than 2% in 22 patients (79%), including 10 with undetectable levels. CD19 levels (cells/mm³) were lower in optimised patients (73 vs 14, $p=0.03$), and were correlated with DAS28 at 6 months ($r=0.5$; $p=0.007$) and 12 months ($r=0.44$; $p=0.03$), and with ESR at 6 m ($r=0.6$; $p=0.002$). CD19 levels did not correlate with IgG levels, and were not associated with recurrent infections. CD3 and CD56 levels did not show any relevant association or correlation.

Conclusions: In RA patients treated with RTX for more than 6 months, CD19 levels correlate with long term therapeutic response, being low or undetectable levels predictors of good outcome, without association with Ig levels or increased infections. Our results suggest that CD19 levels before every RTX cycle might be a useful biomarker to select candidate patients for optimisation with this therapy.

Disclosure of Interest: None declared

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THU0130

EXPLORING THE MINIMUM PAIRED JOINT SET OF ULTRASONOGRAPHY TO PREDICT CLINICALLY SIGNIFICANT RESIDUAL SYNOVITIS IN RHEUMATOID ARTHRITIS PATIENTS WITH REMISSION

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Background: Patients with rheumatoid arthritis (RA) who achieved clinical remission sometimes have synovitis detected by joint ultrasonography (US) ⁽¹⁾. This residual synovitis has been shown to be predictive of insidious radiographic progression, flares after tapering or cessation of DMARDs. Since it is difficult to examine all joints by US in daily clinical practice, several joint combinations have been proposed for optimal and/or feasible assessments of joint inflammation in patients with RA.

Objectives: To find the minimum number of paired joint set for US to predict clinically significant residual synovitis.

Methods: A comprehensive US assessment of joints was performed in 109 RA patients who achieved DAS28-CRP remission or low disease activity. Totally 40 (20 pairs) of joints including metacarpophalangeal (MCP) 1 to 5, proximal interphalangeal (PIP) 1 to 5, wrist, elbow, shoulder, knee, ankle, metatarsophalangeal (MTP) 1 to 5 joints were evaluated according to the EULAR recommendation ⁽²⁾. Residual synovitis was defined as synovial hypertrophy with grey scale (GS) score greater than 1 or GS score 1 with any power Doppler (PD) signal, using semi quantitative scoring system (scale 0 to 3).

Results: 73 of 109 patients (67%) had at least one residual synovitis, and 39 of 73 patients (53.4%) had residual synovitis at least two different joints. As shown in table 1, residual synovitis at wrist and knee joints were found in 54.8% and 53.4% of 73 patients respectively, while for residual synovitis of another joints were less than 20% of patients. Solitary residual synovitis was most frequent in wrist and knee joints. By adding and combining joints which frequently found to have residual synovitis, we found that combination of wrist, knee, ankle, elbow, MCP1, and MCP2 joints (6 pairs) could detect residual synovitis in 94.5% of patients (table 2). Using the fact that one patients can have more than one residual synovitis at different joints and the tendency of residual synovitis to be found at some particular joints, we might find minimum pairs set of joint ultrasonography to detect residual ultrasound-defined synovitis. This could minimise the efforts needed to perform thorough joint US, while keeping the sensitivity high enough to detect any residual synovitis.

Abstract THU0130 – Table 1. Residual synovitis distribution

	n (%) total 73			n (%) total 73	
Wrist	40 (54.8)		MTP 5	7 (9.6)	
Knee	39 (53.4)		MCP 5	6 (8.2)	
Ankle	14 (19.2)		PIP 3	4 (5.5)	
Elbow	12 (16.4)		MCP 4	4 (5.5)	
MCP 2	9 (12.3)		MTP 1	4 (5.5)	
MCP 3	8 (10.9)		PIP 4	3 (4.1)	
MCP 1	8 (10.9)		MTP 3	3 (4.1)	

Abstract THU0130 – Table 2. Detectability of residual synovitis with each paired joint set.

Combination of Joints	Detectability (%)
wrist	40 (54.8)
wrist+knee	59 (80.8)
wrist+knee+ankle	63 (86.3)
wrist+knee+ ankle+elbow	66 (90.4)
wrist+knee+ankle+elbow+MCP1	68 (93.2)
wrist+knee+ankle+elbow+MCP1+MCP2	69 (94.5)

Conclusions: Patients achieved DAS28-CRP remission often had residual synovitis. The residual synovitis had tendency to be distributed at wrist, knee, ankle, elbow, MCP1, and MCP2, joints frequently used in activities of daily life. We propose this combination of joints as the minimum paired joint set to predict ultrasonographic remission.

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THU0131

LEVELS OF CXCL13 AND sICAM1 CORRELATE WITH DISEASE ACTIVITY SCORE IN RHEUMATOID ARTHRITIS (RA) PATIENTS TREATED WITH TOCILIZUMAB (TCZ)

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Background: The biomarkers CXCL13 and sICAM1 have been associated with outcomes in patients with RA treated with TCZ.

Objectives: To determine the association of CXCL13 and sICAM1 with response to TCZ and disease activity in early RA and DMARD-IR patients.

Methods: Patient subsets from the FUNCTION (early RA) and LITHE (DMARD-IR) clinical trials were selected based on baseline and Week 24 sample availability; serum CXCL13 and sICAM1 levels were measured. Correlations between CXCL13 and sICAM1 levels and DAS28-ESR at baseline, and between change in CXCL13 and sICAM1 levels and change in DAS28-ESR at Week 24, were determined. Changes in CXCL13 and sICAM1 levels from baseline to Week 24 were compared between treatment arms using Welch *t* test. The effect of treatment, baseline DAS28-ESR and baseline CXCL13 and sICAM1 levels on the likelihood of DAS28-ESR remission and ACR50 response at Week 24 was determined via logistic regression. DAS28-ESR remission and ACR50 rates were compared against CXCL13 and sICAM1 status (high vs low based on median values) within each trial arm using a Cochran-Mantel-Haenszel test.

Results: Overall, 458 of 872 patients from FUNCTION (TCZ +MTX, n=60; TCZ monotherapy [TCZ-mono], n=157; placebo [PBO]+MTX, n=141) and 287 of 791 patients from LITHE (TCZ +MTX, n=137; PBO+MTX, n=150) were included. In these patient subsets, mean disease duration in FUNCTION was significantly shorter than in LITHE (0.45 vs 8.65 years). At baseline, correlation of serum CXCL13 levels with DAS28-ESR was moderate in the early RA population and weak in the DMARD-IR population (table 1). Correlation between baseline serum sICAM1 levels and DAS28-ESR was low in both populations. Serum levels of CXCL13 decreased significantly at Week 24 in all treatment arms in both populations, with greater reductions in the TCZ +MTX and TCZ-mono arms; sICAM1 levels decreased significantly at Week 24 in the TCZ-mono arm in patients with early RA and the TCZ +MTX arms in both populations but not in the PBO+MTX arms. Change in CXCL13 levels correlated moderately with change in DAS28-ESR at Week 24 in both populations (table 1). Change in sICAM1 levels correlated moderately with change in DAS28-ESR at Week 24 in the DMARD-IR population but weakly in the early RA population. Although the treatment arm had a significant effect on the likelihood of DAS28-ESR remission and achievement of ACR50, the effect of baseline levels of CXCL13 and sICAM1 were not significant. DAS28-ESR remission and ACR50 response rates at Week 24 within each treatment arm of the early RA and DMARD-IR populations were not significantly different between patients with high vs low baseline CXCL13 and sICAM1 levels.

Abstract THU0131 – Table 1. Correlation Between Serum CXCL13 and sICAM1 Levels and DAS28-ESR

	Baseline						Week 24*					
	CXCL13			sICAM1			ΔCXCL13			ΔsICAM1		
	n	r	P value	n	r	P value	n	r	P value	n	r	P value
FUNCTION (early RA)	458	0.36	< 0.0001	458	0.14	0.0029	458	0.33	< 0.0001	458	0.16	0.0005
LITHE (DMARD-IR)	282	0.21	0.0003	282	0.17	0.0040	202	0.33	< 0.0001	202	0.26	0.0002

CXCL13. C-X-C motif chemokine ligand 13; DAS28-ESR, Disease Activity Score in 28 joints per erythrocyte sedimentation rate; DMARD-IR, inadequate response to disease-modifying antirheumatic drugs; RA, rheumatoid arthritis; sICAM1, soluble intercellular adhesion molecule 1.

* Correlation between change in CXCL13 and sICAM1 levels from baseline to Week 24 and change in DAS28-ESR from baseline to Week 24; all patients combined.