Moreover, global EVF correlated with the severity of diastolic dysfunction (Figure 1).

Figure 1. EVF according to diastolic dysfunction

Conclusion: In SSc patients, CMR T1-mapping shows an increased EVF which might be indicative of diffuse interstitial myocardial fibrosis associated with diastolic LV dysfunction.

P3834 | BEDSIDE
Is exercise-induced pulmonary hypertension an early sign of onset of resting pulmonary hypertension in patients with scleroderma?

University of Liège - Sart Tilman, Liège, Belgium

Background: Resting pulmonary hypertension (PH) is a powerful determinant of poor outcome in patients with systemic sclerosis (SSc). In various cardiac diseases, exercise-induced PH (EIPH) is considered as an early stage of resting PH, and may predict the occurrence of adverse events. We hypothesized that the presence of EIPH is a predictor of the onset of resting PH in patients with SSc.

Methods: 33 patients with diagnosis of SSc disease were prospectively submitted to comprehensive both resting and exercise stress echocardiography between January 2009 and November 2012.

Resting PH was defined as a transtricuspid pressure gradient (TTG) ≥40 mmHg, and EIPH as TTG ≥40 mmHg Patients were prospectively follow-up and regularly performed resting echocardiography.

Results: There was a significant increase in TTG from rest to exercise (21.5±7.7 vs. 37.5±15.2, p<0.001). There were 2 patients with baseline resting PH (6%) and 15 patients with EIPH (45%). Of note, all patients with resting PH have developed EIPH. Mean follow-up was 26±13 months (from 1 to 52) and 6 patients have experienced resting PH during this period, resulting in a mean time interval between baseline echocardiography and occurrence of resting PH of 8±7 months (from 1 to 18). Of interest, all patients who developed resting PH during the follow-up have baseline EIPH (60%). In contrast, none of patients without baseline EIPH developed resting PH during the follow-up (0%). Although patients who developed resting PH had significantly higher baseline resting TTG (26.6±4.0 vs. 17.8±5.7, p<0.003), the difference in baseline exercise TTG was markedly higher (35.7±14.0 vs. 31.4±11.9, p<0.001). Using logistic regression, after adjustment for age, baseline EIPH was independently associated with the occurrence of resting PH during the follow-up (p=0.0014).

Conclusion: EIPH may be frequent in SSc patients and could be a predictive factor of rapid and early onset of resting PH. Exercise stress echocardiography may be useful to identify subset of patients at high risk to develop resting PH and thus, could benefit from more aggressive therapeutic strategy. Nevertheless, further data in larger cohort are needed to confirm our results.

P3835 | BEDSIDE
Aortic volume assessment in Marfan patients with and without prior aortic root replacement

1Academic Medical Center, University of Amsterdam, Department of Cardiology, Amsterdam, Netherlands; 2Academic Medical Center, Department of Clinical Epidemiology Biostatistics & Bioinformatics, Amsterdam, Netherlands

Introduction: In patients with Marfan syndrome the aortic dilates progressively, even after aortic root replacement. This study assesses the aortic volume of patients with and without prior aortic root replacement.

Method: A total of 202 patients (mean 37±13 years, 55% male) who fulfilled the Ghent criteria for Marfan syndrome underwent magnetic resonance imaging between March 2008 and December 2012. Aortic volume was calculated starting at the level of the aortic root and ending at the level of the aortic bifurcation. Characteristics were collected from patients' medical chart.

Results: Covariance analysis revealed that aortic volume corrected for body surface area was significantly larger in 56 patients with prior aortic root replacement as compared to 152 patients without aortic root replacement, respectively 133±41 m³/m² vs. 110±27 m³/m² p<0.001 (Figure 1).

Conclusion: Aortic volume corrected for body surface area is larger in operated Marfan patients.

Figure 1. Difference in aortic volume