GO enrichment showed that these DEGs were primarily enriched in biological pathways, cell localization and molecular function and revealed that LN-related genes mainly involved in immune response. KEGG pathway annotation enrichment analysis revealed these DEGs were closely associated with Staphylococcus aureus infection, complement and coagulation cascades (Figure 1D). Fourteen hub genes (IFT3, IRF7, OAS3, GBP2, RSAD2, MX1, IFIT2, IFI6, MX2, IS-F15, IFIT1, OAS2, OASL, OAS1) were identified from PPI network (Figure 1C,E).

Conclusion: Illuminating the molecular mechanisms of LN will help for deep understanding of LN.

REFERENCES:

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POS0744 A NEGATIVE INTERFERON BIOMARKER CD169 / SIGLEC-1 RULES OUT SYSTEMIC LUPUS ERYTHEMATOSUS

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Background: While there have been advances in the therapy of systemic lupus erythematosus (SLE) in recent years, there have been no major new findings in SLE biomarkers [1]. Type 1 interferon (IFN) plays a pivotal role in the pathogenesis of SLE [3]. In 2008, we first described CD169/Siglec-1 (sialic acid-binding immunoglobulin-like lectin-1), an interferon-induced adhesion molecule on monocytes in SLE patients [4]. For over five years Siglec-1 has been routinely induced in SLE [3]. In 2008, we first described CD169/Siglec-1 (sialic acid-binding immunoglobulin-like lectin-1), an interferon-induced adhesion molecule on monocytes in SLE patients [4]. For over five years Siglec-1 has been routinely assessed in our clinic.

Objectives: To evaluate and compare the diagnostic utility of the type 1 IFN induced Siglec-1 with established biomarkers in the initial diagnosis of the disease.

Methods: We analyzed retrospectively 232 patients who were on suspicion of SLE at Charité University Hospital Berlin between October 2015 and September 2020. Patients underwent full clinical characterization, and biomarkers were
determined in the routine laboratory. Based on the final diagnosis, we divided patients into two groups: A) initial diagnosis of SLE and B) Non-SLE mimicking condition.

Results: In 76 patients (32.3 %) SLE was confirmed by fulfilling the EULAR / ACR 2019 classification criteria [5]. SIGLEC-1 was dramatically increased in patients with an initial diagnosis of SLE compared to patients without SLE (p<0.0001). For a threshold of 2500 molecule per monocyte, a sensitivity of 98.7 %, a specificity of 82.1 %, a negative predictive value (NPV) of 99.2 %, and a positive predictive value (PPV) of 72.8 % were calculated for SIGLEC-1. Adjusted to the prevalence of SLE in Germany (36.7 per 100,000 inhabitants [6]) NPV and PPV turned out to be > 99.9 % and 0.2 %. We further aimed to compare not only the performance of the tests at a given cutoff but also across all possible measured values. Therefore, we conducted ROC curves analyses (see figure 1). The area under the curve (AUC) of SIGLEC-1 test was significantly higher than that of ANA test (AUC=0.88, p=0.031), C3 (AUC = 0.83, p=0.001), C4 (AUC=0.83, p=0.002), but not than that of the Anti-dsDNA ELISA (AUC=0.90, p=0.163). Conclusion: Our study shows that IFN activity is a hallmark at the onset of the disease and that the interferon biomarker SIGLEC-1 is valuable to rule out SLE in suspected cases.

REFERENCES:

Figure 1: Comparing ROC Curves

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POS0745 RISK FACTORS FOR HOSPITALIZATION IN PATIENTS WITH SYSTEMIC LUPUS ERYTHEMATOSUS: A LATIN COHORT

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Background: Systemic lupus erythematosus (SLE) is the prototype of autoimmune diseases and is characterized by multisystemic affection. Hospitalization is a frequent eventuality in the course of the disease with a rate of 0.50 admissions/person-year estimated; infections and disease activity explain the highest percentage of admissions, risk factors depend on the population studied, among which are cardiopulmonary disease, elevated creatinine, thrombocytopenia, high disease activity and use of immunosuppression, however, the risk factors in the Mexican population are unknown.

Objectives: To identify risk factors for hospitalization in patients with generalized lupus erythematosus, and as a secondary result, identify the main causes of hospitalization in our population.

Methods: Observational, analytical, case-control and ambiblective study of patients with a diagnosis of SLE at the Hospital Central Dr. Ignacio Morones Prieto in San Luis Potosí, Mexico, evaluated from January 2019 to October 2020; for each hospitalized patient with SLE, a non-hospitalized patient with SLE evaluated in the Rheumatology outpatient clinic was taken as a control, to establish a 1:1 relationship. Continuous variables were expressed as mean or median; and standard deviation or interquartile ranges (IQR) according to the distribution. The categorical variables were expressed in proportion. The comparison of continuous variables was carried out with the unpaired Student’s t test or Mann Whitney’s U according to their distribution, while the categorical variables were compared with Fisher’s exact test or X² and logistic regression analysis was performed.

Results: A total of 202 patients were collected, 179 were women (88.6%); of all patients, 89 (45.1%) were hospitalized, who were younger at diagnosis and time of evolution of the disease and greater SLEDAI and accumulated damage than non-hospitalized patients. The main causes of hospitalization were disease activity in 60.7% of cases, with kidney disease being the most important, followed by infectious in 22.5% and pharmacological toxicity in 5.6%. In the multivariate analysis, the risk factors associated with hospitalization identified were creatinine (p=0.018), CRP (p=0.046), neutrophils (p=0.013), constitutional condition (p=0.044), hematological (p=0.003) and renal (p=0.004), see Table 1. Factors associated with mortality were creatinine (p=0.022), INR (p=0.019), days of ICU stay (p=0.020) and the use of vasopressors (p=0.003). The use of antimalarials was a protective factor for hospitalization with p=0.0003. Survival analysis was performed where it was observed that patients with infection acquired in the hospital had a lower probability of survival with p=0.012.

Conclusion: In our center, disease activity continues to be the most frequent cause of hospitalization and elevated creatinine is a risk factor for hospitalization and mortality in patients with SLE. In-hospital infections were a factor of poor survival.

REFERENCES:

Table 1. Multivariate analysis of factors associated with hospitalization in patients with SLE

<table>
<thead>
<tr>
<th>OR</th>
<th>CI 95%</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age of diagnosis</td>
<td>1.04</td>
<td>0.993 – 1.11</td>
</tr>
<tr>
<td>Previs prednisone dose</td>
<td>1.17</td>
<td>1.030 – 1.41</td>
</tr>
<tr>
<td>Use of antimalarials</td>
<td>0.04</td>
<td>0.006 – 0.21</td>
</tr>
<tr>
<td>Hemoglobin</td>
<td>0.78</td>
<td>0.57 – 1.07</td>
</tr>
<tr>
<td>Neutrophils</td>
<td>1.58</td>
<td>1.13 – 2.39</td>
</tr>
<tr>
<td>Creatinine</td>
<td>2.96</td>
<td>1.40 – 8.86</td>
</tr>
<tr>
<td>CRP</td>
<td>1.16</td>
<td>0.99 – 1.36</td>
</tr>
<tr>
<td>Constitutional condition</td>
<td>9.19</td>
<td>1.24 – 105.22</td>
</tr>
<tr>
<td>Hematological condition</td>
<td>34.5</td>
<td>3.82 – 317.49</td>
</tr>
<tr>
<td>Renal condition</td>
<td>16.05</td>
<td>2.66 – 133.42</td>
</tr>
<tr>
<td>Cardiopulmonary condition</td>
<td>19.79</td>
<td>0.84 – 843.46</td>
</tr>
</tbody>
</table>

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