0245

Echocardiographic and clinical outcome in patients undergoing transcatheter aortic valve replacement with concomitant mitral regurgitation

E.Ouzan[*] (1), Bryan Kindya (2), Vinod Thourani (2), Vasilis Babaliaros (2), Lauren Wheleer (2), Stamatios Lerakis (2), Kreton Mavromatis (2)
(1) Hadassah HebrewUniversity medical Center, Jerusalem, Israël – (2) Emory University medical Center, Atlanta, Etats-Unis
[*]Corresponding author: ouzan@hadassah.org.il (E. Ouzan)

Background Severe aortic stenosis (AS) is commonly associated with mitral regurgitation (MR) in patients undergoing transcatheter aortic valve replacement (TAVR). The natural history of MR is not well defined in this population.

Methods Consecutive high risk, inoperable patients undergoing TAVR between 2007 and 2011 for AS has echos at baseline and 1 year and were followed for clinical outcomes. MR severity was graded and patients were grouped as having minimal (none-mild) or significant (moderate- severe) MR.

Results 164 patients underwent TAVR, reducing gradients from 47 to 10mHg. LVEF increased from 48% to 52% while pulmonary aretry systolic pressure (PAPS), LVESD and LVEDD were unchanged. Signficant MR patents had a median 1 grade reduction (p<0,0001) in MR at 1 year. Median LVEF increased by 2% (p=0.0412). Median LVESD decreased by 2.3mm±7.5 (p=0.039). Univariate analysis showed no significant predictors of MR reduction in significant MR patients. Functional and organic significant MR decreased after TAVR but only functional MR patients had improved LVEF (6%, p=0.034), PAPS (5.9mmHg, p=0.022) and LVESD (3.8mm, p=0.013). Multivariate analysis showed functional MR to be a predictor of improved LVEF and PAPS. Clinical outcomes at a mean follow-up of 925 days were not different in patients with significant vs minimal MR; however organic MR patients tended to have more events than functional MR patients (p=0.06).

Conclusion: Significant MR patients undergoing TAVR for severe AS improved in LVEF and LVESD, particularly patients with functional MR. Organic MR is marginally predictive of cardiac complications in AS patients.

The author hereby declares no conflict of interest

0421

Predictive value of late gadolinium enhancement on CMR in acute viral myocarditis

Heloise Prigent Manchon[*], Philippe Soyer, Alain Cohen Solal, Marc Sirol
APHP-Hôpital Lariboisière, Paris, France
[*]Corresponding author: heloiseprigent@yahoo.fr (Heloise Prigent Manchon)

Purpose Pilot study to evaluate the predictive value of repeated (admission and 3 months) late gadolinium enhancement (LGE) on cardiac magnetic resonance imaging (CMR) in acute viral myocarditis (AVM).

Method We prospectively included 49 patients hospitalized for an acute viral myocarditis diagnosed by CMR according to Lake Louise Criteria. We obtained written consent of all the patients. Patients were followed-up for one year after the index admission for adverse cardiac events that included myocarditis recurrence, persistent chest pain, dyspnea or persistent/resurgent sign of heart failure, documented sustained arrhythmias. Patients underwent a second LGE-CMR 3 months after the index admission. LGE was analyzed semi-quantitatively with the SQS score that has been validated in ischemic cardiomyopathies.

Results The SQS calculated at the first CMR was poorly correlated with cardiac necrosis biomarkers such as troponin peak (r2=0.22) or CPK (r2=0.11), and inflammation biomarkers such as CRP (p=0,51). SQS1 was also not predictive of adverse cardiac events after the index admission. However, the variation of SQS score between the first and second CMR showed good pronostic value as estimated by ROC analysis (AUC, specificity 80%, sensitivity 62%). This analysis also showed that patients with a decrease in SQS<50% between the two CMR were at higher risk of adverse cardiac events.

Conclusion The variation of LGE at admission of AVM and 3 months afterwards appears as a promising tool to identify patients with high risk of adverse envents during the year following a mild event of AVM.

The author hereby declares no conflict of interest

0310

T2-mapping and T1-mapping detect myocardial involvement in Tako-Tsubo cardiomyopathy: a preliminary experience

Emmanuelle Vermes[*], Lauriane Pericart, Julien Pucheux, Anne Delhommais, Laurent Brunereau, Olivier Genee
CHU Tours, Hôpital Trousseau, Chambray les Tours, France
[*]Corresponding author: emmanuellevermes@hotmail.com (Emmanuelle Vermes)

Background T2- and T1-mapping are novel CMR techniques allowing tissue characterization.

Aim To assess myocardial involvement using T2- and T1-mapping in Tako-Tsubo cardiomyopathy (TC).

Methods 9 patients with TC and 15 controls were prospectively enrolled. Cardiovascular magnetic resonance (CMR) was performed a mean 2.8 days after the onset of symptoms and after a mean 4.6 month follow-up. CMR was applied using T2-mapping, pre and post contrast T1-mapping (MOLLI) and late gadolinium enhancement (LGE) sequences. Segmental and global T1 values have been measured before and after contrast administration.

Results All patients were female, had positive troponin (6±9μg/l) and medium and/or apical ballooning associated with moderate LV dysfunction (EF 44±7%). On admission, compared with controls, TC patients had significantly higher T2 values (65±6ms vs 50±4 ms, p<0.0001). Myocardial T2 was significantly higher in segments with Wall motion abnormality (WMA) compared to normokinetic segments (67±12ms vs 61.5±8 ms, p=0.003). Compared with controls, TC patients had significantly higher pre contrast T1 values (1115±92 versus 1016±89, p<0.0001) and significantly lower post contrast T1 values (428±24ms vs 466±19 ms, p=0.02).Pre contrast T1 values were significantly higher in segments with WMA compared to normal segments (1126±95 vs 1089±85, p=0.016).

Post contrast T1 values were not significantly different in abnormal segments compared to normal segments (421±56 vs 431±50, p=0.15). No patients had LGE. At follow-up: all had a complete LV recovery (EF: 67±4%) without significant WMA. Mean T2 and pre contrast T1 values decreased significantly (53±6ms vs 65±8ms, p=0.001 and 1016±76 vs 1115±80, p=0.001 respectively). No differences were observed regarding post contrast T1 values.

Conclusion In TC patients, T2-mapping and pre contrast T1-mapping allow identification of reversible myocardial injury. Post contrast T1 mapping does not provide additional information.

The author hereby declares no conflict of interest

0091

Factors associated with left atrial size in severe aortic stenosis

Patrick Meimoun[*], Jerome Clerc, Sonia Martis, Frederic Elmkies, Anne Luycx-Bore, Hamdane Zemir, Jean-Philippe Detienne, Jacques Boulanger
CH Compiègne, Compiègne, France
[*]Corresponding author: patrickmeimoun.md@gmail.com (Patrick Meimoun)

Background Left atrial (LA) enlargement is associated with a poorer prognosis in several diseases, including aortic stenosis (AS). However, apart diastolic dysfunction, the main determinants of LA size in the setting of aortic stenosis are poorly understood.

Objective to assess the factors correlated with LA size in patients with severe AS (aortic valve area (AVA) <1cm^2 or <0.6cm^2/m^2) with preserved left ventricular ejection fraction (LVEF >50%).

Methods 80 consecutive patients with isolated severe AS in sinus rhythm (mean age 72±10 years, AVA 0.8±0.2cm^2, 0.44±0.1cm^2/m^2, mean gradient 45±15mmHg, LVEF 68±10%) underwent a comprehensive transthoracic

►