Background: CRP and/or ESR are often unreliable indicators of disease activity. Serum markers of endothelial activation may be promising alternatives. We have recently shown that soluble vascular cell adhesion molecule-1 (sVCAM-1) is elevated in patients with positive antinuclear antibodies [1]. We also have described similar findings in another cohort of patients with a variety of rheumatic diseases [2] and now report a multivariate analysis of these data.

Objectives: CRP, ESR, age, disease, and gender were correlated to sVCAM-1.

Methods: Cross-sectional study with 230 patients with rheumatoid arthritis (RA), ankylosing spondylitis (AS), psoriatic arthritis (PsA) and different vasculitides (VASC). Disease activities were determined using DAS28, BASDAI, BVAS, RF, ACPA, CRP or ESR. Treatment regimens were subgrouped for conventional DMARDs (cDMARDs) or sets of biologics (bDMARDs). sVCAM-1 (mg/ml) was determined in the serum by ELISA and data were compared to age- and gender-matched healthy controls (HC).

Results: Significant (p = 0.05) overexpression of sVCAM-1 as compared to HC were found in the following groups and subgroups (subgroup data not shown): RA (n=136): 1.26-fold and in subgroups with bDMARDs, female gender, age >50 years, and RF>15 IU/ml. AS (n=34): 1.71-fold and in subgroups with bDMARDs, age >50 years, female gender, CRP <3 mg/dl and ESR<20 mm/h. VASC (n=25): 2.52-fold and in subgroups with cDMARDs, BVAS ≤10 and >10, disease duration ≤120 months, age ≤50 years, female and male gender, CRP <3 mg/dl and ESR ≤20 mm/h. PsA (n=35): no significant changes. Linear regression analysis showed that CRP and ESR but not sVCAM-1 were correlated to each other (r=0.637, p<0.001). In addition, multiple linear regression showed that sVCAM-1 was independently associated with age and disease (RA, AS, VASC). However, sVCAM-1 had no impact on CRP, ESR and gender.

Conclusion: sVCAM-1 is an objective disease marker in patients with RA, AS and VASC. sVCAM-1 is not correlated with CRP and ESR and may thus provide additional information of disease activity. Prospective studies are needed to establish sVCAM-1 as a marker of rheumatic diseases, especially in vasculitis.

REFERENCES

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AB1330

SOLUBLE VASCULAR CELL ADHESION MOLECULE-1 AS AN INDEPENDENT MARKER FOR ENDOTHELIAL ACTIVATION IS ELEVATED IN ACTIVE RHEUMATIC DISEASES: A MULTIVARIATE ANALYSIS

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Background: Several studies have shown a correlation of the soluble vascular cell adhesion molecule-1 (sVCAM-1) with disease activity and severity in patients with rheumatoid arthritis (RA), ankylosing spondylitis (AS), psoriatic arthritis (PsA) and different vasculitides. The aim of this study was to further investigate the role of sVCAM-1 in patients with a variety of rheumatic diseases according to the OMERACT filter.

Objectives: To analyse the urine metabolic profile and assess its correlation with body composition parameters and disease activity of RA patients.

Methods: Seventy-nine RA patients, according to ACR/EULAR 2010 classification criteria, aged between 40 and 70 years, were recruited and followed for 12 months. Disease activity, body composition, fatigue, and urine metabolome were measured. The study was approved by the institutional review board and conducted according to the Declaration of Helsinki. All patients gave written informed consent.

Results: Urine metabolite profiling using NMR spectroscopy showed a significantly altered metabolic profile in RA patients compared to healthy controls. A principal component analysis revealed two distinct clusters: one for RA patients and one for healthy controls. The metabolic profile of RA patients was characterized by increased levels of metabolites involved in the metabolism of amino acids, lipids, and nucleotides.

Conclusion: The altered metabolic profile in RA patients may provide insights into the pathophysiology of the disease and could be used as a potential biomarker for disease activity and monitoring of treatment efficacy.

AB1331

URINE METABOLIC PROFILE IN RHEUMATOID ARTHRITIS DEVELOPMENT

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Background: Rheumatoid arthritis (RA) is a chronic inflammatory disease characterized by increased mortality and associated with metabolic disorders including dyslipidaemia, insulin resistance and cachexia. Since the metabolomic profile is known to vary in response to different inflammatory conditions, metabolome analysis could substantially contribute to diagnosis and prognosis.

Objectives: To analyse the urine metabolic profile and assess its correlation with body composition parameters and disease activity of RA patients.

Methods: Seventy-nine RA patients, according to ACR/EULAR 2010 classification criteria, aged between 40 and 70 years, were recruited and followed for 12 months. Disease activity, body composition, fatigue, and urine metabolome were measured. The study was approved by the institutional review board and conducted according to the Declaration of Helsinki. All patients gave written informed consent.

Results: Urine metabolite profiling using NMR spectroscopy showed a significantly altered metabolic profile in RA patients compared to healthy controls. A principal component analysis revealed two distinct clusters: one for RA patients and one for healthy controls. The metabolic profile of RA patients was characterized by increased levels of metabolites involved in the metabolism of amino acids, lipids, and nucleotides.

Conclusion: The altered metabolic profile in RA patients may provide insights into the pathophysiology of the disease and could be used as a potential biomarker for disease activity and monitoring of treatment efficacy.