

Performance of the new ACR / EULAR 2019 classification criteria for systemic lupus erythematosus (SLE) in a cohort of Argentinian patients.



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Background: In 2019 ACR and EULAR published in joint collaboration the new classification criteria for Systemic Lupus Erythematosus (SLE). Compared to the previous ones, these criteria have shown higher sensitivity and specificity in multiple cohorts. To our knowledge, its performance has not been evaluated in a cohort of patients with rheumatological diseases living in Argentina.

Objectives: The aim of this study was to evaluate the sensitivity and specificity of the ACR / EULAR 2019 criteria in a cohort of patients with connective tissue diseases residing in Argentina. Secondary objectives were to determine the Likelihood Ratio (LR) of these criteria and the correlation of their global score with activity and damage indexes of the disease.

Methods: Multicenter, retrospective and analytical study. Patients \geq 18 years old with diagnosis of SLE (ACR 1997 and SLICC 2012) without other associated collagen diseases (case group), and patients with other non-SLE connective tissue diseases (control group) were included. Those with active infectious disease, oncohematological disease, drug-induced lupus and overlap syndrome were excluded. Sociodemographic data, characteristics of the disease and treatment were recorded. In addition, activity and damage indexes were obtained in the group with SLE. Three SLE experts, blinded to the diagnosis, determined for every individual if the patient had SLE or another rheumatological disease. An interrater agreement of 100% (including the 3 evaluators) was considered "defined SLE" and used as gold standard. In all cases, ACR 1997, SLICC 2012 and ACR / EULAR 2019 criteria were applied and compared with the gold standard. Statistical analysis: Descriptive statistics was estimated. Sensitivity, specificity, positive and negative LR of the criteria were determined. The association between the final score of the ACR / EULAR 2019 criteria and the disease activity and damage indexes were estimated with Spearman correlation test. STATA 15.0 was used for data analysis.

"The new ACR / EULAR 2019 criteria have shown high sensitivity, with a specificity comparable to its predecessors and a higher ability to distinguish SLE from other diseases and to exclude it in non-SLE patients."

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Questions ?
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Results

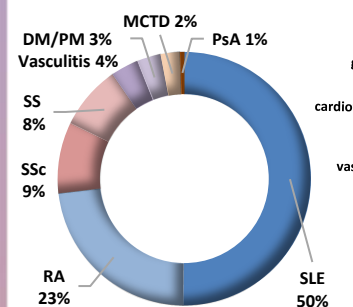
365 patients from 7 centers in Argentina were included

Table 1. Study population characteristics (N= 365)

Characteristics	Total (N= 365)	Cases (n= 182)	Controls (n=183)
Age in years, mean (SD)	46.2 (15.6)	38,89 (13.4)	53.6 (14.2)
Women, n (%)	323 (88.5)	169 (92.3)	154 (84.6)
Disease duration in month, median (IQR)	87 (38-150)	92 (37-150)	82.5 (38-151)

SD: standard deviation; IQR: interquartile range

Figure 1. Patients' diseases (N=365)



RA: Rheumatoid arthritis; SSc: Systemic Sclerosis; SS: Sjögren's syndrome; MCTD: Mixed connective tissue Disease; DM / PM: Polymyositis / Dermatomyositis; PsA: Psoriatic arthritis.

Figure 3. Comparison of sensitivity and specificity between three criteria (N=173)

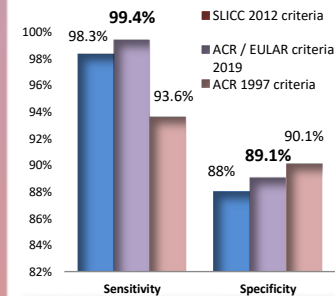


Figure 2. Disease manifestations cases and controls (N = 365)

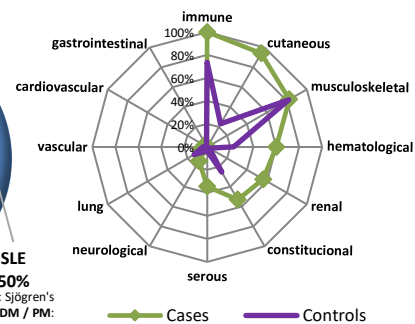


Table 2. Global performance of the three criteria (N = 173)

	ACR 1997	SLICC 2012	ACR/ EULAR 2019
PPV	89.50%	88.08%	89.12%
NPV	94.02%	98.26%	99.42%
LR +	9.46	8.21	9.09
LR -	0.07	0.02	0.007

PPV, positive predictive value; NPV, negative predictive value; LR, likelihood ratio

No correlation was observed between the ACR / EULAR criteria score and the activity / damage indexes.

References: 1. Aringer M, Dörner T, Leuchten N, et al. Toward new criteria for systemic lupus erythematosus: a standpoint. Lupus 2016; 25: 805–11; 2. Aringer M, Costenbader K, Daikh D, et al. 2019 EULAR/ACR classification criteria for systemic lupus erythematosus. Ann Rheum 2019; 71: 9: 1400-1412.