Disclosure of Interests: None declared
DOI: 10.1136/annrheumdis-2021-eular.3162

POS0763

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: Multicentre, retrospective and analytical study. Patients ≥ 18 years old with diagnosis of SLE (ACR 1997/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 recorded 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/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.

Results: A total of 365 patients from 7 centres in Argentina were included. A One hundred and eighty-three belonged to the SLE group: 92.3% women, mean age 39 years (SD 13.3), median disease duration 92 months (IQR 37-150). The most frequent manifestations of the disease were mucocutaneous (94%), musculoskeletal (82.5%) and haematological (69%). All patients presented ANA +, 88% hypocomplementemia, 69.4% Anti-DNA and 19.5% antiphospholipid antibodies. Median SLEDAI and SLICC were 2 (IQR 0-6) and 0 (IQR 0-1), respectively. In the control group, 182 patients were recruited: 84% women, mean age 53.6 years (SD 14.2) and median disease duration 82.5 months (IQR 38-151). The most frequent diseases were Rheumatoid Arthritis (46.1%), Scleroderma (18.1%) and Sjögren's Syndrome (16.5%) and most common manifestations were musculoskeletal (81.9%), immunological (73.6%) and constitutional (25.3%). A total of 62.6% of patients presented ANA+, 8.6% hypocomplementemia, and 1.3% Antiphospholipid antibodies.

Ninety-one percent of patients in the case group were classified as defined SLE and 3.8% in the control group.

The ACR / EULAR 2019 Criteria showed a 99.4% sensitivity and an 89.1% specificity, with a LR+ of 9.1 and a LR- of 0.007. The sensitivity and specificity of SLICC 2012 criteria were 98.3% and 88%, respectively with a LR+ of 8.2 and a LR- of 0.02; and the ACR 1997 criteria showed a 93.96% sensitivity and 90.1% specificity, with LR + of 8.21 and LR - of 0.07.

The correlations between the ACR/EULAR 2019 Criteria global score, and activity and damage indexes were 0.19 and -0.006, respectively.

Conclusion: The new ACR / EULAR 2019 criteria have shown high sensitivity, a specificity comparable to its predecessors, and a higher ability to distinguish SLE from other diseases and to exclude it in non-SLE patients. No correlation was observed between the criteria scores and activity and damage indexes.

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Disclosure of Interests: None declared

DOI: 10.1136/annrheumdis-2021-eular.3172

POS0764

EULAR RECOMMENDATION-BASED QUALITY INDICATORS (QIS) FOR SYSTEMIC LUPUS ERYTHEMATOSUS (SLE): ELABORATION, FINAL SET, PERFORMANCE AND INITIAL VALIDATION

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Background: Targets of therapy and quality of care are receiving increased attention in systemic lupus erythematosus (SLE).

Objectives: To develop Quality Indicators (QIs) for the care of SLE patients based on the EULAR recommendations, and assess their performance.

Methods: Using the published EULAR recommendations for SLE, we developed 44 candidate QIs. These were independently rated for validity and feasibility by 12 experts, analysed by a modified RAND/UCLA model and further scrutinized based on the scorings and expert opinion. (Fig.1) Adherence to the final set of QIs was tested in a cohort of 220 SLE patients combined with an assessment on its impact on disease outcomes such as flares, hospitalizations and organ damage.

Results: The panel rated 18 QIs as valid and feasible. These involve diagnosis; disease and damage assessment; monitoring for lupus nephritis and drug toxicity; therapy and targets of therapy; fertility and pregnancy; and adjunct therapy (preventive measures for osteoporosis, vaccination, cardiovascular disease). On average, SLE patients received 54% (95%CI 52–56%) of the indicated care with adherence ranging from 41% for QIs related to monitoring to 88% for treatment-related QIs. Regarding targets of therapy, sustained remission or low disease activity were achieved in 27%, while 94% of patients received low-dose glucocorticoids, and 92% the recommended hydroxychloroquine dose. Dependent upon individual QI tested, adherence for lupus nephritis-related QIs was 88% for receiving appropriate adjunct therapy (ACE inhibitors) to 100% for being treated with the indicated immunosuppressive treatment. In contrast, adherence to QIs related to preventive measures and other adjunct therapies was moderate to low. Notably, patients who were eligible for cardiovascular risk modification, vaccination, and osteoporosis management received lower quality of care (40.5%, 47.7% and 45.5% respectively) while 91.4% had sunscreen protection. In reference to laboratory work-up and monitoring, complete laboratory work-up at diagnosis was performed in 48%, while disease activity and damage, were fully assessed only in 14.1% (in three consecutive visits) and 28.6% (annually) respectively. Similarly, reproductive health and pregnancy counselling adherence rates were modest estimated at 50% and 62% respectively. Higher adherence to the indicated care during follow-up (monitoring QIs) was associated with reduced risk for adverse outcomes during the last year of observation (OR 0.97, 95%CI 0.96-0.99). Patients who achieved sustained remission or LLDAS, exhibited fewer flares (OR=0.15, p-value<0.001) and damage accrual (OR=0.35, p-value<0.001). Of interest, patients who received low-dose of GCs or were appropriately vaccinated, had a lower risk of experiencing a flare (OR=0.23 and 0.46 respectively).

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.

Acknowledgements: This project has received funding from the European Research Council (ERC) under the European Union's Horizon 2020 research and innovation programme (grant agreement No 742390)

Disclosure of Interests: None declared

DOI: 10.1136/annrheumdis-2021-eular.3181

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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Disclosure of Interests: None declared

DOI: 10.1136/annrheumdis-2021-eular.3184

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

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