THU0179

MIR-382-5P TARGETING IL-33 GENE AS BIOMARKER TO PREDICT SUBCLINICAL ATHEROSCLEROSIS PROGRESSION IN PATIENTS WITH EARLY RHEUMATOID ARTHRITIS

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Background: Patients with rheumatoid arthritis(RA) had increased risk of cardiovascular disease(CVD). IL-33, a member of the IL-1 family, plays an important role in the pathogenesis of RA and development of CVD. Yet, plasma IL-33 level was not detectable in most subjects which limits its utility as a biomarker for CVD. Meanwhile, microRNAs(miRNAs) targeting IL-33 gene expression might play a role.

Objectives: To ascertain if dysregulated miRNAs targeting *IL-33* gene expression in early RA patients were associated with subclinical atherosclerosis progression

Methods: 73 ERA patients were recruited for this 1 year cohort study. Potential miRNAs binding to *IL-33* gene were predicted by miRanda. 10 miRNAs with the highest possibility of targeting functional sites of *IL-33* gene were quantified in cell free plasma samples. cel-miR-39 was used as spike-in control. Carotid plaque (CP) was identified using high-resolution ultrasound annually. Plaque progression (PP) was defined as an increased region harbouring plaque.

Results: CPs were identified in 25 (34%) and 31 (43%) subjects at baseline and month 12 respectively. 16 (22%) subject had plaque progression(PP +group). At baseline, subjects in PP +group were older, with lower pain and patient global scores, a higher proportion on conventional synthetic DMARDs, and higher cardiovascular risk compared to patients without plaque progression (PP-) (table 1). Plasma level of miR-382-5 p in the PP +group was significantly higher than that in the PP- group after adjusting for baseline difference (table 1). Using multivariate logistic regression, miRNA-382-5 p was an independent predictor for plaque progression(OR:2.534, 95%CI=1.079-5.952, p=0.033) after adjustment of baseline characteristics. [AUC:0.66,95% CI:0.51-0.81,p=0.048]. Other independent predictor included higher baseline Framingham risk score, diastolic BP and lower pain score.

Abstract THU0179 – Table 1. Characteristics of patients with and without plaque progression

	No plaque progression (n=57)	Plaque progression (n=16)	p	p*
Age	50±12	56±7	0.011	
Gender, male	11 (19.3%)	6 (37.5%)	0.128	
Framingham Risk Score	6.1±7.9	14.2±11.6	0.017	
log miRNA				
miR_9_5_p	-1.14±1.48	-1.23±0.97	0.825	0.947
miR_382_5_p	0.79±0.66	1.38±1.29	0.094	0.011
miR_377_3_p	0.75±0.65	0.96±0.85	0.285	0.783
miR_590_3_p	0.2±0.46	0.13±0.16	0.517	0.472
miR_499a_5_p	-1.65±0.67	-1.48±0.88	0.418	0.370
miR_145_5_p	2.43±1.35	3.26±2.08	0.060	0.169
miR_542_3_p	-1.95±0.55	-1.85±0.99	0.615	0.750
miR_186_5_p	2.67±1.42	2.77±1.69	0.811	0.556
miR_214_3_p	-0.68±1.29	-0.8±1.02	0.730	0.849
miR_496	-1.65±0.9	-1.68±0.83	0.917	0.538

*adjusted for age, sex, baseline NRS pain, patient global score, wrist to hip ratio, plasma LDL level and Framingham risk score

Abstract THU0179 – Figure 1. Multivariate regression analysis for plaque progression

Conclusions: miR-382-5 p was an independent predictor for progression of sub-clinical atherosclerosis and may serve as a novel biomarker for cardiovascular risk assessment in ERA patients.

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Disclosure of Interest: None declared

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THU0180

SHOULD WE INCLUDE ULTRASOUND IN THE 1987 ACR AND 2010 ACR/EULAR CLASSIFICATION CRITERIA FOR RHEUMATOID ARTHRITIS?

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Background: Ultrasound imaging (US) is actually considered as a crucial element of the diagnostic process in rheumatic diseases and could be the method of choice in imaging peripheral synovitis, typical feature during rheumatoid arthritis (RA). The 2010 American College of Rheumatology/European League Against Rheumatism (ACR/EULAR) classification criteria focused on early-stage RA, and were designed to remedy the deficiencies in the 1987 ACR criteria, but still lacking sensitivity.

Objectives: We undertook this study to investigate whether including the ultrasonographic data in calculating the 1987 ACR and 2010 ACR/EULAR criteria is useful in diagnosing RA.

Methods: We performed a cross-sectional study of one hundred patients with inflammatory joint pain or synovitis for more than 6 weeks and less than 2 years. An experienced radiologist performed the MSUS scan of 22 joints (2 wrists, 10 metacarpophalangeal joints MCP and 10 proximal interphalangeal joints PIP) unaware of clinical and biological findings. After US assessment, patients were classified as having RA according to ACR/ EULAR 2010 criteria using clinical, biologic and radiographic data (clinical ACR87 or clinical ACR/EULAR2010). Then we calculate those criteria using US data: US-ACR87 including erosion detected in US as a criterion and US-ACR/EULAR2010 including the number of synovitis detected in US as a criterion.

Results: One hundred RA patients were included (77 women and 23 men) with a mean age of 51.8 years. ¹⁶⁻⁷⁷ The mean disease duration was 10.96. ^{2 24} Rheumatoid factor and antibodies against cyclic citrullinated peptides were positive in 53% and 25% cases respectively. Sixty-five patients (65%) accomplished the clinical ACR87 criteria and 55 patients (55%) fulfilled the clinical ACR/EULAR2010 criteria for the diagnosis of RA. Using US data eighty patients (80%) accomplished the US-ACR87 criteria and 68 patients (68%) fulfilled the US-ACR/EULAR2010 criteria for the diagnosis of RA. A good correlation was found between clinical and US ACR/EULAR criteria (k=0.684, p=0.000). US score showed a very good sensitivity of 100%, specificity of 67.5%, positive predictive value of 76.9% and negative predictive value of 100% compared to clinical score. In table 1 we summarise correlation between clinical and US ACR/EULAR criteria.

Abstract THU0180 – Table 1. Correlation between clinical and US ACR/EULAR criteria

		Clinical ACR/EULAR2010		
		Yes	No	Total
US-ACR/EULAR2010	Yes	50	18	68
	No	5	27	32
	Total	55	45	100

Conclusions: Our study showed that including US data in the classification criteria of RA, will improve diagnostic impact of those criteria during RA management.

Disclosure of Interest: None declared

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THU0181

GLUCOCORTICOID USE IS AN INDEPENDENT RISK FACTOR FOR SARCOPENIA IN PATIENTS WITH RHEUMATOID ARTHRITIS – FROM THE CHIKARA STUDY -

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Background: Patients with rheumatoid arthritis (RA) are at higher risk of sarcopenia due to joint dysfunction and chronic inflammation. The prospective observational CHIKARA study (Correlation research of sarcopenia, skeletal muscle and disease activity in rheumatoid arthritis; registration number UMIN000023744) was