Methods: Retrospective cohort study. We collected clinical and epidemiological data of pts seen in outpatient clinic from a Hospital from Barcelona, Spain and another from Jacksonville, Florida, USA. Pts who met the RA ACR/EULAR 2010 criteria and the ILD American Thoracic Society /European Respiratory Society 2013 classification criteria were selected. The study was approved by both local committees.

Results: A total of 63 pts were included, 37 from Barcelona and 26 from Jacksonville. Forty-one pts (65%) were women with a median age of 68 years. General characteristics are summarized in Table. Thirty-eight pts (60.3%) were former smokers, but only 9 pts (14.3%) were current smokers. Fifty-two pts (82.5%) were Caucasian, 9.5% Mestizo, 3.2% Maghreb and 1.6% Indian. Most were overweight with mean BMI of 28.6 (SD 5.4). The Barcelona cohort showed more erosive disease than the pts from Jacksonville (26 vs 5 pts, $p=0.00$). Seven pts had ILD diagnosis before RA. 4.82 (range 0-33) years was the median evolution from RA diagnosis until ILD diagnosis. Most common type of ILD was usual interstitial pneumonia (UIP) in 40% of pts, followed by nonspecific interstitial pneumonia (NSIP) in 25% of pts. Respiratory bronchiolitis was significantly more common in Barcelona cohort, while unspecific pattern in Jacksonville cohort (Table). A total of 71.4% were under GC treatment, methotrexate was used in 23 pts (36.5%), leflunomide in 14 (22.2%) and hydroxychloroquine in 7 pts (11.1%) prior to diagnosis of ILD. 6 out of 26 pts from Jacksonville were under MMF. TNF- α inhibitors were the most commonly used bDMARD in both cohorts as a first-line option prior to ILD diagnosis. Currently, half of the patients (50.8%) were under bDMARD. Current use of bDMARD was more often in US cohort (80.7%) than in Barcelona cohort (29.7%). Rituximab (RTX) was the most common bDMARD currently used (17 pts). Jacksonville pts were more commonly treated with RTX, while Barcelona pts were more commonly treated with Abatacept.

Conclusion: Globally pts with RA-associated ILD have similar clinical profile in both centers, however, we found some differences in radiological patterns and treatment strategies between both cohorts. Those differences could be explained in part by sociodemographic differences, diagnostic and therapeutic approach and/or access for health care among others.

	Total n=63 %	Barcelona cohort n= 37	Jacksonville cohort n=26	P value
Caucasian, patients (%)	52 (82.5%)	31 (83.8)	21 (77.8)	0,49
Time RA evolution, mean years (SD)	10.58 (8.01)	11.63 (7)	9 (9.24)	0.80
Time ILD evolution, mean years (SD)	3.89 (3.20)	3.86 (3.28)	4 (3.12)	0.28
Erosive disease, patients (%)	31 (49.2)	26 (72.2)	5 (18.5)	0,00
Rheumatoid nodules, patients (%)	8 (12.7)	7 (18.9)	1 (3.8)	0,12
Current sDMARDs treatment, patients (%)	35 (55.55)	31 (49.20)	4 (6.34)	0,002
Current bDMARD treatment, patients (%)	32 (50.8%)	11 (17.5)	21 (33.3)	0,001
ILD type				
Usual interstitial pneumonia (UIP), patients (%)	25 (40.3)	14 (37.8)	11 (44)	0,08
Nonspecific interstitial pneumonia (NSIP), patients (%)	16 (25.8)	14 (37.8)	2 (8)	0,23
Respiratory bronchiolitis–interstitial lung disease (RB), patients (%)	7 (11.3)	7 (18.9)	0	0,039
Cryptogenic organizing pneumonia (OP), patients (%)	4 (6.5)	2 (5.4)	2 (8)	0,43
Unspecific, patients (%)	8 (12.9)	0	8 (32)	0,004

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AB0238

SERUM LEVELS OF E-SELECTIN AND IL-8 DECREASE AFTER 6 MONTHS OF ANTI-INFLAMMATORY THERAPY AND MIRROR FAVORABLE VASCULAR CHANGES IN RHEUMATOID ARTHRITIS

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Background: Accelerated atherosclerosis is a systemic manifestation of rheumatoid arthritis (RA). E-selectin, VCAM-1, MCP1/CCL2 and IL-8/CXCL8 are

involved in leukocyte migration through endothelial cells in both atherosclerosis and RA [1]. Therefore, these endothelial function markers might reflect endothelial function and systemic inflammation in RA. If so, such a marker could be used to assess cardiovascular risk in RA patients.

Objectives: The aim of this study was to investigate the effect of 6 months of anti-inflammatory treatment on RA serum levels of endothelial function markers and whether these serum levels are related to prognostic imaging markers for atherosclerosis.

Methods: E-selectin, VCAM-1, MCP1 and IL-8 serum levels were determined at baseline and after 6 months of therapy with MTX monotherapy or in combination with adalimumab for 40 RA patients and 19 osteoarthritis (OA) controls using commercial ELISA kits. Prognostic imaging markers for atherosclerosis were pulse wave velocity (PWV) and augmentation index (AIx) as measured with SphygmoCor tonometry. Parametric analyses were used for E-selectin, VCAM-1 and MCP1 and non-parametric or parametric analyses after log transformation for IL-8.

Results: Baseline VCAM-1 and IL-8 were significantly higher for RA patients than OA controls with and without adjustment for age and sex or traditional risk factors (table 1).

Table 1. Comparison between RA and OA serum levels of endothelial function markers at baseline

	OA	RA	Crude analysis		Adjusted age sex		Adjusted traditional risk factors*	
	Mean $\pm$ SD or median (IQR)	Mean $\pm$ SD or median (IQR)	Difference OA and RA (95%CI)	p	Difference OA and RA (95%CI)	p	Difference OA and RA (95%CI)	P
E-selectin (ng/ml)	29 $\pm$ 15	32 $\pm$ 17	3 (-6-12)	0.49	3 (-6-12)	0.53	3 (-7-13)	0.54
VCAM-1 (ng/ml)	786 $\pm$ 102	897 $\pm$ 200	110 (13-208)	0.03	103 (4-202)	0.04	110 (2-218)	0.05
MCP1 (pg/ml)	248 $\pm$ 248	316 $\pm$ 165	68 (-15-150)	0.11	71 (-10-152)	0.09	49 (-41-138)	0.28
IL-8 (pg/ml)	15 (10-25)	37 (17-117)	n/a	0.01	n/a	0.01	n/a	0.02

* Age, hypertension, bmi and pack years

After 6 months of anti-inflammatory therapy, E-selectin and IL-8 serum levels significantly decreased (table 2). This decrease was especially present in the RA patients with good EULAR-DAS28 response to the medication and not in patients with no/moderate response (E-selectin: -7, 95%CI -13- -2, $p=0.007$ versus -0.1, 95%CI -3-2, $p=0.925$; IL-8: -2, $p=0.033$ versus -1, $p=0.267$).

Table 2. Endothelial function markers difference after 6 months of therapy in RA patients

	Difference (95%CI)	p-value
E-selectin (ng/ml)	-4 (-7-1)	0.010
VCAM-1 (ng/ml)	+10 (-56-77)	0.753
MCP1 (pg/ml)	-14 (-34-62)	0.557
IL-8 (pg/ml)	-11 (n/a)	0.014

Furthermore, in the RA patients we found a significant correlation between the difference in PWV after 6 months and the difference in E-selectin (Pearson $r=0.450$, $p=0.018$) and IL-8 (Spearman $r=0.401$, $p=0.038$). All other possible correlations of the endothelial function markers with PWV and AIx were not significant (data not shown).

Conclusion: Serum levels of E-selectin and IL-8 decreased after 6 months of anti-inflammatory therapy, and both correlated with the PWV changes. This is the first study investigating both serologic as well as imaging markers of endothelial function and atherosclerosis in RA patients undergoing anti-inflammatory therapy. Our study suggests that E-selectin and IL-8 circulatory levels may reflect the best both systemic inflammation as well as endothelial function in RA, and might be therefore useful in the future as markers of cardiovascular risk in these patients.

References:

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