Background: Immunosuppressive drugs, decreased vaccine coverage, abberant immunity might be factors of low anti-vaccine antibodies in JIA patients.

Objectives: The study aimed to evaluate risk factors of non-protective levels of antibodies against measles, mumps, rubella, hepatitis B and diphtheria in JIA patients.

Methods: A prospective study included 170 children diagnosed with JIA aged 2 to 17 years, who received routine vaccinations against measles, rubella, mumps, diphtheria and hepatitis B. In all patients, the levels of post-vaccination antibodies (IgG) for measles, rubella, mumps, hepatitis B and diphtheria measured with ELISA.

Results: Protective levels of antibodies were 50% against hepatitis B, 52% diphtheria, 58% measles, 58% mumps, 98% rubella. The best vaccine coverage for MMR had patients with enthesitis-related arthritis 85%, compared to oligoarthritis 70%, polyarthritis 69%, systemic arthritis 63%. Diphtheria coverage was 50%, 51%, 46%, 63%, respectively. Incomplete MMR vaccination had 39% patients, treated with biologics, 22%/with methotrexate and 14%/with NSAID (p < 0.025), and 61%, 46%, 36% for diphtheria (p < 0.021). Incomplete vaccination was a risk factor of non-protective level of antibodies against measles (HR: 2.03 [95%CI: 1.02; 4.0]; p = 0.042), parotitis (HR: 6.25 [95%CI: 2.13; 17.9]; p = 0.008) and diphtheria (HR: 2.39 [95%CI: 1.18; 4.85]; p = 0.016) vaccines. The lowest probability of having a protective level of antibodies was observed in systemic arthritis compared to oligoarthritis (p = 0.008) and polyarthritis (p = 0.005). JIA patients, with non-protective levels of antibodies against measles, had more extended methotrexate (oligoarthritis (p = 0.008) and polyarthritis (p = 0.005). JIA patients, with non-protective levels of antibodies against measles, had more extended methotrexate treatment (2.8 ± [3.6; 4.2] vs 2.2 [0.9; 3.9] years, p < 0.05) and increased applying of the biologics (76% vs 52%, p < 0.05). Patients treated with biologics had the lowest probability of having protective levels of antibodies against measles, mumps, hepatitis B, and diphtheria than MTX and NSAID. Patients with non-protective antibodies had lower vaccine coverage against mumps (56% vs 67%, p < 0.05) and diphtheria (38% vs 61%, p < 0.01), longer duration of methotrexate 3.3 ± [1.4; 6.7] vs 1.8 [1.0; 2.9] years, p < 0.01) and biologic treatment 3.1 [1.1; 5.4] vs 0.9 [0.0; 1.9] years, p < 0.05) compared to patients with protective levels. The main risk factors to have non-protective levels of antibodies against specific vaccines are in Table 1 below.

Conclusion: Children with JIA may have lower anti-vaccine antibodies levels and required routine check, especially in children with incomplete vaccination, biologics, systemic arthritis and long-term methotrexate treatment. Funding statement: 

Footnotes: CI confidence interval, GCS glucocorticosteroids, HR hazard ratio, MTX methotrexate, na not applicable, scJA systemic onset of juvenile idiopathic arthritis.

Data were not calculated due to a small number of patients with a non-protective level of antibodies against rubella and no patients with incomplete vaccination against hepatitis B.

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Disclosure of Interests: None declared

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Table 1.

<table>
<thead>
<tr>
<th>Parameters</th>
<th>Measles</th>
<th>Parotitis</th>
<th>Rubella</th>
<th>Diphtheria</th>
<th>Hepatitis B</th>
</tr>
</thead>
<tbody>
<tr>
<td>HR (95%CI)</td>
<td>p</td>
<td>HR (95%CI)</td>
<td>p</td>
<td>HR (95%CI)</td>
<td>p</td>
</tr>
<tr>
<td>scJA, yes</td>
<td>1.84 (0.84; 4.03)</td>
<td>0.128</td>
<td>1.43 (0.53; 3.95)</td>
<td>0.492</td>
<td>0.99 (0.00; 18.6)</td>
</tr>
<tr>
<td>GCS, yes</td>
<td>1.54 (0.91; 2.61)</td>
<td>0.104</td>
<td>0.31 (0.45;184)</td>
<td>0.799</td>
<td>0.736 (0.11; 4.88)</td>
</tr>
<tr>
<td>MTX, yes</td>
<td>0.86 (0.39; 1.88)</td>
<td>0.703</td>
<td>1.55 (0.49; 4.88)</td>
<td>0.453</td>
<td>1.53 (0.08;28.64)</td>
</tr>
<tr>
<td>Biologics, yes</td>
<td>2.02 (1.22; 3.32)</td>
<td>0.006</td>
<td>1.76 (0.98;3.15)</td>
<td>0.057</td>
<td>2.26 (0.5; 9.87)</td>
</tr>
<tr>
<td>&gt;1 biologics, consequent, yes</td>
<td>1.97 (1.13; 2.32)</td>
<td>0.007</td>
<td>1.4 (0.93; 2.09)</td>
<td>0.104</td>
<td>1.62 (0.71;4.7)</td>
</tr>
<tr>
<td>Incomplete vaccination, yes</td>
<td>2.02 (1.02; 4.0)</td>
<td>0.042</td>
<td>6.25 (2.13; 173)</td>
<td>0.0008</td>
<td>na</td>
</tr>
</tbody>
</table>

Table 1. Attacks status during prior 2 weeks during stressful or non-stressful event

<table>
<thead>
<tr>
<th>Outcome</th>
<th>First call (May 2020)</th>
<th>Second call (August 2020)</th>
<th>P value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pediatric emotional distress score (PEDS), mean (±SD)</td>
<td>35.6 (±8.1)</td>
<td>32.1 (±7.7)</td>
<td>0.047</td>
</tr>
<tr>
<td>Any attacks during last 2 week, n (%)</td>
<td>41 (39.8%)</td>
<td>24 (24.2%)</td>
<td>0.017</td>
</tr>
<tr>
<td>Number of attacks</td>
<td>27 (25.5%)</td>
<td>19 (17.3%)</td>
<td>0.04</td>
</tr>
<tr>
<td>Two, n (%)</td>
<td>14 (13.2%)</td>
<td>5 (4.7%)</td>
<td>0.45</td>
</tr>
</tbody>
</table>

REFERENCES:


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POS1295

PERFORMANCE OF 2019 EULAR/ACR CLASSIFICATION CRITERIA FOR SYSTEMIC LUPUS ERYTHEMATOSUS IN A PEDIATRIC POPULATION – A MULTICENTER STUDY

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Background: The “European League Against Rheumatism” and “American College of Rheumatology” 2019 (EULAR/ACR-19) criteria for the diagnosis of Systemic Lupus Erythematosus (SLE) were recently published, with the stated goal of maintaining the level of sensitivity and raising the level of specificity for classification of SLE in adults.

Objectives: We aimed to examine the function of the new EULAR/ACR-19 criteria in a population of children and compare them to the SLICC-12 and ACR-97 criteria.

Methods: In this multicenter study the charts of SLE patients from three tertiary medical centers were reviewed and compared to patients with non-jSLE diagnosis. Pediatric rheumatologists, blinded to the original diagnosis, reviewed and diagnosed all cases. Pediatric patients’ clinical and laboratory data were retrospectively extracted and then examined with regard to how they met the new and old criteria.

Results: Included were 225 patients (112 SLE, 113 non-SLE). When applied to juvenile SLE classification, the sensitivity of the new EULAR-ACR-19 criteria was 0.96 (90.9-0.99) and the specificity was 0.89 (0.82-0.94). These were comparable to the Systemic Lupus International Collaborating Clinics (SLICC) criteria. The sensitivity of the EULAR-ACR-19 criteria improves overtime. We used the new classification criteria for the remaining cases. The sensitivity of the new EULAR-ACR-19 criteria was 0.96 after longer than 24 months.

Conclusion: Among a cohort of SLE patients, sensitivity of the new EULAR/ACR-19 criteria was found to be high and specificity may have improved slightly compared to the SLICC-12 criteria. We support the use of the new classification criteria for pediatric patients in future jSLE studies, but it should be noted that its specificity is lower than for adults.

Disclosure of Interests: None declared

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POS1296

JIA PATIENTS DO NOT HAVE MORE OSTEOPOROSIS THAN HEALTHY AGE AND SEX-MATCHED CONTROLS BUT LOWER BONE MASS DENSITY IS FOUND AT TOTAL HIP AND CORTICAL COMPARTMENT

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Background: Achievement of a normal peak bone mass is an especially important consideration in young adults with juvenile idiopathic arthritis (JIA), because interference with attainment of peak bone mass may not be repaired later in life. It has been suggested that children with JIA cortical appendicular skeletal bone mass is more affected by disease activity than axial trabecular bone. To evaluate bone mineral density (BMD) DXA measurements are widely used. Although, DXA is limited to two-dimensional evaluation of integral BMD and cannot differentiate between trabecular and cortical bone compartments. Alternatively, 3D-DXA analysis is a new method based on DXA scans of proximal femur that provides accurate estimates of trabecular and cortical volumetric BMD.

Objectives: The aim of the study was to analyze the trabecular and cortical bone using 3D-DXA in young adults with JIA compared to age-matched healthy controls.

Methods: This cross-sectional study was aimed to analyze the differences in 3D-DXA proximal femoral compartments. The patients were recruited from the specialized transitional unit of the Vall d’Hebron University Hospital. JIA patients older than 18 yo without previous bisphosphonates intake were included. Age and sex-matched healthy controls were selected. DXA scans (Lunar Prodigy, General Electric Medical Systems, v.15) were acquired. OP was defined according to the WHO criteria. The 3D-DXA software was used to assess in 3D the trabecular density and cortical thickness from DXA scans as reported previously.

Disclosure of Interests: None declared

REFERENCES:
