Conclusion: A set of 18 QIs based on the EULAR recommendations for SLE was developed to be used towards improving care in SLE. Initial real-life data suggest variable degree of adherence with higher adherence resulting in reduced adverse outcomes.

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Figure 1.

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POS0765 LABORATORY RATIOS: A SUBROGATE BIOMARKER FOR DETECTION OF INFECTION IN SLE PATIENTS

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Background: The most common complication in patients with SLE is infection, and its clinical presentation is often indistinguishable from SLE flares. Therefore, laboratory ratios have been evaluated to differentiate between those events. Among them, ESR/CRP¹, neutrophil/lymphocyte (NLR)², and platelet/lymphocyte (PLR)³ ratios have been previously assessed with acceptable performance; however, there is no validation of those ratios in our SLE population.

Objectives: To examine the predictive capacity of infection of the lymphocyte/C4 (LC4R), lymphocyte/C3 (LC3R), and ferritin/ESR (FER) ratios in SLE patients, and to evaluate the performance of ESR/CRP, NLR, AND PLR ratios in our SLE population.

Methods: We conducted a cross-sectional study of SLE patients admitted to the emergency service at Hospital San Vicente Fundación (HSVF). The HSVF ethics committee approved the execution of the project.

Patients were categorized into four groups according to the main cause of hospitalization: (1) infection, (2) flare, (3) infection and flare and, (4) neither infection nor flare. We calculated the median values of the ratios and their respective interquartile ranges for each group. Then, we compared those summary measures using the Kruskal-Wallis test. Subsequently, we assessed the predictive capacity of infection of each ratio using ROC curve. Finally, we carried out a logistic regression model.

Results: A total of 246 patients were included, among them 90.7% were women. The median age was 28 years (IQR: 20-35 years). Regarding the outcomes, 37.0% of the patients had flares, 30.9% had neither infection nor flare, 16.7% had an infection and, 15.5% had simultaneously infection and flare. When compared the four groups, statistical significance ($p < 0.05$) was observed. Area under the ROC curve (AUC) for infection prediction was as follows: 0.752 (sensitivity 60.5%, specificity 80.5%) for LC4R, 0.740 (sensitivity 73.2%, specificity 68.3%) for FER, 0.731 (sensitivity 77.6%, specificity 80.5%) for LC3R. In the logistic regression modeling, we observed that an increase in the risk of infection was associated with an LC4R below 66.7 (OR: 6.3, CI: 2.7 – 14.3, $p < 0.0001$), a FER greater than 13.6 (OR: 5.9, CI: 2.8 – 12.1, $p < 0.0001$) and an LC3R below 11.2 (OR: 4.9, CI: 2.4 – 9.8, $p < 0.0001$).

The ESR/CRP and PLR performed poorly with an AUC of 0.580 and 0.655, respectively. In contrast, the NLR showed better performance (AUC of 0.709, with a sensitivity of 80.2% and specificity of 55.7%).

Figure 1. ROC curves of the evaluated ratios

Conclusion: These laboratory ratios could be easy to assay and inexpensive biomarkers to differentiate between infection and activity in SLE patients. The LC4R, FER, and LC3R have a significant diagnostic performance for detecting infection among SLE patients. Of the ratios previously evaluated, ESR/CRP, LPR, NLR, only the latest has an adequate performance in our population.

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POS0766 CLUSTER ANALYSIS AND COMPARISON OF CUMULATIVE DAMAGE BY DIAPS IN A SINGLE CENTER COHORT OF APS PATIENTS

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Background: Antiphospholipid syndrome (APS) is a chronic autoimmune disease with significant morbidity and mortality. The recently developed damage index for APS (DIAPS) considers thrombotic APS specific damage.

Objectives: Herein we aimed to identify disease clusters based on clinical characteristics and compare DIAPS between these clusters in a single center cohort of patients with APS ± systemic lupus erythematosus (SLE).

Methods: This retrospective study included 237 consecutive patients with APS [114 primary APS (PAPS) and 123 SLE+APS]. Data regarding demographics, clinical and laboratory characteristics and cardiovascular risk factors were retrieved from the existing database and revised. Two-step cluster analysis was performed. Cumulative damage was calculated for all patients by applying DIAPS as described previously.

Results: 237 patients were classified into 4 subgroups by cluster analysis. Cluster 1 ($n=74$) consisted of older patients with arterial-predominant VT, livedo reticularis and increased cardiovascular risk, cluster 2 ($n=70$) of SLE+APS patients with thrombocytopenia and heart valve disease, cluster 3 ($n=59$) of patients with venous-predominant VT, less extra-criteria manifestations and cluster 4 ($n=34$) of patients with only PM with a lower frequency of extra-criteria features and cardiovascular risk (table 1).

Table 1. Demographic, clinical and laboratory characteristics of clusters

	All ($n=237$)	Cluster 1 ($n=74$)	Cluster 2 ($n=70$)	Cluster 3 ($n=59$)	Cluster 4 ($n=34$)	P
Age (years), median (range)	43 (20-81)	51 (20-81)	40 (27-72)	42 (24-69)	40.5 (26-65)	<0.001
Duration of disease (years), median (range)	9.5 (1-37.7)	13.1 (1-37.7)	10.4 (1-28.7)	8.5 (1-32.8)	7 (1-22.4)	0.028
Female, n (%)	198 (83.5)	56 (75.7)	61 (87.1)	47 (79.7)	34 (100)	<0.05
SLE, n (%)	123 (51.9)	31 (41.9)	46 (65.7)	32 (54.2)	14 (41.2)	<0.05
Vascular thrombosis, n (%)	191 (80.6)	73 (98.6)	59 (84.3)	59 (100)	0 (0)	<0.001
Arterial thrombosis, n (%)	109 (46)	50 (67.6)	31 (44.3)	28 (47.5)	0 (0)	<0.001
Venous thrombosis, n (%)	112 (47.3)	36 (48.6)	37 (52.9)	39 (66.1)	0 (0)	<0.001
Pregnancy morbidity, n (%)	117 (49.4)	22 (29.7)	46 (65.7)	15 (25.4)	34 (100)	<0.001
Livedo reticularis, n (%)	38 (16)	21 (28.4)	10 (14.3)	5 (8.5)	2 (5.9)	<0.01
Thrombocytopenia, n (%)	81 (34.2)	4 (5.4)	65 (92.9)	4 (6.8)	8 (23.5)	<0.001
Heart valve disease, n (%)	92 (38.8)	32 (43.2)	46 (65.7)	8 (13.6)	6 (17.6)	<0.001
Arterial hypertension, n (%)	101 (42.6)	49 (66.2)	34 (48.6)	18 (30.5)	0 (0)	<0.001
Hyperlipidemia, n (%)	103 (43.5)	69 (93.2)	26 (37.1)	0 (0)	8 (23.5)	<0.001
Smoking, n (%)	58 (24.5)	31 (41.9)	7 (10)	17 (28.8)	3 (8.8)	<0.001
Lupus anticoagulant, n (%)	156 (65.8)	53 (71.6)	48 (68.6)	35 (59.3)	20 (58.8)	0.36
Anticardiolipin IgG/IgM, n (%)	155 (65.4)	46 (62.2)	46 (65.7)	38 (64.4)	25 (73.5)	0.71
Anti-β2-glycoprotein I IgG/IgM, n (%)	93 (39.2)	25 (33.8)	33 (47.1)	26 (44.1)	9 (26.5)	0.13
Triple aPL positivity, n (%)	45 (19)	12 (16.2)	16 (22.9)	13 (22)	4 (11.8)	0.46

Cluster 2 had the highest cumulative damage (mean DIAPS 2.48 ± 1.67) followed by cluster 1 (2.24 ± 1.44), cluster 3 (1.69 ± 1.27) and cluster 4 (0.32 ± 0.68). Comparison of DIAPS (total and major domains) between the clusters is shown in figure 1.

Patients with SLE+APS had a higher mean DIAPS compared to those with PAPS (2.10 ± 1.61 vs 1.69 ± 1.47 , $P=0.046$). Cardiovascular domain was the most frequently affected DIAPS domain in both groups. Proteinuria and avascular necrosis were significantly more frequent in SLE+APS (9.8% vs 2.2%, $P=0.02$ and 5.7% vs 0%, $P=0.009$, respectively). DIAPS was positively correlated with disease duration ($r=0.192$, $P=0.003$).

Conclusion: Elder APS patients with arterial thrombosis and increased cardiovascular risk and SLE+APS patients with extra-criteria manifestations had higher cumulative DIAPS. Longer disease duration, higher frequency of major organ involvement and higher immunosuppressive usage may have contributed to this difference. Therefore, control of cardiovascular risk factors, prevention and effective treatment of SLE flares may help to reduce damage in these subgroups.

Figure 1. Comparison of mean DIAPS (total and major domains) between the clusters

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POS0767

CLINICAL MANIFESTATIONS, TREATMENT, AND OUTCOMES OF "NON-CRITERIA" ANTIPHOSPHOLIPID SYNDROME IN COMPARISON WITH DEFINITE ANTIPHOSPHOLIPID SYNDROME: A SYSTEMATIC REVIEW AND META-ANALYSIS

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Background: Patients with laboratorial or clinical manifestations suggestive of antiphospholipid syndrome (APS) but not fulfilling the classification criteria [1] constitute a challenge in clinical practice.

Objectives: To establish a comparison between patients with "non-criteria" versus those with definite APS on the frequency of clinical manifestations, prescribed therapies and reported outcomes.

Methods: A systematic review of observational studies comparing "non-criteria" with definite APS patients was performed searching 4 electronic databases. Data was extracted on clinical manifestations, therapies and outcomes. Studies were analyzed globally and, where possible, grouped under four potential "non-criteria" APS subsets. Random-effects meta-analyses were performed.

Results: Fourteen studies were included, assessing a total of 3,238 participants (Table 1). In the meta-analysis, no difference was detected in the frequency of arterial events or thrombosis recurrence between "non-criteria" and definite APS. However, a lower frequency of venous events was observed in "non-criteria" patients (risk ratio [RR]=0.9; 95%CI 0.7-1.0; p-value=0.047, $I^2=0\%$; Q Cochran p-value=0.226). Regarding obstetric morbidity, no difference was observed in most outcomes, but previous history of intrauterine growth restriction was less frequent (RR=0.7; 95%CI=0.6-0.9; p-value=0.003, $I^2=0\%$; Q Cochran p-value=0.228) and the risk of prematurity in followed pregnancies lower in "non-criteria" patients. There was no significant difference in treatment frequency between groups, except for less use of hydroxychloroquine in "non-criteria" APS (RR=0.7; 95%CI=0.5-0.9; p-value=0.007, $I^2=46.5\%$; Q Cochran p-value=0.642). There was no significant difference in the risk of fetal loss between groups either with or without treatment (Figure 1). It should be noted that significant heterogeneity was observed in some outcomes across the studied categories. Most studies focused on "seronegative" and "incomplete laboratory" APS.

Table 1. Description of studies included in the systematic review.

Author, year (reference)	Number of Patients	
	Definite APS	NC-APS (global)
Mekinian, 2012 [2]	25	53
Rodriguez-Garcia, 2012 [3]	87	67
Conti, 2014 [4]	25	24
Ofer-Shiber, 2015 [5]	126	117
Mekinian, 2016 [6]	83	96
Omar, 2018 [7]	30	30
Signorelli, 2017 [8]	77	13
Fredi, 2018 [9]	85	81
Litvinova, 2018 [10]	41	17
Aljotas-Reig, 2019 [11]	1000	640
Ferreira, 2020 [12]	15	21
Liu, 2020 [13]	192	90
Li, 2020 [14]	34	94
Lo, 2020 [15]	12	24

Abbreviations - APS: Antiphospholipid Syndrome; NC-APS: Non-criteria antiphospholipid syndrome.

Conclusion: This review suggests an absence of marked differences in most of the evaluated variables regarding clinical manifestations, treatment and outcomes between "non-criteria" and definite APS. These results should be interpreted with caution in light of the low-quality evidence available and heterogeneity observed in some outcomes.

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