Conclusion: LP(a) levels above 150 mg/dl may predispose to AVS when compared with normal values of less than 30 mg/dl. Elevated Lp(a) with levels >150 mg/dl are associated with a significantly increased risk of AVS in our collective and predict a fivefold increased risk. Most of these patients had severe AVS and requiring surgical therapy (92.95%).

P5490
Changes of left ventricular global longitudinal peak strain in patients undergoing endovascular repair of abdominal aortic aneurysms: the effect of arterial stiffness

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Purpose: Invasive abdominal aortic aneurysm (AAA) replacement with an endograft interposes between the normal arterial tree which may acutely reduce overall systemic compliance. As a result, the input impedance is significantly increased, as are central systolic and pulse pressures. We evaluated changes in left ventricular global longitudinal peak strain (GLPS) in patients undergoing endovascular repair (EVAR) of AAA in relation to pulse wave velocity (pwv).
Methods: We included 49 consecutive male patients (mean age 72±12 years) with AAA who underwent elective EVAR. All patients underwent an assessment with a standard conventional transthoracic and a two-dimensional speckle tracking echocardiography at baseline and 7 days after the intervention. Carotid - femoral (c-f) artery waveforms were measured and pwv was determined in all participants on each follow up visit.
Results: No significant changes in blood pressure were observed during the study period. Ejection fraction showed a trend to reduction which did not reach the statistically significant level (from 55.7±7.6% at baseline to 50.5±9.9% at 6 months, p=0.058). Notably, our findings revealed a significant reduction in GLPS during the 6 months follow-up (from -19.3 ± -4.7% at baseline to -17.2 ± -5.9% at 1 week, p=0.03). C-r pwv showed a significant increase 1 week after the procedure (from 10.9 ± -2.9 m/sec at baseline to 12.9±3.1 m/sec at 1 week, p=0.001). The reduction of GLPS (∆GLPS) revealed a significant association with the increase of c-r pwv (r=0.62, p<0.001).
Conclusions: Patients with AAA undergoing EVAR show a significant deterioration of GLPS which is strongly correlated with the increase of arterial stiffness in those patients. Our findings may indicate a worse outcome of those patients and further investigation is needed to elucidate their clinical significance.

P5491
Predictors of left ventricular dysfunction in patients with Takayasus arteritis A single center Southeast Asian study

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Background: LVSD in patients with TA have been attributed variously to hemodynamic and immunologic factors. The predictors of LVSD in patients with angiographically confirmed TA has not been studied well. This is the largest study evaluating the predictors of LVSD in TA.
Objectives: The aim of this study was to determine the clinical and angiographic predictors of left ventricular systolic dysfunction (LVSD) in an angiographically characterized TA population.
Method: 87 consecutive patients with angiographically confirmed TA underwent transthoracic echocardiography (TTE) at our center. LVSD was defined as an ejection fraction (LVEF) less than 50%.
Result: The study population was 77% female (69/87), and had a mean age of disease onset of 25.75±9.55 years. LVSD was present in 17 of 87 patients (19.5%) with TA. The mean LVEF in the LVSD group (n=17) was 34% ± 6%, compared to an LVEF of 62%± 6% (p<0.05). LVSD was found in 50% (9/18) of patients with aortic arch involvement, versus only 11.5% (8/69) of patients without aortic arch involvement (p<0.05). Renal artery involvement was found in 70.5% (12/17) patients with LVSD compared to 34.7% (24/69) patients without LVSD (p<0.05). Incidence of HTN, aortic regurgitation and the serum levels of inflammatory biomarkers (ESR, CRP, TNF-a, IL-6 and IL-18) was similar in the two groups.
Conclusion: The incidence of LVSD in patients with TA was 19.5%. LVSD is associated with involvement of the aortic arch and renal arteries. The hemodynamic variables, aortic regurgitation and systemic hypertension, were not associated with LVSD. Previously systemic inflammatory response and cardiac inflammation have been reported as the major cause of LVSD in TA. Contrary to previous reports that inflammation is responsible for LVSD in a majority of cases, in our series inflammatory biomarkers (ESR, CRP, TNF-a, IL-6 and IL-18) was similar in the two groups.

P5492
Regional aortic stiffness in bicuspid aortic valve patients assessed by 4D-flow CMR: influence of aortic dilation and comparison with Marfan syndrome and degenerative aortic aneurysm

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Introduction: Bicuspid aortic valve (BAV) is a congenital disorder frequently associated with ascending aorta (AAo) dilation. Abnormal flow pattern have been identified in BAV patients and have been related to aortic dilation, aortic extracellular matrix dysregulation and elastic fiber degeneration. However, controversy remains about the eventual presence of intrinsic aorta wall alteration in BAV patients. Findings of fibrillin-1 deficiency in the AAo of BAV patients as well as increased presence of aortic aneurysm within BAV families have supported the existence of intrinsic alteration of the aorta wall similar to those reported in Marfan syndrome patients (MFS).
Purpose: The aim of the present study was to ascertain whether BAV patients present an intrinsic alteration in regional aortic stiffness by means of comparing them with healthy volunteers, degenerative aneurysm with TAV (DA-TAV) and MFS patients with and without aortic dilation. Moreover, we aim to assess the influence of AAo dilation on regional stiffness parameters in BAV patients
Methods: Two hundred and thirty-four subjects (136 BAV, 44 Marfan, 18 DA-TAV and 36 healthy controls) were prospectively included. The magnetic resonance protocol comprised 4D flow MRI to assess AAo and descending aorta (DAo) pulse wave velocities (PWV), and double-oblique 2D steady-state free-precession cine CMR to compute distensibility (AD). Aortic dilation was defined when z-score >2 considering AAo and root maximum diameters, age, gender, and BSA. A two-tailed p value <0.05 was considered statistically significant.
Results: On adjusted analysis, non-dilated BAV presented similar PWV and AD compared with healthy volunteers in both AAo and DAo, while dilated BAV did not differ from DA-TAV. In contrast, AAo and DAo stiffness was markedly greater in MFS patients compared to BAV patients. AAo PWV presented a biphasic pattern in BAV patients: first decreased and then increased throughout AAo dilation, with a clear turning point at 50 mm, while distensibility did not discern mildly-dilated aorta (see figure 1).

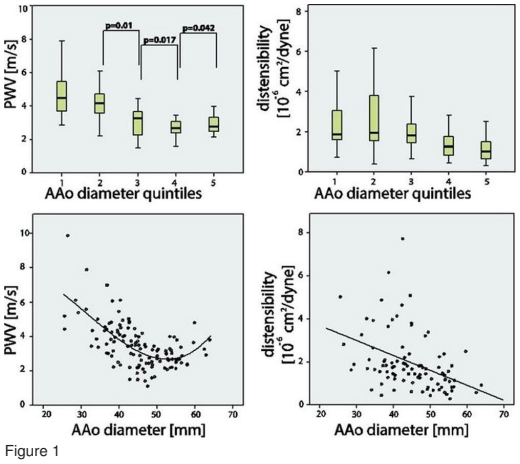

Figure 1

Conclusions: AAo and DAo stiffness is similar in BAV and TAV patients, while MFS patients have a stiffer aorta at both locations. Aortic stiffness strongly depends on dilation severity. AAo PWV resulted in a possibly clinically-useful biphasic trend with respect to aneurysm diameter, while distensibility did not discern mildly-dilated aorta.
Funding Acknowledgements: ISCIII (PI14/0106), La Marató TV3 (20151330), Retos-Colaboración (RTC-2016-5152-1), CIBERCV, Catalan cardiology society. Guala A. FP7/People (267128)

P5493
Benefits of introducing a multidisciplinary aortic team on pre-operative and follow-up quality of care and costs in a public mid-size tertiary referral center

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Background: Aortic pathology is complex in terms of natural history, diagnosis and management. There are a number of health care professionals involved in its management. This can cause variability in its management and overuse of