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AB0647

ASSOCIATION OF VASCULAR BIOMARKERS WITH SYSTEMIC SCLEROSIS CLINICAL FEATURES AND NAILFOLD VIDEOCAPILLAROSCOPY ALTERATIONS-CROSS SECTIONAL STUDY

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Background: The most reliable markers reflecting endothelial activation and injury in Systemic sclerosis (SSc), are intercellular adhesion molecule (ICAM1), vascular cell adhesion molecule (VCAM1), E selectin (Es) and P selectin (Ps) (1).

Objectives: To assess concentrations of these vascular biomarkers in SSc patients (pts) in comparison to healthy controls (HC) and in relation to disease manifestations.

Methods: Patients who fulfilled the 2013 ACR/EULAR SSc classification criteria and have never been treated with endothelin receptor antagonist, phosphodiesterase 5 inhibitors or prostanoids were eligible. Exclusion criteria were overlap syndromes, other autoimmune and cardiovascular diseases, diabetes mellitus, thrombosis, pregnancy, active infection or neoplastic diseases. Our study included 53 SSc pts [34 limited (lcSSc) and 19 diffuse cutaneous SSc (dcSSc)] and 31 age- and sex matched HC. Serum concentration of ICAM1, VCAM1, Es and Ps were measured using a commercial ELISA kit (Quantikine; R&D Systems), expressed as ng/mL. Clinical evaluation of patients was obtained, including nailfold videocapillaroscopy (NVC). Disease activity was assessed by the revised EUSTAR activity index. Statistical analysis was done in R. Student's t-test or ANOVA, otherwise Mann-Whitney U or Kruskal-Wallis tests were used. Pearson's or Spearman's correlation were done depends on nature of data. ICAM1 cut off value were assessed with ROC analysis. Association were performed with univariate logistic regression for NVC alterations and multivariate for Anti-Topol/ScI70 antibodies (aTSa).

Results: Concentration of all markers were elevated in SSc pts compared to HC (ICAM1 p<0.001, VCAM1 p<0.001, Es p<0.05, Ps p>0.05). Different disease subsets exhibited higher values of ICAM1 and VCAM1 respect to HC (lSSc p <0.05, dSSc p<0.001). Concentration of ICAM1 was higher in dcSSc compared to lcSSc (p<0.05). ICAM1 level were independently associated with positive aTSa (OR 1.2, 95% CI 1.02–1.35, p<0.001), with distinguishing cut off value of 34.94 (Sn 0.90%, Sp 0.60%, AUC 0.85). ICAM 1 was positively correlated with the erythrocyte sedimentation rate (r 0.3, p<0.05) especially within disease duration > 3 years group (r 0.4, p<0.05). Higher levels of ICAM1 was found in diffusing capacity of the lungs for carbon monoxide<70% (p<0.05), modified Rodnan skin score >14 (p<0.05) and active disease (p<0.05) group. Calcinosis group had decreased level of Es (p<0.05) and increased Ps (p<0.05). Es was lower in group with acroosteolysis (p<0.05). Trends towards increasing markers concentration from early to late NVC pattern were observed for all biomarkers except Es which showed the highest concentration in active group, but without significant differences (p>0.05). Few megacapillaries were associated with ICAM1 (OR 1.2, 95% CI 1.06–1.34, p<0.05) and Ps (OR 1.2, 95% CI 1.08–1.39, p<0.05), while presence of bushy capillaries were associated with ICAM1 (OR 1.3, 95% CI 1.06–1.36, p<0.05) level.

Conclusion: Our results support the role of vascular biomarkers in SSc pathogenesis. Besides anti-Topol/ScI70 antibodies, ICAM-1 could be used as an additional marker of dSSc. Elevation of ICAM1 and Ps concentration might be associated with late NVC alterations.

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CORRELATIONS BETWEEN NEUTROPHIL/LYMPHOCYTE RATIO AND CLINICAL CHARACTERISTICS OF PATIENTS WITH SYSTEMIC SCLEROSIS

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Background: The ratio of neutrophils to lymphocytes (NLR) is considered a novel inflammatory marker. Recently studies are ongoing for objective and easy markers (1)

Objectives: In this study, we aimed to identify the possible relationship between NLR and clinical characteristics in patients with systemic sclerosis (SSc)

Methods: Our study is based on a retrospective analysis. We collected in a data base clinic and epidemiological characteristic of SSc patients. Fifty-two patients (46 female; 10 subset diffuse) with SSc were enrolled consecutively for analysis the correlations. We considered the correlation with NLR and skin core, ulcers, pitting scars, gastro-intestinal events, fibrosis on HTCR, respiratory parameters (FVC, DLCO), PAPs, diastolic abnormalities, capillaroscopy alterations and activity index (2). Student's t-test was used for comparison averages, correlation among variables were assessed by Spearman's correlation testing.

Results: sociodemographic and clinical characteristic were reported in table 1. The correlation analysis statistically significant is summarized in table 2: NLR vs skin score, DLCO, PAPs, and activity index. The correlation analysis between NLR and presence of ulcers and pitting scars was considered not quite significant. There were no correlations between other parameters and NLR.

Conclusion: NLR values correlated negatively with DLCO value, and positively with PAP value, skin score and activity index NLR level may serve as inflammatory marker in patients with SSc.

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Table 1. Sociodemographic and clinical characteristics

	Patients n=52
Age (years) mean ±sd	53.58±13.99
Sex (M/F)	6/46
Disease duration (years) mean ±sd	8.68±9.6
WBC count (K/μL) mean ± sd	6748±2302
NLR, mean ± sd	2398±1290
Skin score, mean ±sd	3.94±6.26
DLCO% of predict, mean ±sd	71.4±23.4
PAPs mmHg, mean ±sd	19.9±19.1
Ulcers (yes/no)	5/47
Pitting scars (yes/no)	18/34
Cpilaroscopy alterations, normal/early/active/late	6/17/17/12
Activity index, mean ±sd	1.86±1.48

Table 2. Correlation analysis between NLR and skin score, DLCO, PAPs, activity index

	Skin score	DLCO	PAPs	Activity index
NLR	r	0.28	-0.30	0.29
	p value	0.045	0.035	0.033
	p value			0.042

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