Conclusion: Imbalances in the numbers and functions of specific lymphocyte cell subsets are key pathogenic derangements in AS, and these insights are leading to changes in clinical practice. The present study provided further evidence on the function and underlying mechanism of lymphocyte subsets, which may be useful in the diagnosis and treatment of ankylosing spondylitis.

REFERENCES

[1] Zhongliang Duan: The immune dysfunction in ankylosing spondylitis patients. BioScience Trends. 2017; 11(1):69-76.

Disclosure of Interests: None declared
DOI: 10.1136/annrheumdis-2019-eular.5291

AB0036C IMMUNOPHENOTYPIC CHARACTERIZATION OF T-CELL IN PATIENTS WITH RHEUMATOID ARTHRITIS TREATED WITH GOLIMUMAB

María-Mercedes Lopez-Mayorga[1], Rosa-Elda Barbosa-Cobos[1], Mario Adán Moreno-Eutimio[2], Lizbeth Teresa Becerril Mendoza[1], Pedro Rodríguez Henríquez[3], Gustavo Lugo[1], Lucía-Verónica Maya-Piña[1], Olivia Hernández-Jaimes[2], José Moreno[2]. *[1]Hospital Juárez de México, Rheumatology, México, Mexico; [2]Hospital Juárez de México, Unit of research, México, Mexico; [3]Hospital General Manuel Gea González, Rheumatology, México, Mexico*

Background: Golimumab is a human anti-TNF monoclonal antibody that has shown efficacy in RA. In the RA pathophysiology, the elevation of TNF modulates the cellular immune response, which leads to a sustained activation of T-cell response; however, it is unknown whether anti-TNF interferes with the immunophenotype of T-cell.
Objectives: To evaluate activation (CD25, CD69) and exhausted (PD-1, TIM-3, LAG-3, CTLA-4) markers of T-cells in RA patients treated with Golimumab.
Methods: We included 14 patients with RA diagnosis (Criteria ACR/EULAR 2010), with moderate to severe activity; 11 non-responders to synthetic DMARDs (NR-DMARDs) and 3 responders to synthetic DMARDs with pharmacological toxicity (R-DMARDs). All patients were treated with Golimumab during 24 weeks. The questionnaire SF-36, DAS28-CRP, power Doppler signal and expression of CD25, CD69, PD-1, TIM-3, LAG-3 and CTLA-4, in T-cell were evaluated at 0 and 24 weeks.

Table 1. Clinical variables evaluated in patients with Rheumatoid Arthritis

Clinical variables	Cases n=14
Gender	
Female	13 (92.8%)
Male	1 (7.14%)
Age (years)	52.4 ±8.91
Time of evolution (years)	10.5 ±5.91
Extra-articular activity	4 (28.57%)
Rheumatoid factor (UI/ml)	330.7 ±170.03
Anti-CCP (UI/mL)	351.0 ±106.69
DAS28-CRP	
Week 0	6.0 ±0.98
Week 24	2.8 ±1.24
Power Doppler signal (score)	
Week 0	2.4 ±2.71
Week 24	2 ±1.41

Table 2. Results of the SF 36 Questionnaire in patients with Rheumatoid Arthritis.

	Week 0 $\bar{x}$ ±SD	Week 24 $\bar{x}$ ±SD
Physical function	25.8 ±17.37	49.6 ±24.31
Physical role	39.3 ±41.14	54.1 ±38.20
Body ache	54.3 ±13.11	26.9 ±19.28
General health	28.7 ±3.85	34.2 ±11.72
Vitality	50.2 ±6.55	46.4 ±9.28
Emotional	53.3 ±38.01	48.6 ±38.45
Social function	63.6 ±10.51	30.0 ±9.53
Mental health	63.2 ±9.12	46.4 ±17.13

Results: Clinical variables evaluated in patients with Rheumatoid Arthritis are shown in tables 1 and 2.

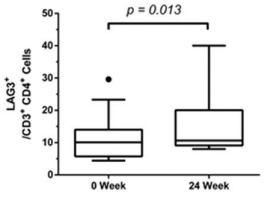

Figure 1. Expression of LAG3 on CD4+ T-cells in peripheral blood of RA patients treated with Golimumab. Mean fluorescence intensity (MFI).

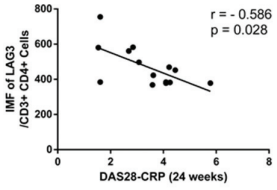

Figure 2. Correlation of LAG3+ on CD4+ T-cells in peripheral blood and the activity of the disease determined by DAS28-CRP after 24 weeks of treatment with Golimumab in patients with RA. MFI: the mean fluorescence intensity.

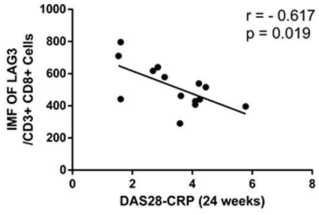

Figure 3. Correlation of LAG3+ on CD8+ T-cells in peripheral blood and the activity of the disease determined by DAS28-CRP after 24 weeks of treatment with Golimumab in patients with RA. MFI: the mean fluorescence intensity.

The frequency of LAG-3+ on CD4+ T-cells increased after 24 weeks of treatment with Golimumab (p = 0.013) (figure 1). The expression of LAG-3 in CD4+ T-cells (r = -0.586, p = 0.028) (Figure 2) and CD8+ T-cells (r = -0.617, p = 0.019) (Figure 3) inversely correlated with DAS28-CRP after treatment. At the beginning of treatment NR-DMARDs patients showed higher expression of CD25 in CD8+ T-cells and lower expression of TIM-3 in CD4+ and CD8+ T-cells with respect to R-DMARDs. After 24 weeks of treatment, a lower frequency of CD69+ and LAG-3+ T-cells was found and increased of CD25+ T-cells compared to R-DMARDs.
Conclusion: Golimumab treatment increased the expression of LAG-3 in T-cells, suggesting a negative regulator of antigen presentation of T-cells.

REFERENCES

[1] Tahir Z, Kavanaugh A. The role of golimumab in inflammatory arthritis. A review of the evidence. Ther Adv Musculoskel Dis 2018;9:181–194.
[2] Cuda C, Pope R, Perlman H. The inflammatory role of phagocyte apoptotic pathways in rheumatic diseases. Nat rev Rheumatol 2016;12: 543-555.
[3] Wherry E, Kurachi M. Molecular and celular insights into T cell exhaustion. Nat rev Inmunol 2015;15: 486-496.
[4] Burmester G, Feist E, Dörner T. Emerging cell and cytokine targets in rheumatoid arthritis. Nat rev Inmunol 2013;15:1-10.
[5] McKinney E, Lee J, Jayne D, Lyons P. T-cell exhaustion, co-stimulation and clinical outcome in autoimmunity and infection. Nat rev Inmunol 2015;523: 612-616.

Disclosure of Interests: None declared
DOI: 10.1136/annrheumdis-2019-eular.7666

Innate immunity in rheumatic diseases

AB0037 NEUTROPHIL GRANULOCYTES ARE PRIMED IN CHILDREN WITH JUVENILE IDIOPATHIC ARTHRITIS (JIA)

Lillemor Berntson[1], Ulrika Kihlberg[1], Per Venge[2]. *[1]Uppsala University, Department of Women's and Children's health, Uppsala, Sweden; [2]Uppsala University, Department of Medical Sciences, Clinical Chemistry, Uppsala, Sweden*

Background: The adaptive as well as innate immunity is involved in JIA pathology. Neutrophils are key mediators of the innate immune response and is the most abundant cell type found in JIA synovial fluid. Studies of neutrophils in JIA have shown transcriptional abnormalities and neutrophil-derived S100A proteins have shown a potential role as biomarkers. Still, studies of neutrophils in JIA are scarce.