Figure 1.

Conclusion: In patients with chronic inflammatory arthritis, synovial B cell infiltration and systemic markers of germinal centre activity are heterogeneously increased irrespective of disease diagnosis. ACPA-positive RA and oligoarticular PsA appear located at the extremes of a pathobiological continuum, whilst ACPA-negative RA and polyarticular PsA present with intermediate and comparable degrees of B cell involvement. Collectively, our findings open the interesting perspective of a tailored management of patients with inflammatory arthritis based on the disease pathotype rather than on clinical diagnosis.

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AB0028 IMBALANCES OF TH17/TREG IN CARDIOVASCULAR EVENTS OF PATIENTS WITH ANKYLOSING SPONDYLITIS

T. Ding¹, R. Wu¹, H. Xue¹, X. F. Li¹, C. Wang¹. ¹The Second Hospital of Shanxi Medical University, Taiyuan, Shanxi, China

Background: Ankylosing spondylitis (AS) is a common inflammatory joint disease affecting articulations of axial skeleton and asymmetrical peripheral arthrosis. It has been highlighted that patients with AS exhibit an increased risk of cardiovascular diseases (CVD) compared to the general population [1]. However, little is known about the relationship between cardiovascular burden in AS patients and Th17/Treg imbalance.

Objectives: We aimed to investigate the relationship between cardiovascular events in AS patients and the status of T cell subsets. Furthermore, we want to identify other clinical and/or laboratory features which are associated with the cardiovascular risk in AS patients.

Methods: The study included 32 AS patients with cardiovascular diseases and 32 age-matched AS patients as controls. All the AS patients were hospitalised at the Second Hospital of Shanxi Medical University and met the diagnostic criteria for AS revised in New York in 1984. We collected demographics, laboratory features [erythrocyte sedimentation rate (ESR), c-reactive protein (CRP), DD (D-dimer), PLT (platelet count)], and absolute counts of lymphocyte and CD4+ T cell subset. The absolute numbers of lymphocytes and CD4+ T cells in peripheral blood were measured by Flow Cytometer.

Results: 1. There was statistically significant decrease in Th17 levels (P=0.012) in the AS with CVD group compared to the AS group, while the Treg cells number (P=0.426) and the ratio of Th17/Treg (P=0.202) have no statistically significant differences; 2. DD was significantly increased in AS patients with CVD; 3. The use of NSAIDs between the two groups is significantly different (P=0.013). 86.7% of the AS group have received NSAIDs, while only 58.1% of the AS patients with CVD have received the NSAIDs.

Conclusion: The findings suggested that the cardiovascular events of AS patients correlated with imbalanced T cell subsets and the decreased Th17 cells may be a laboratory feature of AS patients with CVD. Patients with high DD level might have a higher risk of CVD. Monitoring of Th17 cells and DD could be beneficial in cardiovascular burden of patients with AS. However, current studies indicate that Th17 cells mediate the inflammatory response and play a crucial role in the development of CVD [2]. One explanation is that the AS patients with CVD in our study had a long disease duration and immunomodulatory therapy might have an impact on the status of T cell subsets. Meanwhile, the different disease activities of AS patients can be additional factors.

References:

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Table 1. Absolute lymphocyte and CD4+ T cell subset counts (cells/ μ L) in the AS with CVD group and AS group

Cell count (cells/ μ L)	AS with CVD	AS	P-value
Total T	1447.97 $\pm$ 11.49	1442.49 $\pm$ 11.49	0.970
Total B	217.06 (144.55- 324.97)	291.27 (171.13-321.16)	0.262
NK	268.09 (171.51-396.99)	277.71 (167.08- 462.45)	0.858
Th1	137.23 (69.8-185.45)	127.04 (76.9-197.26)	0.693
Th2	8.42 (5.56-10.47)	8.03 (5.50-9.95)	0.848
Th17	5.77 (4.00-8.61)	8.89 (5.91-13.88)	0.012*
Treg	29.64 (17.07-47.19)	34.51 (23.26-47.19)	0.426
Th1/Th2	14.99 (10.50-24.21)	17.36 (12.71-25.98)	0.430
Th17/Treg	0.23 (0.12-0.39)	0.31 (0.18-0.52)	0.202

*P<0.05 **p <0.01. Data with a normal distribution and homogeneity of variance are presented as mean $\pm$ standard deviation. Data without a normal distribution are presented as the median (interquartile range)

Figure 1. Differences in Treg, Th17 cell counts and Th17/Treg between AS with CVD group and AS group. There was statistically significant decrease in Th17 levels (P=0.012) in the AS with CVD group. * P < 0.05 **P < 0.01. Data were compared using the Wilcoxon's rank sum test.

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AB0029 INHIBITION OF EFFECTOR B CELLS BY IBRUTINIB IN SYSTEMIC SCLEROSIS

J. Einhaus¹, A. C. Pecher¹, E. Asteriti¹, H. Schmid¹, K. A. Secker¹, S. Duerr-Stoerzer¹, H. Keppeler¹, R. Klein¹, C. Schneidawind¹, J. Henes¹, D. Schneidawind¹. ¹University Hospital Tuebingen, Tuebingen, Germany

Background: Systemic sclerosis (SSc) is a connective tissue disease with significant morbidity and mortality. Effective treatment is still missing, and clinical control of the disease remains challenging. In particular, the development of pulmonary and cardiac fibrosis and pulmonary hypertension are severe complications responsible for excessive mortality. Currently available treatment strategies – besides aggressive autologous stem cell transplantation which is an option only for selected patients – only alleviate symptoms and slow disease progression. Previous attempts of immunomodulating therapies addressing B cell pathology like rituximab and tocilizumab in SSc showed mixed efficacy^{1,2}