may be considered not only in the ACPA-positive RA patients but also in the ACPA-negative patients in the clinical practice.

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FRI0108

ASSOCIATION BETWEEN CHANGES IN C-REACTIVE PROTEIN AT WEEK 12 AND PATIENT-REPORTED OUTCOMES AT WEEK 24 WITH SARILUMAB THERAPY ACROSS THREE PIVOTAL PHASE 3 STUDIES

J. Tesser¹, G. C. Wright², V. Strand³, J. Kaine⁴, K. Maslova⁵, G. St John⁶, K. Ford⁷, A. Praestgaard⁸, E. Choy⁹. ¹Arizona Arthritis & Rheumatology Associates, Phoenix, AZ, United States of America; ²NYU Langone Health, New York, NY, United States of America; ³Stanford University, Palo Alto, CA, United States of America; ⁴Sarasota Arthritis Research Center, Sarasota, FL, United States of America; ⁵Sanofi Genzyme, Cambridge, MA, United States of America; ⁶Regeneron Pharmaceuticals, Inc., Tarrytown, NY, United States of America; ⁷Cardiff University Hospital, Cardiff, United Kingdom

Background: Evaluation of early response to rheumatoid arthritis (RA) therapy at 12 weeks after initiation is recommended in treatment guidelines. C-reactive protein (CRP) response at 12 weeks on therapy may indicate favorable longer-term patient-reported outcomes (PROs).

Objectives: To describe the association between CRP response at Week 12 and PROs at Week 24 with sarilumab therapy across three pivotal studies.

Methods: The analysis included patients with RA who took part in MOBILITY (NCT01061736), TARGET (NCT01709578), or MONARCH (NCT02332590) and were treated with sarilumab 200 mg every 2 weeks (q2w) or adalimumab 40 mg q2w (MONARCH only). Patients who achieved a CRP response at Week 12 (defined as serum CRP ≤ 3 mg/L) were evaluated for PROs at Week 24. Response for PROs was defined as change from baseline visual analog scale score ≥ 10 for pain, sleep, and morning stiffness and an increase of ≥ 4 for FACIT-Fatigue score. Odds ratios (ORs) and 95% confidence intervals (CIs) were generated for the likelihood of achieving PRO responses at Week 24.

Results: The proportions of patients achieving a CRP response at Week 12 were 78% (MOBILITY), 74% (TARGET), 80% (MONARCH, sarilumab), and 36% (MONARCH, adalimumab). Of these, 71.4% (MOBILITY; OR 3.78, 95% CI 2.31–6.18), 71.5% (TARGET; OR 2.86, 95% CI 1.44–5.65), 79.7% (MONARCH, sarilumab; OR 4.40, 95% CI 2.04–9.47), and 79.7% (MONARCH, adalimumab; OR 2.76, 95% CI 1.36–5.61) reported pain score responses at Week 24. Fatigue responses at Week 24 among Week 12 CRP responders were 66.6% (MOBILITY; OR 2.74, 95% CI 1.69–4.45), 59.9% (TARGET; OR 3.18, 95% CI 1.58–6.42), 73.0% (MONARCH, sarilumab; OR 4.78, 95% CI 2.21–10.33), and 64.1% (MONARCH, adalimumab; OR 1.64, 95% CI 0.88–3.06). Sleep was evaluated in MOBILITY only, and 58.2% of those achieving Week 12 CRP responses reported sleep score responses at Week 24 (OR 3.51, 95% CI 2.10–5.87). Morning stiffness responses (evaluated in TARGET and MONARCH only) at Week 24 among patients with Week 12 CRP responses were 71.5% (TARGET; OR 3.70, 95% CI 1.86–7.39), 81.1% (MONARCH, sarilumab; OR 5.36, 95% CI 2.47–11.63), and 75.0% (MONARCH, adalimumab; OR 2.42, 95% CI 1.24–4.72).

Conclusion: Achievement of a CRP response at Week 12 in patients with RA treated with sarilumab 200 mg q2w or adalimumab 40 mg q2w was associated with improvements at Week 24 in PROs for pain, fatigue, sleep, and morning stiffness. Among patients with RA, CRP responses at 12 weeks on treatment predict favorable longer-term PRO improvements.

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FRI0109

TEMPORAL CHANGES IN LUNG NODULES DETECTED IN INDIVIDUALS WITH RHEUMATOID ARTHRITIS WITH BIOLOGIC DMARD TREATMENTS

H. Karadeniz¹, E. Cingil², H. Satis¹, A. Avanoğlu Güler¹, R. Bilici Salman¹, N. Atas¹, H. Babaoglu¹, B. Goker¹, S. Haznedaroglu¹, M. A. Ozturk¹, A. Tufan¹. ¹Gazi University Internal Medicine, Rheumatology, Ankara, Turkey; ²Gazi University, Radiology, Ankara, Turkey

Background: Lung nodules in rheumatoid arthritis (RA), patients impose diagnostic and therapeutic challenges due to unpredictable outcome of these nodules. biologic (b) disease-modifying anti-rheumatic drugs (bDMARDs) are important therapeutic agents used in treatment of RA. There is hesitation about use of conventional synthetic DMARDs (csDMARD) and bDMARDs due to increased risk of nodules although their association remains unclear. There are scarce data on lung nodules observed in RA patients and systematic studies are needed.

Objectives: The aim of this study is to evaluate effects of biologic treatments and conventional synthetic DMARDs on pulmonary nodules observed in rheumatoid arthritis patients.

Methods: Electronic health records of RA patients who had had thorax computed tomography (CT) confirmed lung nodules in the last 5 years were retrospectively evaluated. Pre-treatment and post-treatment follow up CT images were meticulously examined for the number, size, attenuation, calcification, and cavity formation. Demographic features, smoking status, disease characteristics and used medications were retrieved from file records. Clinical and laboratory findings, demographic features, treatment and follow-up duration, number of solid and cavity nodules were compared between groups.

Results: There were 21 patients in both biologic (11 females, mean age; 59.7 $\pm$ 8.4) and csDMARD (12 females, mean age; 71.4 $\pm$ 8.3) treated groups. There was no difference in frequency of nodule types and sizes between csDMARD and bDMARDs groups (**table**) despite csDMARD users were remarkably older. Administered biologic treatments were anti-TNF-alpha in 8, tofacitinib in 7, rituximab in 4, and abatacept in 2 patients. The most common types of nodules were solid and cavity nodules, observed in 17 and 8 patients, respectively in biologic users. Calcific nodules were present in three patients, and ground glass nodules were observed in a single patient. Nodules were multiple in 12 patients and solitary in 9 patients. Calcific and ground glass nodules were all solitary in our study. Cavitary and solid nodules were concurrent in five patients. Median follow duration was 14(5-55) months. Progression was observed in small number of patients; three patients in receiving aTNF α , and one in rituximab (**figure**) and one in abatacept users. Interestingly none of patients receiving tofacitinib did not show progression. There was no difference regarding number of patients who progressed with either csDMARD or bDMARDs. None of the nodules showed malignant transformation within the observation period.

Conclusion: In conclusion, risk of progression in lung nodules with biologic treatments is seem to be low, at least not more than csDMARD in short term and any malignant transformation was not observed in our study.

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Table. Changes in nodule characteristics with respect to treatment groups.

	csDMARD	bDMARDs
SOLID NODULES		
Pre-treatment		
Total number of nodules, n	72	54
Post-treatment		
Completely diminished, n	5	14
Regressed, n	5	12
Stable, n	33	20
Enlarged, n	23	4
Cavitary transformation	6	4
De novo solid nodules	26	7
CAVITARY NODULES		
Pre-treatment		
Total number of nodules	10	16
Post-treatment		
Completely diminished, n	0	1
Regressed	0	5
Stable	4	8
Enlarged, n	6	2
Newly formed cavitary nodules	6	9**

*number less than calculated due to cavitation, **de novo 5 nodules, 4 transformation from solid nodules

Figure. Nodule progression in a patient receiving rituximab (white arrow)

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FRI0110 TAPERING TOWARDS DMARD-FREE REMISSION IN ESTABLISHED RHEUMATOID ARTHRITIS: 2 YEAR RESULTS OF THE TARA TRIAL

E. Van Mulligen¹, A. Weel^{2,3}, M. Kuijper², J. Hazes¹, A. Van der Helm - van Mil^{1,4}, P. De Jong¹. ¹Erasmus MC, Rheumatology, Rotterdam, Netherlands; ²Maasstad Hospital, Rheumatology, Rotterdam, Netherlands; ³Erasmus School of Health Policy & Management, Rotterdam, Netherlands; ⁴Leiden University Medical Center (LUMC), Leiden, Netherlands

Background: In rheumatoid arthritis (RA) disease outcomes have improved enormously in the last decades. Due to early initiation of therapy, a treat-to-target approach and a growing arsenal of disease-modifying antirheumatic drugs (DMARDs) and biologics, RA patients are in sustained remission more often. This raises the subsequent questions whether treatment should be continued, tapered or stopped. Although DMARD free remission (DFR) is nowadays achievable for increasing numbers of RA patients, the optimal tapering approach still needs to be defined.

Objectives: To evaluate the 2-year clinical effectiveness of two gradual tapering strategies, namely tapering the csDMARD first followed by the TNF-inhibitor, or tapering the TNF-inhibitor first followed by the csDMARD.

Methods: In this multicenter single-blinded randomised controlled trial RA patients with controlled disease for at least 3 consecutive months, defined as a DAS₂₈ ≤ 2.4 and a swollen joint count (SJC) ≤ 1, which was achieved with csDMARDs and a TNF-inhibitor were included. Eligible patients were randomised into gradual tapering csDMARDs followed by the TNF-inhibitor, or vice versa.

Medication was tapered in three steps over the course of 6 months. After 12 months, the other DMARD was tapered. Gradual tapering was done by cutting the dosage into half, a quarter and thereafter it was stopped. In case of a flare (DAS44>2.4 or SJC>1) the previous effective dose was restarted and tapering was not initiated any further throughout the whole study period. The primary outcome for the clinical effectiveness was the number of patients with a disease flare, defined as DAS44>2.4 and/or SJC>1. Secondary outcomes were DFR, disease activity, quality of life and functional ability. Outcomes were calculated in an intention-to-treat analysis, using all available data.

Results: A total of 189 patients were randomly assigned to tapering the csDMARD first or tapering the TNF-inhibitor first. The cumulative flare rate, after 24 months, for tapering the csDMARD first was 61% (95% CI, 50% - 69%) and for tapering the TNF-inhibitor first was 62% (95% CI, 50%-70%) (p=0.35)(figure 1). The cumulative flare rate differed the most between both groups between 12 and 18 months of follow-up (figure 1). Figure 2 shows an overview of how gradual tapering took place and which medication patients were using at different time points(figure 2). This was indicated for both tapering arms, and for the first and second year (figure 2). For the second year, tapering status was only indicated for the patients who actually tapered medication, so who stayed flare-free in the first year. Patients that tapered their csDMARD first were more often able to completely taper their csDMARD (n=30), and subsequently they also had a higher chance of reaching DFR(n=15) (table 1). However, mean DAS and mean HAQ over time and after 2 years did not differ between both tapering arms (table 1).

Table 1. Baseline characteristics and results after 24 months.

	Tapering csDMARD first (n=94)	Tapering TNF-inhibitor first (n=95)
Baseline (T0)		
Age (years), mean (sd)	55.9 (14.1)	57.2 (10.6)
Gender, female, n(%)	66 (71)	58 (61)
Symptom duration (years), median (IQR)	6.0 (4.3-8.5)	6.3 (4.1-8.9)
ACPA positive, n(%)	61 (72)	65 (75)
RF positive, n(%)	49 (57)	56 (64)
2-year follow-up (T24)		
Cumulative flare, n(%)	57 (61)	59 (62)
DMARD free remission, n(%)	15 (16)	8 (8)
Tapered, n(%)	30 (32)	20 (21)
DAS, mean (sd)	1.39 (0.67)	1.30 (0.70)
ΔDAS (T24-T0), mean (sd)	0.41 (0.55)	0.33 (0.77)
HAQ-DI, mean (sd)	0.62 (0.53)	0.52 (0.51)
ΔHAQ-DI (T24-T0), mean (sd)	0.074 (0.40)	0.058 (0.31)

Conclusion: The order in which tapering and stopping medication was performed was not superior to each other based on flare rates, DAS and HAQ. However, patients who tapered their csDMARD first could more often completely taper off their medication and, therefore, also reached DFR more often.

Figure 1 Cumulative flare rate over time. csDMARDs; conventional synthetic disease-modifying antirheumatic drug, TNF-inhibitor; tumor necrosis factor inhibitor.