Background: The EULAR-ACR 2019 (EULAR19) classification criteria for systemic lupus erythematosus (SLE) were developed to improve the sensitivity and specificity of previous criteria. Notably, both the EULAR19 and existing SLICC-SLE 2012 (SLICC12) criteria can classify patients as having SLE by the presence of immunology and haematological abnormalities in the absence of any signs or symptoms. 

Objectives: To validate the EULAR19 criteria, with comparison to existing criteria, in a large cohort of patients with an established systemic autoimmune rheumatic disease (SARD).

Methods: We recruited 227 adult patients who were ANA positive with ≥1 clinical feature suggestive of a SARD, from three hospitals in the North West of England. Clinician diagnosis was used as gold standard; we then applied the EULAR19, SLICC12 and ACR-SLE 1997 (ACR97) criteria.

Results: Of the 227 patients recruited, by clinician diagnosis, 89 patients (36%) had SLE, 43 (17%) primary Sjögren's (pSS), 62 (25%) undifferentiated CTD, 25 (10%) systemic sclerosis (SSc) and 8 (3%) an inflammatory myositis. The characteristics of these patients and the breakdown of the EULAR19 criteria are outlined in figure 1.

Figure 1. Baseline characteristics and classification criteria compared across five SARD diagnoses.

The sensitivity and specificity of the EULAR19 is similar to ACR97 (sensitivity 84% (95% CI 75-91%) vs. 87% (95% CI 78-93%) and specificity 78% (95% CI 70-84%) vs. 76% (95% CI 68-83%) respectively). The SLICC12 criteria by contrast are more sensitive (94% (95% CI 87-98%)) and less specific (61% (95% CI 52-69%) in this cohort.

Figure 2 illustrates patients with a clinician diagnosis of SLE or UCTD who meet each of the classification criteria. Of the 89 patients with a clinician diagnosis of SLE, 39 (44%) patients would have sufficient points to meet EULAR19 criteria on blood test results alone in the absence of clinical symptoms. Four pSS patients and 4 UCTD patients would also meet EULAR19 criteria from positive blood results alone.

Similar to SLICC12, it is possible to classify patients as having SLE using the EULAR19 criteria by haematological and other laboratory tests. To what extent haematological abnormalities can be potentially used as the sole criteria’ needs consideration.

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Figure 2. Venn diagrams illustrating patients with SLE and UCTD who meet the EULAR19, ACR97 and SLICC12 classification criteria. No criteria refers to the patients not meeting any of the three SLE classification criteria.

Conclusion: These results suggest that the EULAR19 criteria perform comparably to the ACR97 criteria when applied to an established cohort of SARDs.