Background: Primary Sjögren’s Syndrome (SjS) is a chronic inflammatory auto-immune disease that mainly involves exocrine glands. Changes in the number of lymphocytes in PSS due to broken immune balance.

Objectives: To compare the lymphocytes in peripheral blood of patients with PSS due to broken immune balance.

Methods: The number of total T, CD8+ T, Th1, Th17, Treg and the ratio of Th17/Treg were negatively correlated with CA-reactive protein (p<0.05).

Conclusion: The level of CD4+ T cells in peripheral blood of patients with PSS correlated with ESR, CRP. However, Th17, Treg cell levels were increased after treatment with ICPL1.

References:

Table 1. Correlation of lymphocytes with inflammatory indexs in patients with lymphocyte levels.

<table>
<thead>
<tr>
<th>Groups</th>
<th>T (ng/ml)</th>
<th>CD4+ T (ng/ml)</th>
<th>CD8+ T (ng/ml)</th>
<th>CD4+/CD8+ T</th>
</tr>
</thead>
<tbody>
<tr>
<td>Case group</td>
<td>1197.73</td>
<td>650.08</td>
<td>477.01</td>
<td>1.64</td>
</tr>
<tr>
<td>Il-2 treatment</td>
<td>143.77</td>
<td>383.78</td>
<td>148.54</td>
<td>0.83</td>
</tr>
<tr>
<td>Healthy control</td>
<td>1335.11</td>
<td>693.47</td>
<td>510.45</td>
<td>1.56</td>
</tr>
<tr>
<td>Healthy control</td>
<td>1072.00</td>
<td>550.25</td>
<td>660.06</td>
<td>1.05</td>
</tr>
<tr>
<td>Healthy control</td>
<td>81.16</td>
<td>50.80</td>
<td>8.06</td>
<td>3.59</td>
</tr>
<tr>
<td>Healthy control</td>
<td>0.06</td>
<td>0.16</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Notes: Comparison with healthy control group. *p<0.05.

Disclosure of Interests: None declared


Table 2. Correlation of lymphocytes with inflammatory indexs in patients with lymphocyte levels.

<table>
<thead>
<tr>
<th>Index</th>
<th>T</th>
<th>CD4+ T</th>
<th>CD8+ T</th>
<th>CD4+/CD8+ T</th>
<th>CRP</th>
</tr>
</thead>
<tbody>
<tr>
<td>ESR</td>
<td>-0.046</td>
<td>0.547</td>
<td>-0.098</td>
<td>0.202</td>
<td>-0.041</td>
</tr>
<tr>
<td>CRP</td>
<td>-0.082</td>
<td>0.284</td>
<td>-0.121</td>
<td>0.114</td>
<td>-0.022</td>
</tr>
<tr>
<td>Treg</td>
<td>-0.010</td>
<td>0.158</td>
<td>0.124</td>
<td>0.418</td>
<td>10.13</td>
</tr>
<tr>
<td>Pvalue</td>
<td>0.004</td>
<td>0.002</td>
<td>0.006</td>
<td>0.06</td>
<td></td>
</tr>
</tbody>
</table>

Notes: Comparison with healthy control group. *p<0.05.

Disclosure of Interests: None declared

AGE AND GENDER EFFECTS ON PROGRAMMED CELL DEATH-1 EXPRESSION IN HEALTHY DONORS

Rosanne Reitsma, Rebecca Hid Cadena, Sander Nijhof, Wajey Abdulahad, Minke G. Huitema, Annemieke Boots, Elisabeth Brouwer, Peter Heeringa. University of Groningen, University Medical Center Groningen, Groningen, Netherlands

Background: Giant cell arteritis (GCA) is the most frequent form of vasculitis affecting the large sized vessels. GCA occurs more frequently in females and exclusively in individuals > 50 years of age but it is unclear how gender and age relate to GCA pathogenesis.

In balancing the immune response and preventing immune dysfunction, immune checkpoints are crucial. Recently, the co-inhibitory checkpoint molecule programmed cell death-1 (PD-1) and its ligand PD-L1 were found to be aberrantly expressed in GCA (1). However, data on age and gender related effects on immune checkpoint expression is limited.

Objectives: To further investigate the contribution of immune checkpoints in GCA pathogenesis and how this relates to ageing and gender differences, we first studied PD-1 expression as a function of age and gender in healthy males and females.

Methods: Whole blood cells of 13 young healthy donors (mean age 25.5 years, female/male ratio 7:6) and 20 elderly healthy donors (mean age 72.7 years, female/male ratio 11:9) were stained for CD3, CD4, CD45RA, CD25 and PD-1 with monoclonal antibodies and expression was measured with flow cytometry.

Results: Percentages of PD-1+ cells within CD4+ T cells, memory CD4+ T cells and the subset of non-suppressive regulatory T cells (Tregs, defined as CD4+CD45RA-CD25int) were decreased in elderly post-menopausal females compared to elderly males (Figure 1A-C; p<0.05). Furthermore, the frequency of PD-1+CD4+CD45RA-CD25int Tregs was also decreased in post-menopausal females when compared to elderly males, young females and elderly males.

Conclusion: PD-1 expression is decreased in subsets of CD4+ T cells of post-menopausal females when compared to younger females and elderly males. These findings suggest that post-menopausal status in females can influence PD-1 expression. Further studies on the relation between hormonal changes and immune checkpoint expression may contribute to understanding why elderly females are predisposed to develop GCA.

REFERENCE


Disclosure of Interests: None declared

INCREASED PRODUCTION OF HYDROGEN AND METHANE SUGGESTED BACTERIAL OVERGROWTH IN THE SMALL INTESTINE IN PATIENTS WITH AUTOIMMUNE DISEASE DETECTED BY LACTULOSE BREATH TESTS

Li Shang1, Tingting Zhang1, Xiaoli Liu1, Hui Wang1, Chong Gao2, Jinfang Zhao3, Li Xiao-Feng4, Hulying Gao1. 1. The Second Hospital Of Shanxi Medical University, Rheumatology, Taiyuan, China; 2Brigham and Women's Hospital, Boston, Pathology, Boston, United States of America; 3Shanxi Medical University, Medical Statistics, Taiyuan, China

Background: Researchers have linked a species of intestinal bacteria to the onset of rheumatoid arthritis. The lactulose breath test detects small intestinal bacterial overgrowth (SIBO) can measure hydrogen and methane produced by intestinal bacteria.

Objectives: To investigate the intestinal flora of patients with autoimmune diseases through a lactulose breath test.

Methods: The study was conducted on 720 cases of autoimmune disease. The hydrogen value was increased by ≥20 p.p.m and the methane value increased by ≥10 p.p.m in 90 minutes was defined as positive for SIBO. Spearman’s rank correlation analysis was used to determine the association between age and hydrogen values or methane values.

Results: A total of 75% of patients had a positive breath test. Among them, the positive rate of rheumatoid arthritis (RA) patients was 69.4%, systemic lupus erythematosus (SLE) 69%, Sjogren’s syndrome (SS) 78.22%, ankylosing spondylitis (AS) 89.29%, and juvenile arthritis (JIA) 73.33%. In addition, patients with AS had significantly higher hydrogen value than that with RA, SLE, and SS (p<0.05) (Fig. 1). Sex was no statistically significant difference between lactulose breath test results. In female patients, age was positively correlated with hydrogen values (r = 0.151; p = 0.049) and methane values (r = 0.248; p = 0.001); in male patients, age was negatively correlated with hydrogen values (r = -0.367; p<0.006) (Fig. 2).

Conclusion: Patients with autoimmune disease have positive bacterial growth in the small intestine, and hydrogen production is significantly increased in patients

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