fibrosis of different organs. The occurrence of endothelial dysfunction together with fibrosis indicates that endothelial cell-derived factors, such as endothelin-1 (ET-1), may have an important role in the pathogenesis of SSc. The upregulation of ET-1 activates inflammatory cells and leads to nitric oxide synthase inhibition associated with arterial stiffness.

**Objectives:** The purpose of this study was to evaluate ET-1 serum levels in women with systemic sclerosis (SSc) compared with healthy controls and to examine possible associations between ET-1 and markers of arterial stiffness.

**Methods:** This cross-sectional study was performed in San Cecilio Hospital, Granada (Spain) from November 2017 to May 2018. Sixty-two women with SSc and 62 age and sex matched healthy controls were enrolled in this study. Pulse Wave Velocity (PWV) was measured non-invasively along the carotid-femoral arterial segment. Serum ET-1 was analysed using indirect enzyme-linked immunosorbent assay (ELISA).

**Results:** A total of 62 female patients were included in our study, with a mean (SD) age of 53 ± 10 years. The majority were Caucasian (90.5%). The mean disease duration was 8.8 ± 6.9 years. Forty-four (70.9%) patients had a limited form of the disease and 18 (29.1%) had a diffuse form. There was a significant difference in ET-1 serum levels between SSc female patients and healthy controls (28.4 ± 10.6 vs. 21.1 ± 11.7 pg/ml, p = 0.001). Serum levels of ET-1 were positively associated with PWV (r = 0.26, p < 0.05), within the study group. In addition, in the linear regression model, higher ET-1 concentrations were associated with higher PWV (β = 0.03 95% CI (0.001, 0.060); p < 0.05).

**Conclusion:** This study shows that ET-1 serum levels are associated with PWV in women with SSc. Therefore, drugs that block ET-1 may be effective in reducing large artery stiffness in women with SSc, and thus cardiovascular risk.

**REFERENCES:**


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**AB0407 CARDIOVASCULAR BURDEN IN SYSTEMIC SCLEROSIS: QRISK3 VERSUS FRAMINGHAM FOR RISK ESTIMATION**

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**Background:** Cardiovascular (CV) diseases, namely myocardial infarction and stroke, are not among the most known and frequent complications of systemic sclerosis (SSc), but there is growing evidence that SSc patients have a higher prevalence of CV diseases than the general population [1].

**Objectives:** To compare two algorithms for CV risk estimation in a cohort of patients with SSc, finding any correlation with clinical characteristics of the disease.

**Methods:** SSc patients without previous myocardial infarction or stroke were enrolled. Traditional CV risk factors, SSc-specific characteristics and ongoing therapies were assessed. Framingham and QRISK3 algorithms were then used to estimate the risk of develop a CV disease over the next 10 years.

**Results:** Fifty-six SSc patients were enrolled. Framingham reported a median risk score of 9.6% (IQR 8.5), classifying 24 (42.9%) subjects at high risk, with a two-fold increase of the mean relative risk in comparison to general population. QRISK3 showed a median risk score of 15.8% (IQR 19.4), with 36 (64.3%) patients considered at high-risk. Both algorithms revealed a significant role of some traditional risk factors and a noteworthy potential protective role of endothelin receptor antagonists (p<0.003). QRISK3 was also significantly influenced by some SSc-specific characteristics, as limited cutaneous subset (p=0.01), interstitial lung disease (p=0.04) and non-ischemic heart involvement (p=0.03), with the first two that maintain statistically significance in the multivariate analysis (p=0.02 for both).

**Conclusion:** QRISK3 classifies more SSc patients at high-risk to develop CV diseases than Framingham, and it seems to be influenced by some SSc-specific characteristics. If its predictive accuracy were prospectively verified, the use of QRISK3 as a tool in the early detection of SSc patients at high CV risk should be recommended.

**REFERENCES:**


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Methods: A total of 33 patients (29 females; mean age 52.8; disease duration 4.2 years; dsSc/dcSSc = 8/25) who met the 2013 EULAR/ACR classification criteria for SSc and 20 healthy age- and sex-matched individuals were included in this study. Plasma levels of S100A4 were measured after using ELISA (CUSABIO, Houston, USA). Data are presented as median (IQR).

Results: S100A4 plasma levels were significantly increased in SSc patients compared to healthy controls (78.6(32.3-146.5) vs. 43.4(32.3-53.4) ng/mL, p<0.001). Patients with diffuse cutaneous (dc)SSc had significantly higher levels of S100A4 than patients with limited cutaneous (lc)SSc or healthy controls (168.5(81.5-347.5) vs. 63.0(9.5-130.6), p=0.017; p<0.001, respectively). Furthermore, S100A4 levels positively correlated with ESSG activity score (r=0.750, p<0.001). However, only correlations between S100A4 and mRSS, and ESSG activity score were approved at corrected level of statistical significance after Bonferroni’s correction (p<0.01). In a prospective analysis of patients (n=40) with progressive SSc-ILD treated with 6 (n=24) or 12 (n=16) monthly i.v. pulses of cyclophosphamide (CPA, 500 mg/m²), we observed a significant decrease in plasma S100A4 levels between the baseline samples (month 0) and blood drawn after 6 months of CPA treatment (76.5(23.9-96.6) vs. 73.2(4.4-98.6), p=0.013). Furthermore, baseline S100A4 levels predicted the change (m0-m6) in CRP and ESR levels after 6 months of CPA therapy (r=0.472, p=0.004; r=0.528, p=0.003, respectively).

Conclusion: We demonstrate that plasma S100A4 levels are significantly increased in SSc patients compared with healthy controls. Increased S100A4 is associated with the dcSSc subset, skin involvement, deteriorated parameters of interstitial lung disease, and higher disease activity in patients with progressive SSc-ILD. S100A4 declines after 6 months of cyclophosphamide therapy and predicts the systemic inflammatory response. These data further support our previous findings on the role of S100A4 as a regulator of TGF-β induced fibrosis in SSc.

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