sex-matched healthy donors (HD). The following five serum biomarkers were analyzed with ELISA: calprotectin, IFABP, LBP, soluble CD14 (sCD14) and zonulin.

**Results:** Patient characteristics are shown in Table 1. Serum levels of calprotectin, LBP, sCD14 and zonulin differed significantly between patients with r-axSpA, AAU and CD and with and without concomitant SpA and HD (Figure 1). When comparing patients with EMM with and without underlying SpA, calprotectin serum levels were significantly elevated in CD patients with SpA (8.6µg/ml (SD 5.95µg/ml)) compared to CD patients without SpA (5.7±1.5µg/ml) (Mann-Whitney U Test, p<0.001). Serum levels of the analyzed biomarkers did not differ between AAU patients with and without axSpA. Spearman rank correlation revealed a significant association between CRP and calprotectin (correlation coefficient r=0.230; p=0.012), LBP (r=0.596; p<0.0001), sCD14 (r=0.428; p<0.0001) and zonulin (r=0.221; p=0.016), respectively. Furthermore, LBP and zonulin serum levels correlated positively (r=0.208; p=0.023) as well as LBP and sCD14 levels (r=0.418; p=0.0001).

**Table 1. Patient characteristics.** Mean values (standard deviation) or absolute numbers are shown.

<table>
<thead>
<tr>
<th>Variable</th>
<th>N</th>
<th>19</th>
<th>21</th>
<th>20</th>
<th>20</th>
<th>20</th>
<th>20</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age</td>
<td>39.1 (11.3)</td>
<td>38.7 (14.4)</td>
<td>38.4 (10.3)</td>
<td>39.6 (12.0)</td>
<td>39.2 (12.5)</td>
<td>38.6 (12.9)</td>
<td></td>
</tr>
<tr>
<td>Male (%)</td>
<td>9 (47%)</td>
<td>9 (43%)</td>
<td>9 (45%)</td>
<td>9 (45%)</td>
<td>9 (45%)</td>
<td>9 (45%)</td>
<td></td>
</tr>
<tr>
<td>HLA-A positive (%)</td>
<td>7 (37%)</td>
<td>3 (14%)</td>
<td>17 (85%)</td>
<td>17 (85%)</td>
<td>13 (65%)</td>
<td>2 (10%)</td>
<td></td>
</tr>
<tr>
<td>CRP in mg/l</td>
<td>14.3 (25.6)</td>
<td>18.0 (41.8)</td>
<td>9.1 (11.3)</td>
<td>6.7 (9.9)</td>
<td>2.3 (3.4)</td>
<td>0.6 (0.7)</td>
<td></td>
</tr>
<tr>
<td>ASDAS</td>
<td>2.8 (1.1)</td>
<td>3.2 (0.6)</td>
<td>2.2 (1.0)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>BASDAI</td>
<td>4.1 (2.2)</td>
<td>5.4 (1.2)</td>
<td>3.2 (2.4)</td>
<td></td>
<td></td>
<td></td>
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</tr>
</tbody>
</table>

**Figure 1.** Biomarkers reflecting disturbed gut barrier show distinct signatures in patients with acute anterior uveitis, Crohn’s disease and axial Spondyloarthritis. Kruskal Wallis Test; p values shown. Dunn-Bonferroni Post-Hoc analyses, significant pairwise differences are marked; *p<0.05; **p<0.01; ***p<0.0001Conclusion:

We found substantial differences in biomarkers reflecting disturbed gut barrier between with SpA, CD, AAU and healthy controls. The presence of SpA was associated with higher calprotectin serum levels in CD as compared to CD without SpA.

**REFERENCES:**


**Disclosure of Interests:** Asling O’Brien: None declared, Megan Hanlon: None declared, Viviana Marzaioli: None declared, Keelin Flynn: None declared, Sicbhan Wade: None declared, Douglas Veale Speakers bureau: Abbvie, Janssen, Novartis, MSD, Pfizer, UCB, Grant/research support from: Janssen, Abbvie, Pfizer, UCB, Ursula Fearon Speakers bureau: Abbvie, Grant/research support from: Janssen, Abbvie, Pfizer, UCB

**DOi:** 10.1136/annrheumdis-2021-eular.2528
with pSS, a typical B-cell-mediated autoimmune disease. The elevated expression of CXCR3 on CD27+CD38−CD21+ B-cells in AS patients is suggestive for active involvement in the inflammatory response. These findings are indicative of B-cell involvement in the pathogenesis of AS, against current dogma.

REFERENCES:

Disclosure of Interests: Rick Wilbrink: None declared, Anneke Snoepenberg: None declared, Suzanne Arends: None declared, Frans G.M. Kroese Speakers bureau: BMS, Roche, Janssen-Cilag. Consultant of: BMS, Grant/research support from: BMS, Gwenny M. Verstappen: None declared DOI: 10.1136/annrheumdis-2021-eular.2957

POS0413

COMPREHENSIVE IMMUNE PROFILING OF PERIPHERAL BLOOD IN PSORIATIC ARTHRITIS (PsA) PATIENTS: EXPANSION OF INTERMEDIATE MONOCYTES AND DECREASED T REG AND CD8 T CELLS

A. Grivas1, M. Grigoriou1, P. Katsimpri2, P. Verginis3,4, D. Boumpas1,2.

Objectives:Psoriatic arthritis (PsA) is a heterogeneous inflammatory arthropathy that develops in a subset of patients with psoriasis. According to the current paradigm, cells of the innate and adaptive immunity interact with resident tissue fibroblasts mounting an inflammatory response via complex cytokine networks in the skin and joints in which type 1 and type 17 T cells play a dominant role. The abundance and relative contribution of other peripheral blood immune cells to disease pathogenesis as well the molecular signature of peripheral blood mononuclear cells and tissue fibroblasts remain ill defined.

Methods:Peripheral blood was collected from PsA patients (n=31) and age-/sex-matched healthy individuals (HI) (n=9), after informed consent. Psoriatic skin biopsies were acquired from a subset of 5 patients and 3 HI. All patients fulfilled the CASPAR criteria for the diagnosis and displayed peripheral polyarthritis of moderate to high-disease activity. Patients’ demographic and clinical data were recorded at time of sampling. Disease activity was assessed using the Disease Activity Index for Psoriatic arthritis (DAPSA) score. Skin psoriasis activity indices, enthesis inflammation and tender points also were recorded. Peripheral blood mononuclear cells (PBMCs) were isolated by ficoll density gradient centrifugation. Flow cytometry was performed using a BD FACS-Aria-Ill and analyzed using FlowJo software. The antibody staining panel utilized aimed at the identification of the following immune cell subsets: Monocyte subsets (HLA-DR+ CD14+/- CD16+/-), Plasmacytoid dendritic cells (HLA-DR+ CD123+), T helper (CD4+), cytotoxic T (CD8+) regulatory T cells and tissue fibroblasts mounting an inflammatory response via complex cytokine networks in the skin and joints in which type 1 and type 17 T cells play a dominant role.

Results:

- The mean disease duration 19.2 years for skin disease and 5.9 years for joint disease.
- The mean DAPSA score was 43.4, suggestive of high disease activity, while 8 (26%) patients displayed clinical enthesitis at time of sampling.
- Flow cytometry analysis revealed aberrancies in peripheral blood immune cell populations. More specifically, PsA patients displayed a significant increase in intermediate monocyte subset (HLA-DR+ CD14+/CD16+) compared to HI with patients with clinical enthesitis demonstrating a more exaggerated expansion of intermediate monocytes compared to patients without enthesitis. A trend towards increased CD4+ and CD8+ T cells was noted although this did not reach statistical significance. In contrast, both regulatory T cells and cytotoxic CD6+ T cells were significantly decreased probably due to their selective migration at the sites of inflammation. RNA-seq from whole blood and skin fibroblasts from affected skin are in progress.

Conclusion:These data demonstrate significant expansion of intermediate monocytes -more pronounced in the enthesis affected individuals- and decrease in T regulatory cells and T cytotoxic cells in PsA peripheral blood. Increased antigen presentation and co-stimulation mediated via intermediate monocytes in combination with their proangiogenic properties may contribute to disease pathogenesis.

REFERENCES:

Disclosure of Interests: None declared DOI: 10.1136/annrheumdis-2021-eular.3540

POS0414

INCREASED BDNF LEVELS AS A PREDICTOR OF CENTRAL SENSITIZATION IN PATIENTS WITH ANKYLOSING SPONDYLITIS

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Background: Ankylosing spondylitis (AS) is a chronic rheumatic disease that manifests itself in a range of inflammatory changes, severe pain and rapid progression with the development of osteoporosis and the formation of ankylosis. Prerequisites are created for the emergence of signs of central sensitization. Scientists are growing interested in the role of the phenomenon of central sensitization. Central sensitization is present in almost half of patients with AS.

Methods: We examined 143 patients with AS according to modified New York criteria (26 women and 117 men) with mean age 42.1±11.3 years (Max) and 35 persons of the control group, representative by age, sex. The content of plasma BDNF was determined at 8:00 and 20:00 by ELISA and calculated the daily average and morning/evening ratio - 8:00/20:00 BDNF index. All patients completed self-administered questionnaire Fibromyalgia Rapid Screening Tool (FIRST) to detect FM. FM was defined by a score = >0.56 by the FIRST. The study was conducted in compliance with bioethical standards. All data were analyzed using IBM Statistics SPSS 22.

Results: Among 143 patients with AS, there were 51 persons with FIRST ≥ 5, indicating central sensitization and probable FM. In the group with AS mean scores (M±s) of plasma BDNF levels were 962.5±357.2 pg/ml at 8:00 and 834.7±510.0 pg/ml at 20:00 compared to control group (785.2±109.7 pg/ml and 450.6±358.9 pg/ml; p< 0.001). 36% AS patients were with + FIRST and had higher daily average and evening BDNF levels and a decreased 8:00/20:00 BDNF index. According to 8:00/20:00 BDNF index, we divide AS patients into 4 groups: 1st quartile (Q1) included people with BDNF index <0.83; 2nd quartile (Q2) - 0.83 - 1.15; 3rd quartile (Q3) - 1.16 - 2.49; 4th quartile (Q4) - >2.49. Table 1 shows detailed information about FM’s quantitative characteristics in patients with AS (n = 143) depending on the 8:00/20:00 BDNF index. In patients with AS and + FIRST was registered an inadequate decrease in plasma BDNF levels in the evening, as evidenced by a decrease in the 8:00/20:00 BDNF index, which was combined with increased disease activity and poorer of the functional status.

The ROC analysis results showed that the 8:00/20:00 BDNF index at the cut-off point of 0.95 confirms the presence of central sensitization in patients with AS with a sensitivity of 86.2% and a specificity of 79.6%. The AUC is 0.878, which indicates a good quality of the model. Patients with the 8:00/20:00 BDNF index ≥ 5, indicating central sensitization and probable FM. In the group with AS had higher daily average and evening BDNF levels and a decreased 8:00/20:00 BDNF index. According to 8:00/20:00 BDNF index, we divide AS patients into 4 groups: 1st quartile (Q1) included people with BDNF index <0.83; 2nd quartile (Q2) - 0.83 - 1.15; 3rd quartile (Q3) - 1.16 - 2.49; 4th quartile (Q4) - >2.49. Table 1 shows detailed information about FM’s quantitative characteristics in patients with AS (n = 143) depending on the 8:00/20:00 BDNF index.

Table 1. Quantitative characteristics of FM in patients with AS (n = 143) depending on the 8:00/20:00 BDNF index.

<table>
<thead>
<tr>
<th>Parameters</th>
<th>BDNF &lt;800 / 2000 pg/ml</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>Q1 (n=37)</td>
<td>803 - 1.15</td>
</tr>
<tr>
<td>Q2 (n=35)</td>
<td>1.16 - 2.49</td>
</tr>
<tr>
<td>Q3 (n=35)</td>
<td>2.49 - 3.03</td>
</tr>
<tr>
<td>Q4 (n=36)</td>
<td></td>
</tr>
</tbody>
</table>

FIRST (Max) 4.49, 14.42, 24.14, 20.14
FIRST ≤ 5, n (%) 24 (64.9%), 17 (48.6%), 9 (25.7%), 1 (2.7%)

Notes: 1. * - statistically significant differences relative to Q1 (*- p<0.05; ** - p<0.01; *** - p<0.001); 2. # - statistically significant differences relative to Q2 (# - p<0.05).

Disclosure of Interests: None declared DOI: 10.1136/annrheumdis-2021-eular.3908

REFERENCES:

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