**Methods:** To compare short-term outcomes on etanercept and adalimumab regarding arthritis disease control or treatment persistence. For children without uveitis, both adalimumab and etanercept can be considered as effective treatment options for children and young people with JIA.

**Disclosure of Interests:** None declared

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**Paediatric rheumatology**

**POS1292**

REAL-WORLD EFFECTIVENESS OF ETANERCEPT AND ADAILUMAB IN CHILDREN AND YOUNG PEOPLE WITH JUVENILE IDIOPATHIC ARTHRITIS (JIA) WITHOUT UVEITIS

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**Background:** Biologic therapies have revolutionised treatment pathways and outcomes for patients with juvenile idiopathic arthritis (JIA). Although there is a choice of approved TNF inhibitors available as a first biologic, there lacks data to inform treatment choices in clinical practice.

**Objectives:** To compare short-term outcomes on etanercept and adalimumab in children and young people with JIA without uveitis, including drug survival, arthritis disease activity and function ability at 1 year.

**Methods:** All patients starting a first biologic (etanercept/adalimumab including biosimilars) from 2010 in the UK JIA biologic registers (BCRD and BSPAR ETN) were included. Those with systemic JIA or with any history of uveitis were excluded. Data were collected at start of therapy, 6 months, 1 year, and then annually, including patient demographic, disease activity and drug therapy. In this analysis, drug survival and arthritis disease activity / function ability at 1 year (range 3-15 months) were investigated; comparing between therapies using logistic / linear regression, adjusted for propensity deciles.

**Results:** There were 550 patients with outcome data available (to 30 Sept 2020); 302 etanercept, 166 adalimumab. At registration, 68% female, median age 12 years old (IQR 8-14), median disease duration 1 year (IQR 1-4), 72% on concomitant methotrexate. Disease activity was similar between both therapies at baseline and one year. At one year, 70% were still on biologic therapy; most stopping therapy for ineffectiveness (45%), adverse events (31%), or patient / family choice (15%). Inactive disease and minimal disease activity was achieved in 26% and 46% respectively, 48% achieved a minimal clinically important improvement in their functional ability (CHAQ improvement >0.13).

**Disclosure of Interests:** None declared

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**POS1293**

RISK FACTORS OF NON-PROTECTIVE LEVELS OF ANTIBODIES TO VACCINES IN PATIENTS WITH JUVENILE IDIOPATHIC ARTHRITIS

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Background: Immunosuppressive drugs, decreased vaccine coverage, aberrant immunity might be factors of low anti-vaccine antibodies 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 were measured with ELISA.

Results: Protective level of antibodies were 50% against hepatitis B, 52% diphtheria, 58% measles, 58% mumps, 98% rubella. The best coverage for MMR was achieved in children who had 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%, 63%, respectively, in incomplete MMR vaccination. .021. Incomplete vaccination was a risk factor of non-protective level of antibodies against measles (HR = 2.03 [95% CI: 1.02; 4.0]), polyarthritis (HR = 2.03 [95% CI: 1.3; 3.1]), 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). Patients treated with biologics had the lowest protective levels of antibodies against measles, rubella, mumps, hepatitis B and diphtheria.

Conclusions: 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.

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 weeks, n (%)</td>
<td>41 (39.8%)</td>
<td>24 (24.2%)</td>
<td>0.017</td>
</tr>
<tr>
<td>Number of attacks, n (%)</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>0.047</td>
</tr>
</tbody>
</table>

References: