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AB0242 EVALUATION OF VARIANTS IN MIR-146A, MIR-196A-2 AND MIR-499 AND THEIR ASSOCIATION WITH SUSCEPTIBILITY FOR RHEUMATOID ARTHRITIS AND ITS EXTRA-ARTICULAR MANIFESTATIONS

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Background: The miRNAs, small non-coding RNA, regulate the genetic expression to posttranscriptional level, inhibiting the translation. The role of miRNAs in the evolution of RA is not clear.

Objectives: To evaluate the variants rs 2910164G/C in *miR-146a*, rs11614913C/T in *miR-196a-2* and rs3746444A/G in *miR-499* and their association with susceptibility and severity to Rheumatoid arthritis (RA) and its extra-articular manifestations (EAM)

Methods: 133 cases with RA were included (ACR/EULAR criteria 2010) and 430 healthy controls. There were evaluated EAM (rheumatoid nodules [RN], Raynaud phenomenon [RP], cutaneous vasculitis [CV], episcleritis, scleritis, peripheral ulcerative keratitis [PUK], multiple mononeuritis [MM] and multiple polyneuritis [MP]) and levels of ESR, CRP, RF and CCP. It was performed genotyping of single nucleotide polymorphisms (SNPs) rs2910164G/C in *miR-146a*, rs11614913C/T in *miR-196a-2* and rs3746444A/G of *miR-499*. The descriptive and inferential statistical analysis was performed with the software SPSS and Finetti.

Results: Patients with RA, women 126 (94.7%); age Me 48.9 (IQR 40–58); patients with EAM 23 (17.2%; women 22 [95.6%]; RN 14 [60.8%], RP 4 [17.3%], CV 1 [4.3%], episcleritis 1 [4.3%], PUK 1 [4.3%], MM 1 [4.3%], MP 1 [4.3%]); ESR Me 37 (IQR 22–45), CRP Me 0.11 (IQR 0.03–0.27); positive RF 125 patients (93.9%, high positive 106 [79.7%], low positive 19 [14.3%]; EAM with high positive RF, 100%), positive CCP 70 (52.6%, high positive 48.9%, low positive 3.8%; EAM high positive 94.1%, negative 5.9%). The alleles and genotypic frequencies did not show statistically significant difference between cases and the healthy controls ($p > 0.05$). It was identified statistical difference between the patients with and without EAM in CPR ($p = 0.032$). The genotypic and allelic frequencies and association analysis of *miRNAs* in patients with and without EAM are shown in table 1

Table 1. Analysis of the genotypic and alleles frequencies of the SNPs rs2010164G-C from *miR-146a*, rs11614913C/T from *miR-196a-2* and rs3746444A/G from *miR-499* in patients with RA with and without EAM

Genotype	Patients without EAM		Patients with EAM		OR	CI 95%	p
rs2010164G/C Genotype	n	%	n	%			
GG	54	(49.1)	9	(39.1)	—	—	—
GC	47	(42.7)	11	(47.8)	1.40	0.54–3.68	0.49
CC	9	(8.2)	3	(13.0)	2.00	0.45–8.83	0.35
Allele							
G	155	(70.4)	29	(63.0)	—	—	—
C	65	(29.6)	17	(37.0)	1.34	0.72–2.71	0.32
rs11614913C/T Genotype							
CC	42	(38.2)	2	(8.7)	—	—	—
CT	55	(50.0)	14	(60.9)	5.34	1.15–24.81	0.02
TT	13	(11.8)	7	(30.4)	11.31	2.09–61.29	0.001
Allele							
C	139	(63.2)	18	(39.1)	—	—	—
T	81	(36.8)	28	(60.9)	2.67	1.39–5.12	0.002
rs3746444A/G Genotype							
AA	100	(90.9)	21	(91.3)	—	—	—
AG	9	(8.2)	2	(8.7)	1.06	0.25–5.26	0.94
GG	1	(0.9)	0	(0.0)	1.56	0.06–39.6	0.65
Allele							
A	209	(95.0)	44	(95.6)	—	—	—
G	11	(5.0)	2	(4.4)	0.86	0.28–4.83	1.03

O: Odds Ratio, CI: confidence interval, EAM: extraarticular manifestations

Conclusions: None of the evaluated variants in *miRNAs* are associated with susceptibility for RA, however, the SNP rs11614913C/T located in *miR-196a-2* is associated with EAM.

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AB0243 SERUM LEVELS OF ANGIOGENIC AND PROINFLAMMATORY CYTOKINES TO DISCRIMINATE BETWEEN 6 SETS OF REMISSION CRITERIA IN RA

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Background: The ideal definition of remission in RA remains to be agreed. Angiogenic factors and proinflammatory cytokines are key in RA pathogenesis.

Objectives: The aim of this study was to analyse serum levels differences of angiogenic and inflammatory biomarkers between SDAI, CDAI, ACR, DAS28 and sonographic remission in patients with (RA).

Methods: We selected patients with RA in clinical remission (DAS28-ESR < 2.6 for > 6 months). PDUS of knees and hands was performed. Serum levels of biomarkers of inflammation/angiogenesis were determined by Quantibody® Human Array. Patients were classified according to 6 sets of remission criteria: SDAI (< 3.3), CDAI (< 2.8), ACR, DAS28-ESR (< 2.6), Doppler (score Doppler = 0) and UdAS (ultrasound defined active synovitis: no joints with SH ≥ 2 + PD)

Results: 60 patients with RA were collected. 76% female, aged (mean) 53 years; disease duration 110 months. 47 (76%) csDMARDs, and 27 (45%) biological therapies. At baseline, 67% of patients had PD signal and 48% fulfilled criteria for previously defined UdAS. Although patients in sonographic remission had lower levels of inflammatory biomarkers such as IL-6, IL-17 or IL-23, no significant differences were found between the 6 sets of remission criteria. Angiogenic biomarkers such as CXCL6 (0.039), ENA78 (0.007), SDF1 (0.047) and VEGF-R1 (0.025) were significantly lower in patients fulfilling CDAI remission. Patients with no PD signal (0.009) and no UdAS (0.006) had significantly lower levels of bFGF.

Conclusions: RA patients in CDAI remission had significantly-lower levels of angiogenic cytokines. However, no differences in serum levels of proinflammatory cytokines were found between the 6 sets of remission criteria.

Disclosure of Interest: None declared

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AB0244 MICROWAVE RADIOMETRY-DERIVED THERMAL CHANGES OF SMALL JOINTS AS POTENTIAL ADDITIONAL BIOMARKER IN RHEUMATOID ARTHRITIS: A PROSPECTIVE STUDY

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Background: Microwave Radiometry (MR) is a rapid, non-invasive method that detects in-depth tissue temperatures. Using joint ultrasound as reference method, in a proof-of-concept study, we have found that an increased temperature at the knee joint detected by MR in the absence of relevant clinical signs reflects the presence of subclinical synovial inflammation in rheumatoid arthritis (RA) (1).

Objectives: To test the hypothesis that temperature of small joints assessed by MR correlates to global disease activity levels in RA, a disease in which small joints are primarily affected.

Methods: Ten patients with active, untreated RA underwent clinical and laboratory assessments, joint ultrasound and MR of hand and foot small joints (RTM 01 RES microwave computer based system, Bolton, UK) at baseline, as well as 15, 30 and 90 days after treatment onset. Twenty aged-matched healthy individuals served as controls.

Results: Using 1248 separate MR-derived recordings from RA patients we created several thermo-scores involving different small joint combinations and compared them with clinical and ultrasound data. The best performing thermo-score involved the sum of temperatures of 16 small joints (2nd-5th metacarpal and proximal inter-phalangeal joints, bilaterally). This thermo-score correlated positively to DAS28 disease activity score ($p = 0.001$), tender joint count ($p = 0.002$), swollen joint count ($p = 0.001$), patient's visual analogue scale ($p < 0.001$), CRP