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Figure 2. Adiponectin induces the production of IL-6 PBMCs (A) FLS (B) measured using ELISA.

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AB0111 THE COMPARISON OF SYNDECAN-4 LEVEL IN SERA, SYNOVIAL FLUID AND SYNOVIUM OF RHEUMATOID ARTHRITIS AND OSTEOARTHRITIS

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Background: Syndecan-4, one of the members of heparan sulphate proteoglycans (HSPGs), has been shown to be involved in regulating inflammatory responses, angiogenesis, and cell migration. Its role has been proved in animal arthritis models, however not clearly elucidated in rheumatoid arthritis (RA) patients

Objectives: To investigate the role of Syndecan-4 in the pathogenesis of RA, by detecting Syndecan-4 expression in the serum, synovial fluid and synovium of RA patients and comparing with osteoarthritis (OA) patients

Methods: The concentrations of syndecan-4 in sera and synovial fluid of RA and osteoarthritis (OA) patients were detected by ELISA. The expression of syndecan-4 in synovium of RA and OA patients was detected by immunohistochemistry. In another cohort of 60 RA patients, the association analysis was performed. All the RA patients were with disease duration more than 6 months and with DAS28-CRP>3.2 although after csDMARDs (including MTX and/or leflunomide) treatment for more than 3 months. The RA patients were treated with tumour necrosis factor α (TNF α) inhibitor (TNFi) and MTX 10mg per week for 12 weeks. The correlations between sera Syndecan-4 and disease activity of RA as well as therapeutic response to TNFi were analyzed.

Results: The serum Syndecan-4 level of RA patients [637.1 (483.6-1069.6) pg/mL] was significantly higher than that of OA patients [345.0 (287.9-421.1) pg/mL] and healthy controls [195.6 (165.0-225.2) pg/mL] ($P<0.001$, $P<0.001$, respectively). The serum concentration of Syndecan-4 is also higher in OA patients than that in healthy controls ($P<0.001$). It was also higher in RF-positive RA patients than in RF-negative ones [603.0 (100.0-8879.1) pg/mL vs 460.3 (178.7-2468.9) pg/mL, ($p=0.026$)]. The Syndecan-4 level in synovial fluid and synovia were comparable between RA and OA patients. No correlation was found between serum Syndecan-4 and disease activity of RA. TNFi treatment did not change the serum Syndecan-4 level significantly. The baseline serum Syndecan-4 did not show predictive value for TNFi response.

Table 2. The comparisons of sICAM-1 and CXCL13 concentrations at baseline and 12 weeks based on different response criteria.

	EULAR responder			EULAR non-responder			ACR 20 achieved			ACR 20 not achieved		
	Baseline	Week 12	p	Baseline	Week 12	p	Baseline	Week 12	p	Baseline	Week 12	p
sICAM-1 (ng/ml) (mean $\pm$ SD)	388.5 $\pm$ 94.0	325.3 $\pm$ 83.7	0.001	302.1 $\pm$ 56.1	334.3 $\pm$ 61.5	0.270	390.5 $\pm$ 95.8	329.6 $\pm$ 87.6	0.004	345.7 $\pm$ 85.3	329.3 $\pm$ 67.9	0.513
CXCL13 (pg/ml) (median, min-max)	190.6 (50.1-2081.4)	103.3 (4.8-1497.8)	0.003	120.4 (18.8-1909.4)	144.7 (18.4-2155.0)	0.546	199.7 (57.9-2081.4)	103.8 (8.9-2155.0)	0.011	136.0 (18.8-1909.4)	102.2 (4.8-767.33)	0.531

Conclusion: Syndecan-4 can be expressed in the synovia of RA and OA patients. The serum Syndecan-4 is higher in RA patients than in OA patients and healthy controls, and significantly higher in sero-positive RA patients than in sero-negative ones. Syndecan-4 may participate in the pathogenesis of RA.

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AB0112 THE PREDICTIVE VALUE OF SERUM SOLUBLE ICAM-1 AND CXCL13 IN THE THERAPEUTIC RESPONSE IN RHEUMATOID ARTHRITIS PATIENTS

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Background: Tumor Necrosis Factor- α (TNF α) inhibitors (TNFi) have greatly improved the prognosis of RA, but not all these patients respond well to TNFi. So far there has been no definite biomarker to predict the response to TNFi yet.

Objectives: The aim of current study was to explore the predictive value of sICAM-1 and CXCL13 on the response to TNF α receptor fusion protein in RA patients who have poor response to conventional synthetic disease-modifying anti-rheumatic drugs (csDMARDs).

Methods: 60 RA patients with disease duration more than 6 months and at least low disease activity defined by DAS28-CRP>3.2 although after csDMARDs treatment for more than 3 months were included. They were further treated with TNF α receptor Fc fusion protein and MTX 10mg per week for 12 weeks. Soluble ICAM-1 (sICAM-1) and CXCL13 concentrations in sera from 60 RA patients and 20 healthy controls were tested by ELISA right before and at the end of 12 weeks of TNFi therapy. The correlation between sICAM-1 and CXCL13 with disease activity and their predictive values for TNFi response were analyzed.

Results: The mean age of the 60 patients were 54.8 $\pm$ 11.6 years. Serum sICAM-1 and CXCL13 concentration was higher in RA patients than healthy controls, higher in seropositive RA patients than in seronegative ones, and higher in RA patients with higher disease activity (table 1). Serum sICAM-1 and CXCL13 levels were decreased after TNFi therapy, especially in good responders (table 2). Baseline sICAM-1 concentration was independently associated with EULAR response ($p=0.033$, OR=1.014, 95% CI=1.003-1.026). The sICAM-1^{high}/CXCL13^{high} patients had the highest response rate, which was significantly higher than the sICAM-1^{low}/CXCL13^{low} group (OR=8.143, 95%CI:1.040-75.482, $p=0.045$).

Table 1. The correlation between serum sICAM-1 and CXCL13 concentrations and disease activity at baseline and 12 weeks after treatment.

	Baseline		Week 12		Baseline		Week 12	
	sICAM-1 (ng/mL)	CXCL13 (pg/mL)	sICAM-1 (ng/mL)	CXCL13 (pg/mL)	sICAM-1 (ng/mL)	CXCL13 (pg/mL)	sICAM-1 (ng/mL)	CXCL13 (pg/mL)
	r	p	r	p	r	p	r	p
DAS28-ESR	0.396	0.002	0.233	0.073	0.315	0.014	0.150	0.254
DAS28-CRP	0.360	0.005	0.191	0.143	0.250	0.054	0.062	0.639
SDAI	0.278	0.032	0.138	0.292	0.220	0.091	0.042	0.750
CDAI	0.277	0.032	0.116	0.377	0.182	0.163	0.009	0.943