

P3723**Left atrial abnormal mechanics by speckle tracking as an early subclinical manifestation in patients with systemic sclerosis**

T.E. Graca Rodrigues, N. Cunha, A. Nunes-Ferreira, R. Santos, I. Aguiar-Ricardo, J.R. Rigueira, I. Goncalves, J.R. Agostinho, R. Placido, C. David, F.J. Pinto, A.G. Almeida. *Cardiology Department, Santa Maria Hospital, CHLN, CCUL, Lisboa University, Lisbon, Portugal*

Introduction: Heart involvement in systemic sclerosis (SSc) affects the prognosis of the disease when clinically evident. SSc may be associated with myocardial microvascular obstruction and micronecrosis is a presumable determinant of ventricular dysfunction, heart failure and sudden death. The aim of this study was to assess whether there were early changes of left atrial (LA) deformation by speckle tracking in patients with normal ejection fraction.

Methods: We included 63 consecutive SSc patients (52±9 year-old, 53 females) without LV dilatation and EF>55%; a control group of 19 normal individuals was also included (50±11 years, 15 females) All underwent echocardiography, including 2D, conventional Doppler, tissue Doppler mitral annulus (septal and lateral e' velocities) and 2D speckle tracking of LV (global longitudinal strain) and LA (peak left atrial longitudinal strain) by 2D speckle-tracking software (EchoPac, GE).

Results: SSc patients had normal LV volumes, ejection fraction (58±5%), E/A and rest pulmonary systolic pressure was also normal in all patients. LA volumes were normal in SSc patients but significantly larger than the controls (27.1±4.2 ml/m² vs 23.5±5.9 ml/m², p=0.002) and, in comparison with controls, E/e' ratio showed a tendency to higher values in SSc (7.1±3.0 vs 5.9±2.1, p=0.055), 4 in the grey zone. LV global longitudinal strain was significantly lower in SSc patients in comparison with the control group (-15.5±2.3 vs -18.5±1.9, p=0.002), and peak longitudinal atrial strain was also significantly lower in SSc patients than in the controls (16.8±3.5 vs 11.8±3.3, p=0.002). Peak longitudinal atrial strain correlated with LV global longitudinal strain (R=0.58, p=0.01) and left atrial dimension (R=0.72, p=0.003), but not with the other variables.

Conclusion: LA deformation as assessed by 2D speckle tracking showed LA functional abnormalities early before left ventricular ejection fraction changes, which were correlated with abnormal LV deformation and atrial size, expressing the presence of subclinical cardiac involvement in patients with SSc.