SAT0253

PROGNOSTIC VALUE OF CARDIAC MAGNETIC RESONANCE IN SYSTEMIC SCLEROSIS

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Background: Cardiac involvement is frequent in patients with systemic sclerosis (SSc). It is often subclinical, but significantly affects the prognosis of the disease. Cardiovascular magnetic resonance (CMR) is the non-invasive gold standard to quantify biventricular functional parameters and to perform a myocardial tissue characterization.

Objectives: To evaluate the prognostic value of CMR for cardiac events in SSc.

Methods: Two hundred and seventy-three SSc patients with a thorough clinical assessment underwent a CMR exam using a 1.5 T GE scanner. We quantified biventricular function parameter by SSFP cine images, oedema by STIR T2 images, and macroscopic fibrosis by late gadolinium enhancement (LGE) technique. Patients were followed-up and cardiac events were recorded as new onset of pulmonary arterial hypertension (PAH), new onset of heart failure (HF), or at least sustained ventricular tachycardia.

Results: Mean follow-up was 23.9 ± 17.0 months. During the follow-up a total of 14 events occurred (3 new onset PAH, 5 new onset HF, 6 ventricular tachycardia). CMR predictors of cardiac events by univariate analysis were left and right ventricular ejection fractions, indexed left and right atrial areas, and LGE (see Table). Myocardial fibrosis by LGE was the only independent predictor at multivariate analysis (hazard ratio 3.175; 95% C.I. 1.021-9.870, see Figure).

	Univariate analysis		Multivariate analysis	
	HR (95% CI)	p	HR (95% CI)	p
Left Ventricular Ejection Fraction	0.904 (0.843 – 0.969)	0.004	0.935 (0.868 – 1.007)	0.075
Indexed Left Atrial Area	1.244 (1.002 – 1.546)	0.048		
Right Ventricular Ejection Fraction	0.926 (0.884 – 0.969)	0.001	0.958 (0.904 – 1.014)	0.139
Indexed Right Atrial Area	1.384 (1.059 – 1.809)	0.017		
Right Ventricular End-Diastolic Mass	1.039 (0.991 – 1.091)	0.115		
Right Ventricular End-Systolic Mass	1.036 (0.988 – 1.086)	0.148		
T2 ratio	0.247 (0.019 – 3.251)	0.288		
Late Gadolinium Enhancement	3.871 (1.289 – 11.623)	0.016	3.175 (1.021 – 9.870)	0.046

Conclusion: Cardiac magnetic resonance anatomical and functional parameters of both the left and right heart have significant prognostic value in patients with SSc.

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SAT0254

VASODILATOR THERAPY IN THE LONG TERM PREVENTION OF MYOCARDIAL MANIFESTATIONS IN SYSTEMIC SCLEROSIS (SSC): RESULTS FROM DESSCIPHER INCEPTION COHORT STUDY

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Background: Calcium channel blockers (CCB) and angiotensin converting enzyme inhibitors (ACEinh) are known to improve in the short term, cardiac perfusion and function in patients with SSc (Parks JL et al. Rheum Dis Clin North Am 2014). No study has been carried out so far to investigate the long-term effectiveness of these drugs.

Objectives: To address this topic and other aspects of the management of SSc, the DeSScipher (To decipher the optimal treatment of SSc) project was submitted to and financed by the European Community (FP7-HEALTH n°305495).

Methods: From Dec.1, 2012 to Nov. 30, 2015, 512 SSc patients who, as inclusion criterion, had no significant gut or lung or kidney involvement, were treated for 0.5-4 years (median 2.31) with either (n= 359: group 1) vasodilator treatment (i.e. CCB, or ACE-inh or Angiotensin II receptor blockers [AglIrb] or a combination of them i.e. CCB plus either ACEinh or AglIrb) or (n= 153:group 2) no vasodilator therapy. The 296 patients of the 2 groups, who had been assessed at baseline and along the follow-up for conduction blocks (CB), ventricular arrhythmias (VA), pacemaker implantation (PMI), left ventricular ejection fraction (LVEF) < 55% and congestive heart failure (CHF), and sudden cardiac death (SCD) during follow-up, were investigated for the cumulative incidence rate (IR) of all these events. The IR of single manifestations were calculated in the patients investigated for each of them. Cox regression analysis was carried out in the 296 patients with no missing value to identify independent predictors of the occurrence of any myocardial manifestation.

Results: During 1164 patient-years follow-up, 6/508 were implanted a PM, 10/506 developed a LVEF<55%, 2/492 a CHF, 11/325 a VA, 36/305 a CB, none underwent a SCD, any of these manifestations intervening in 59 out of the 296 investigated for all the manifestations. The IR of PMI and VA was greater in group 2 patients as compared with group 1 (1.3 vs 0.2x100 pts/year; p=0.02) and (2.7 vs 1.1x100 pts/year; p=0.077). In stepwise Cox regression analysis, male gender (HR 2.44, 95%CI 1.3-4.6; p=0.005), age at enrollment (HR 2.97, 95%CI 1.7-5.2; p=0.0002) and vasodilator therapy (HR 0.41, 95%CI 0.2-0.7; p=0.002) were independent positive and respectively, negative predictors of new onset cardiac manifestations.

Conclusion: Long term vasodilator therapy is likely to have a preventative role on the occurrence of myocardial manifestations of SSc.

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