between anti-CarPA and ΔDAS28 showed association only with ΔDAS28 from baseline to M6 (p=0.005). In this period, the positive patients showed less decrease of DAS28 than the negative patients. This was independent of all the variables mentioned above and of the initial DAS28. As a result of this association, 20.5% of the anti-CarPA positive patients reached remission at M6, in comparison with 34.6% of the negative patients. In contrast, ΔDAS28 from M6 to M12 and from M12 to M24 were small and not associated with anti-CarPA.

Conclusions: Anti-CarPA were associated with high disease activity at presentation and with less improvement in the first 6 months of follow-up in EA patients. These results reinforce the possibility that anti-CarPA could be useful in the clinic as prognostic biomarkers.

Acknowledgements: Supported by grants PI14/01651 and RD16/0012/0014./0011./0012 of the Instituto de Salud Carlos III (Spain) that are partially financed by the ERDF

Disclosure of Interest: None declared

DOI: 10.1136/annrheumdis-2018-eular.4562

SAT0085 RELATIONSHIP BETWEEN SERUM CALPROTECTIN, DISEASE ACTIVITY PARAMETERS AND THE 7-JOINT ULTRASOUND SCORE IN RHEUMATOID ARTHRITIS

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Background: Calprotectin may be a sensitive biomarker of rheumatoid arthritis (RA) disease activity.

Objectives: In this study we aimed to investigate whether calprotectin is a better biomarker than known inflammation markers for predicting clinical activity and ultrasound parameters in patients with RA.

Methods: A total of 80 RA patients were underwent to clinical (swollen joint count, tender jointcount, disease activity score-DAS28, simplified disease activity index-SDAI and clinical disease activity index-CDAI) and ultrasound (German US7) examination. Correlation of clinical, laboratory and ultrasound measures were analyzed using Spearman's correlation coefficient. The RA patients were divided into two subgroups according to their DAS28-ESR (erythrocyte sedimentation rate) score; group 1 (DAS-28 ≤3.2 remission and low activity), group 2 (DAS28 >3.2 moderate and high activity), respectively. Thirty healthy controls were simultaneously studied.

Results: The serum calprotectin levels of the RA patients were significantly higher than those of healthy controls (96.3±45.9, 54.7±50.0, respectively; p<0.001). Distribution of age (years; 57.2±9.6, 53.9±10.5, respectively; p=0.115) and sex (female; 78.8%, 70%, respectively, p=0.336) between these groups were similar. The clinical, laboratory and ultrasound characteristics of the patients are shown in table 1. The calprotectin levels were 74.8±45.5 in group 1 (n=37) and 114.7±37.9 in group 2 (n=43) (p<0.001). The association between calprotectin and scores of DAS28-ESR are shown in figure 1A. Serum calprotectin was significantly associated with DAS28-ESR, DAS28-CRP (C-reactive protein), SDAI, CDAI, ESR, CRP and US7 parameters. We also found a moderate to strong correlation of US7 score with DAS28-ESR, DAS28-CRP, SDAI, CDAI, CRP and ESR (table 2). The correlation between calprotectin and US7 is shown in figure 1B.

Abstract SAT0085 – Table 1. Baseline characteristics of patients with RA

	Group 1 (n=37)	Group 2 (n=43)	p
Female Sex, n (%)	30 (81.1)	33 (76.7)	0.64
Age, years	55.4±9.4	58.8±9.6	0.12
Disease duration, years	13.2±9.1	12.2±7.6	0.61
Seropositivity, n (%)	24 (64.9)	28 (65.1)	0.98
ESR, mm/hour	14.2±7.2	42±18.5	<0.001
CRP, mg/dl	8.2±11.8	23±25.7	0.002
CDAI	4.3±2.1	11.4±6.9	<0.001
SDAI	12.4±11.9	34.4±29.4	<0.001
US7 total score	4.9±4.8	8.1±6.9	0.021
Calprotectin, ng/ml	74.8±45.5	114.7±37.9	<0.001

Table.2 Spearman's rank correlation coefficients between calprotectin, US7 scores and other variables:

	ESR	CRP	DAS28-ESR	DAS28-CRP	CDAI	SDAI	US7
Calprotectin	0.361***	0.306**	0.488***	0.495***	0.482***	0.429***	0.444***
ESR		0.494***	0.816***	0.561***	0.467***	0.554***	0.247*
CRP			0.512***	0.780***	0.408***	0.923***	0.309**
DAS28-ESR				0.828***	0.846***	0.695***	0.441***
DAS28-CRP					0.856***	0.924***	0.501***

CDAI	0.670***	0.509***
SDAI		0.418***

***p<0.001, **p<0.01, *p<0.05

Abstract SAT0085 – Figure 1. A Box plots between calprotectin and DAS28-ESR. B. Correlation graph between calprotectin and US7 score

Conclusions: The results of our study support an additional role of calprotectin in assessing inflammatory activity in patients with RA. Therefore, the combination of serum calprotectin levels and the US7 score could be a simple and practical assessment approach for detection of RA disease activity.

Disclosure of Interest: None declared

DOI: 10.1136/annrheumdis-2018-eular.4898

SAT0086 EVALUATION OF DIAGNOSTIC PERFORMANCE OF MAGNETIC RESONANCE IMAGING (MRI) AND ULTRASOUND (US) TOWARD EARLY RHEUMATOID ARTHRITIS FROM NAGASAKI EARLY ARTHRITIS COHORT

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Background: We previously reported that the presence of autoantibodies, magnetic resonance imaging (MRI) bone oedema, ultrasound (US) power Doppler (PD) ≥ grade 2 articular synovitis are indispensable markers to predict the development of RA from undifferentiated arthritis whereas combination analysis used by the above variables, focusing on very early phase of arthritis, remains to be done in our cohort.

Objectives: To investigate and re-confirm the diagnostic performance of autoantibodies, MRI findings and US findings toward early RA from NAGASAKI EARLY ARTHRITIS COHORT.

Methods: One hundred and three patients, suffering arthralgia less than 6 months and examined by both MRI and US of wrist and finger joints, were selected from NAGASAKI EARLY ARTHRITIS COHORT dating from September 2009 to August 2017. US were evaluated by synovitis score of semi-quantitative manner by gray-scale (GS) and power Doppler (PD) proposed from EULAR. In MRI, synovitis, bone oedema and bone erosion were assessed by the Rheumatoid Arthritis Magnetic Resonance Imaging Scoring system (RAMRIS). After univariate analysis, multivariate analysis was employed to clarify the diagnostic predictors of early RA.

	odds ratio	95% confidence interval	p-value
ACPA titer	1.05	1.01-1.08	0.0069
PD ≥ grade 2	17.43	5.15-59.06	0.00025

Results: Median of age was 60 years and that of symptomatic duration was 2 months. Female was 68.9%, positive rate of RF was 64.7% and that of ACPA was 47.1%. Total GS score was 4.0, total PD score 2.0, MRI synovitis score 3.0, MRI bone oedema score 0, MRI bone erosion score 0. Seventy patients were diagnosed as early RA during follow-up periods. A univariate analysis showed ACPA, CRP, MMP-3, fulfilment of 2010 ACR/EULAR criteria, MRI synovitis score, MRI bone oedema score, total GS score, total PD score and PD ≥ grade 2 articular synovitis were associated with early RA. Multivariate analysis revealed ACPA and PD ≥ grade 2 articular synovitis at any joints were independent predictors toward diagnosis of early RA.