seems to suppress Th17 and osteoclasts differentiation in RA patients in synergy with tocilizumab.

REFERENCE

- [1] Bellan M. Role of Vitamin D in Rheumatoid Arthritis. *Adv Exp Med Biol.* 2017;996:155-168

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SAT0154

STABILIZATION OF RHEUMATOID ARTHRITIS ASSOCIATED INTERSTITIAL LUNG DISEASE BY RITUXIMAB: A SINGLE CENTER EXPERIENCE WITH LONG-TERM FOLLOW-UP

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Background: Interstitial lung disease (ILD) is the most significant pulmonary manifestation of Rheumatoid Arthritis (RA)[1], contributing to decreased quality of life, progressive chronic disability and high utilization of healthcare resources. Treatment is challenging with mixed results from different biologics while Rituximab (RTX) has the most encouraging data based on retrospective observational studies. [2]

Objectives: To evaluate the efficacy and safety of RTX in patients with RA-ILD in the context of daily practice.

Methods: Observational retrospective study (2009-2019) of patients with a diagnosis of RA-ILD from a cohort of RTX-treated RA patients in the University Hospital of Heraklion. ILD was diagnosed by HRCT and monitored by means of pulmonary function tests (PFTs), HRCT and 6-minute walking test (6MWT, clinically important difference >50 m). RTX was used at standard dose (1 gr x2/6 months). ILD progression was defined by any of: decrease of pre-RTX forced vital capacity (FVC) >10%, or diffusion capacity of carbon monoxide (DLCO) >15% predicted score, or death from progressive ILD. Improvement was defined by any of: increase of pre-RTX FVC >10% or DLCO >15% predicted. All other patients were classified as having stable disease. RA activity was assessed by DAS28 (ESR).

TABLE

Baseline	End of follow-up
6MWT, n (%)	
– Stable	10/12(83%)
– Improvement	0/12(0%)
– Worsening	2/12(17%)
FVC, n (%)	
– Stable	10/13(76%)
– Improvement	1/13(7.7%)
– Worsening	2/13(15.3%)
DLCO, n (%)	
– Stable	10/13(76%)
– Improvement	1/13(7.7%)
– Worsening	2/13(15.3%)
HRCT, n (%)	
– Stable	13/16(81%)
– Improvement	1/16(6.25%)
– Worsening	2/16(12.75%)
DAS 28 (ESR) (median (IQR))	
5.05(2-6.9)	2.99(2.9-5.5)

Results: Of 247 RA patients treated with RTX, 16 (11 women, 5 men) had RA-ILD (prevalence 6.5%). 12/16 (75%) had radiographic pattern of UIP and 4/16 (25%) had NSIP. 9/16 (56%) were positive for ACPA and

or RF. The median (IQR) age at RTX initiation was 66 (54-77) years. ILD duration prior to RTX was 5.2 (1-15) years. Number of prior biologics was 1 ± 4 and 11/16 (69%) have been treated with concomitant DMARDs. 1/16 (6.25%) had previously received Cyclophosphamide. Concomitant COPD was present in 3/16 (19%) of the patients. Follow-up while on RTX was 37 (6-136) months. The overall dose of RTX was 13 (2-40) g. Following RTX treatment, new-onset ILD was diagnosed in 3/247 patients (incidence=1.2%). During follow-up, data for ILD were available for 13/16 patients. Post-RTX, 10/13(76%) showed stabilization, 1/13 (7.7%) had improvement, while 2/13(15.3%) had progression of RA-ILD. 1/16(6.25%) switched to Cyclophosphamide. During follow-up period, 6 admissions were recorded due to infections (4 for community-acquired pneumonia and 2 for hospital-acquired pneumonia) and 1/16(6.25%) patient died after progression of ILD.

Conclusion: In this cohort of RA-ILD, the majority of patients treated with RTX showed stabilization of lung disease, while RA improved significantly, over a prolonged follow-up period. RTX appears to be an acceptable and safe therapeutic choice for patients with RA-ILD. Nevertheless, randomized studies are warranted to prove any clinical effectiveness of RTX in RA-ILD.

REFERENCES

- [1] P.Spagnolo, et al. *Arthritis & Rheumatology* 2018 Oct; 70(10):1544-1554.
[2] Md Yuzaiful Md Yusof, et al. *Rheumatology* 2017; 56:1348-1357

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SAT0155

THE PRESENCE OF ANTI-NUCLEAR ANTIBODIES BEFORE ANTI-TNF THERAPY IS A RISK FACTOR FOR THE APPEARANCE OF ANTI-DRUG ANTIBODIES IN PATIENTS WITH RHEUMATOID ARTHRITIS

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Background: TNF inhibitors (TNFi) revolutionized the treatment of rheumatoid arthritis (RA), but have often developed anti-drug antibodies (ADrA) and also induced other autoimmune pathology^{1, 2}.

Objectives: To determine whether presence of anti-nuclear antibodies (ANA) predict the development of ADrA and clinical efficacy in RA patients treated with TNFi, infliximab (IFX) or adalimumab (ADA).

Methods: A total of 92 RA patients, 38 cases treated with IFX and 54 cases with ADA, were prospectively enrolled. Observation period of IFX-treated group was 3 years, and that of ADA-treated group was 1 years. ANA were measured before and serially during the therapy. ANA were measured by indirect fluorescent assay using a Computer-aided microscope system with HEp20-10 cells. The concentrations of anti-IFX antibodies (HACA) and anti-ADA antibodies (AAA) were measured by radioimmunoassay at Sanquin Diagnostic Services, Netherlands. Clinical response to therapy was judged by EULAR response criteria based on Disease Activity Score (DAS) 28-CRP.

Results: Thirteen (34.2%) of 38 patients in IFX group and 18 (33.3%) of 54 patients in ADA group became positive for HACA and AAA, respectively, during the treatment. All of the ADrA-positive patients were ANA-positive before the therapy. In contrast, none became ADrA-positive after treatment in 15 RA patients negative for ANA before therapy (6 cases in IFX group and 9 cases in ADA group), and the positive rate for ADrA was significantly different between ANA-positive and negative patients ($p=0.0018$). In addition, the positive rate for HACA was significantly higher in patients positive for ANA titers of ≥ 640 ($p=0.034$), but that for AAA was not related to ANA titers. Next, ANA became positive in 4 of 6 ANA-negative patients and ANA titers increased in 21 of 32 ANA-positive patients after IFX treatment. HACA positive rate was significantly higher in patients with ANA titers of ≥ 640 after IFX treatment ($p=0.0045$). ANA titers of patients in ADA group were mostly unchanging after treatment, and were not related to the appearance of AAA.