Fig. 1

	12 months	24 months	36 months	48 months
Expected survival (%)	93	86	80	74
Observed survival (%)	74	65	61	56
Relative survival (%)	79.6	75.6	76.2	75.7

Disclosure of interest   The authors have not supplied their declaration of competing interest.

https://doi.org/10.1016/j.acvdsp.2019.04.017

Poster n°14

Prognostic significance of energy loss index in patients with low gradient severe aortic stenosis and preserved ejection fraction

A. Altes[1,*], A. Ringle[1], Y. Bohbot[2], O. Bouchot[3], C. Le Goffic[1],
L. Appert[1], R.A. Guerbaai[4], P.V. Ennezat[5], C. Tribouilloy[6],
S. Maréchaux[1]
[1] Lille Catholic University, Lille, France
[2] CHU Amiens, Amiens, France
[3] CHU Grenoble, Grenoble, France
[4] University of Basel, Basel, Swiss
[5] CHU Grenoble, Grenoble, France
[6] CHU Amiens, Amiens, France
* Corresponding author.
E-mail address: alexandre.altes@gmail.com (A. Altes)

Introduction   We hypothesized that among patients with low gradient severe aortic stenosis (LG-AS) and preserved left ventricular ejection fraction (LVEF), reclassification of AS severity as moderate by pressure recovery adjusted indexed aortic valve area (AVAi)—energy loss index (ELI)—may identify a subgroup of patients with a better outcome.

Method   In total, 379 patients with LG-AS (defined by AVAi ≤ 0.6 cm^2/m^2 and mean aortic pressure gradient < 40 mmHg) and preserved LVEF $\geq 50\%$ were studied. Reclassification as moderate AS by ELI was defined as AVAi ≤ 0.6 cm^2/m^2 but an ELI > 0.6 cm^2/m^2. All-cause and cardiac mortality were studied.

Results   In total, 148 patients (39%) were reclassified as moderate AS by ELI. Reclassification as moderate AS was independently associated with absence of coronary artery disease, decreased body surface area, normal flow status, and decreased left ventricular mass index (all $P < 0.05$). While reclassification as moderate AS by ELI was not associated with overall mortality during follow-up, reclassification as moderate AS by ELI was associated with a significant reduction of risk of cardiac mortality after adjustment for variables of prognostic interest including aortic valve replacement as a time-dependent covariable (adjusted HR 0.44 [95% CI, 0.21—0.91]; $P = 0.027$).

Conclusion   In patients with low gradient severe AS and preserved LVEF, calculation of ELI permits to reclassify almost 40% of patients as having moderate AS. These reclassified patients have a considerable reduction of risk of cardiac mortality during follow-up. Calculation of ELI may be useful for decision making in patients with low gradient severe AS and preserved ejection fraction.

Disclosure of interest   The authors declare that they have no competing interest.

https://doi.org/10.1016/j.acvdsp.2019.04.018

Poster n°15

Echocardiographic description of mitral annular disjunction in mitral valve prolapse and implication in arrhythmic risk stratification

M. Boddaert*, C. Venner, C. Selton-Suty, O. Huttin,
L. Filippetti, J.M. Sellal, D. Mandry, P.Y. Marie
Cardiologie, Nancy, France
* Corresponding author.
E-mail address: margaux.boddaert@gmail.com (M. Boddaert)

Introduction   Mitral annular disjunction (MAD) is an anatomical variation of the mitral annulus, characterized by an atrial displacement of the leaflet's hinge points. It is associated with severe ventricular arrhythmias (VA) in mitral valve prolapse (MVP). The aim of this study was to assess MAD in MVP by echocardiography, analyze the reproducibility of measurements and evaluate its importance for arrhythmic risk stratification along with strain analysis of myocardial deformation.

Method Two hundred and sixty patients with MVP were included. MAD was evaluated and measured by two observers and longitudinal strain was analyzed by speckle-tracking.

Results In total, 36.2% of MVP patients had MAD and were younger ($P = 0.033$) with higher rate of atypical chest pains ($P = 0.041$) and bileaflet prolapses ($P = 0.004$). Para-sternal long-axis view was the incidence of choice to detect MAD with a moderate inter-observer concordance (Kappa of 0.55), good correlation ($r = 0.69$, $P < 0.01$) and inter-class correlation coefficient (0.82; 0.67–0.90). Twenty patients had a history of severe VA. Among them, no difference was noted in terms of presence or severity of MAD. However, strain analysis showed reduced global longitudinal strain (18.6 ± 3.1 vs. $21.3 \pm 3.3\%$, $P = 0.001$) and higher mechanical dispersion values (46 ± 13 vs. 37.4 ± 12.9 ms, $P = 0.002$) in comparison to the rest of the MVP population.

Conclusion No significant association was found between severe VA and the presence or severity of MAD in MVP patients. Increased mechanical dispersion and reduced global longitudinal strain may be helpful for arrhythmic risk stratification. Comparison of severe ventricular arrhythmias (Fig. 1).
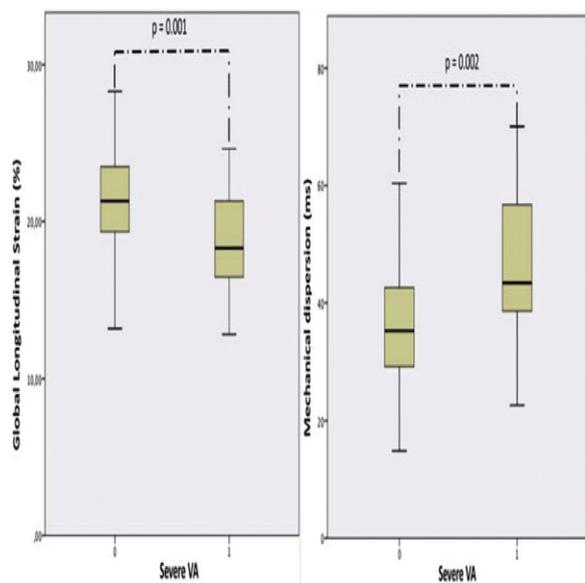

Fig. 1

Disclosure of interest The authors have not supplied their declaration of competing interest.

https://doi.org/10.1016/j.acvdsp.2019.04.019

June 13th, Thursday 2019 - 10h00—11h00

Poster n°16

Factors associated with the ratio of acceleration time to ejection time in patients with aortic stenosis: An echocardiographic and computed tomography study

A. Altes[1,*], M. Sochala[2], D. Attias[2], J. Dreyfus[2], Y. Bohbot[3], M. Toledano[1], L. Macron[2], C. Renard[3], G. Chadha[3], A. Truffier[1], R.A. Guerbaai[4], P.V. Ennezat[5], P. Graux[1], C. Tribouilloy[3], S. Maréchaux[1]
[1] Lille Catholic University, Lille, France
[2] Centre Cardiologique du Nord, Saint-Denis, France
[3] CHU Amiens, Amiens, France
[4] University of Basel, Basel, Suisse
[5] CHU Grenoble, Grenoble, France
* Corresponding author.
E-mail address: alexandre.altes@gmail.com (A. Altes)

Introduction Acceleration time to ejection time ratio (AT/ET) prolongation is associated with increased mortality in patients with aortic stenosis (AS). We aimed at evaluating the determinants associated with increased AT/ET.

Method The relationships between AT/ET ratio, clinical and Doppler echocardiographic variables of interest in the setting of AS were studied in 1107 patients with AS and preserved left ventricular (LV) ejection fraction (EF), with Computed Tomography–Aortic Valve Calcium (CT-AVC) score studied in a subgroup of 342 patients.

Results In univariate analysis, AT/ET ratio did correlate with aortic peak velocity (Vmax, $r = 0.57$, $P < 0.0001$), mean pressure gradient (MPG, $r = 0.60$, $P < 0.0001$), aortic valve area (AVA, $r = -0.50$, $P < 0.0001$) and CT-AVC score ($r = 0.24$, $P < 0.0001$). An AT/ET ratio had a good accuracy to predict a Vmax ≥ 4 m/s, a MPG ≥ 40 mmHg, or an AVA ≤ 1.0 cm^2, with an optimal cut-off value of 0.34. Multivariate linear regression analysis showed that presence of AS-related symptoms, decreased LV stroke volume index, LVEF, absence of diabetes mellitus, systolic blood pressure (SBP), increased LV mass index, relative wall thickness, and Vmax were independently associated with increased AT/ET ratio (all $P < 0.05$). In the subgroup of patients who underwent CT-AVC, CT-AVC score was independently associated with increased AT/ET ratio ($P < 0.05$).

Conclusion AT/ET ratio is related to echocardiographic and CT-AVC indices of AS severity. However, multiple intricate factors beyond hemodynamic and anatomic severity of AS influence AT/ET ratio including LV geometry, function and SBP. These findings should be considered when assessing AT/ET in patients with AS and preserved LVEF.

Disclosure of interest The authors declare that they have no competing interest.

https://doi.org/10.1016/j.acvdsp.2019.04.020

Friday, June 14, 2019 - 10h00—11h00

Poster n°37

Screening of valvular heart disease using pocket-sized transthoracic echocardiography device

J. Kikoïne*, M. Hauguel-Moreau, S. Lannou, O. Dubourg, C. Szymanski, N. Mansencal
Hôpital Ambroise-Paré, Boulogne, France
* Corresponding author.
E-mail address: john.kikoine@gmail.com (J. Kikoïne)

Introduction Valvular heart disease (VHD) is an increased common problem in clinical practice. Early diagnosis of significant VHD is a real challenge, allowing to propose an appropriate follow-up and the best therapeutic strategy. Standard transthoracic echocardiography (sTTE) is the gold standard for the detection of VHD. Pocket-sized transthoracic echocardiography (pTTE) is an incomplete sTTE and its usefulness for screening and evaluation of VHD is uncertain. The aim of this study was to evaluate the performance of pTTE compared to sTTE and auscultation for an early screening of VHD.

Method sTTE, pTTE (Vscan; GE Healthcare) and auscultation were performed by three different physicians in 284 unselected consecutive patients. All VHD detected by each of these three techniques were noted. sTTE was the gold standard. Each physician was blinded to the result of the other exams.