ever anti-RNP positive, N (%)		42 (31)	19 (50)	8 (57)	0.030
Ever anti-Ro positive, N (%)		54 (40)	16 (42)	10 (71)	0.081
Ever anti-La positive, N (%)		21 (16)	3 (8)	4 (29)	0.168
Use of antimalarials, N (%)		82 (66)	27 (73)	9 (69)	0.732
Use of immunosuppressants, N (%)		121 (95)	35 (95)	14 (100)	0.669
Use of corticosteroids, N (%)		125 (97)	36 (95)	13 (93)	0.668

F: females; M: males; uPCR: urinary protein-creatinine ratio; LN: Lupus nephritis; FU: follow-up