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).

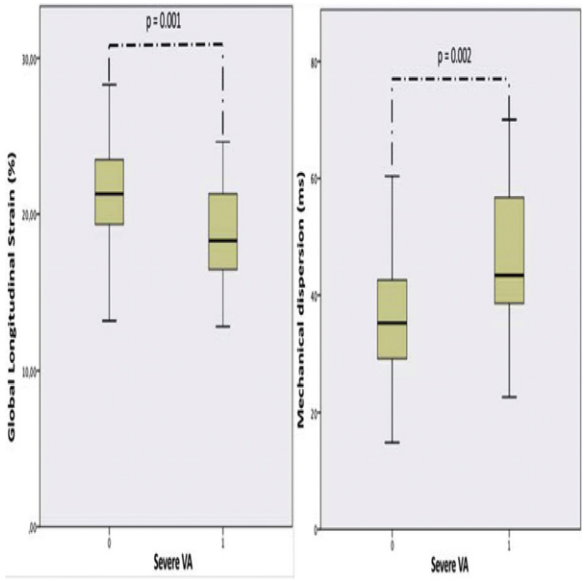

Fig. 1

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.

Results We diagnosed a total of 301 VHDs with a large predominance of regurgitant lesions: 269 (89.3%) regurgitant VHDs and 32 (10.7%) stenotic VHDs. pTTE was highly sensitive (85.7%) and specific (97.9%) for screening VHD while auscultation detected only 54.1%. All significant VHDs (at least mild severity) were detected by pTTE. All aortic and mitral regurgitations not detected by pTTE were trivial regurgitations and concerned patients with a poor echogenicity.
Conclusion pTTE is reliable for screening significant VHD and should be proposed as a new screening tool. (Fig. 1)

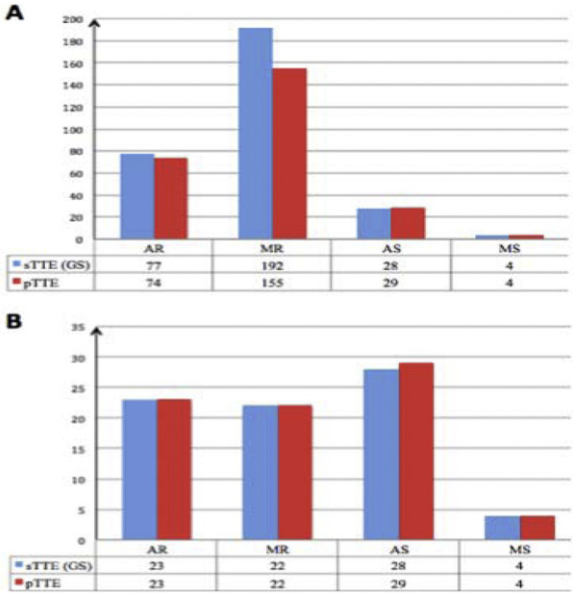

Fig. 1 A. Valvular heart disease (VHD) diagnosed by standard transthoracic echocardiography (sTTE) and by pocket-sized transthoracic echocarography (pTTE). B. Significant VHD (exclusion of trivial regurgitations) diagnosed by sTTE and pTTE.

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

https://doi.org/10.1016/j.acvdsp.2019.04.021

Poster n°38

Paradoxycal restricted motion in diastole is a frequent finding in mitral valve prolapse/dystrophy patients

C. Cueff, N. Piriou, R. Capoulade, J. Merot, S. Le Scouarnec, J.J. Schott, T. Le Tourneau*
Institut du thorax, Nantes, France
* *Corresponding author.*
E-mail address: thletourneau@yahoo.fr (T. Le Tourneau)

Introduction Filamin-A mitral valve prolapse/dystrophy (FLNA-MVP) phenotype associates moderate MVP and a paradoxical restricted motion in diastole. We aim to assess the association of MVP with restricted motion in diastole in MVP patients (restricted MVP).
Method We prospectively enrolled 475 MVP probands (64 ± 13 years). Patients underwent a clinical examination and a comprehensive echocardiographic analysis of mitral valve apparatus.
Results Among the 475 probands, 48 (101%, 95% CI 7.7—13.3) had both a MVP and a doming aspect in diastole. Patients with restricted MVP exhibited shorter chordae tendinaes, and a shorter distance between papillary muscle tip and mitral annulus. Compared with controls, mitral valve leaflets were lengthened, thickened and mitral valve annulus was enlarged. The prevalence of polyvalvular disease and bicuspid aortic valve was not increased in restricted MVP patients compared with conventional MVP. Familial form of restricted MVP was identified even in the absence of Filamin-A mutation.
Conclusion Restricted MVP is a quite frequent finding in MVP patients and is associated with unique features of the MV apparatus. Restricted MVP can be regarded as a third type of MVP beside myxomatous Barlow disease and fibro-elastic deficiency MVP.
Disclosure of interest The authors have not supplied their declaration of competing interest.

https://doi.org/10.1016/j.acvdsp.2019.04.022

Poster n°39

Reproducibility of transthoracic echo-doppler parameters to assess mitral regurgitation severity. Insights from a French multicentric study

A.C. Coisne[1,*], S.A. Samy[1], S. Aghezzah[2], A. Bernard[2], Y. Bohbot[3], Y. Lavie Badie[4], A. Seeman[5], J. Ternacle[6], E. Donal[7], J. Dreyfus[8]
[1] *Department of Clinical Physiology and Echocardiography—Heart Valve Clinic, CHU Lille, Lille, France*
[2] *Department of Cardiology, CHU Tours, Tours, France*
[3] *Department of Cardiology, Amiens University Hospital, Amiens*
[4] *Department of Cardiology and Heart Valve Center, University Hospital of Rangueil, Toulouse*
[5] *Department of Cardiology, NCT St Gatien+Alliance, Tours, France*
[6] *Cardiology Department, Expert Valve Center, Henri Mondor Hospital, Creteil, France*
[7] *Service de Cardiologie et CIC-IT INSERM 1414, CHU Pontchaillou-France, Rennes, France*
[8] *Department of Cardiology, Centre Cardiologique du Nord, Saint-Denis, France*
* *Corresponding author.*
E-mail address: augustincoisne@hotmail.com (A.C. Coisne)

Introduction We aimed to investigate the interobserver agreement of parameters used in daily practice to quantify mitral regurgitation (MR) severity assessed by both junior and senior physicians to find the most reliable parameter according to the mechanism of MR and physician experience.
Method Complete MR evaluation of 25 consecutive patients were assessed by transthoracic echocardiography in 8 French tertiary public and private hospitals by 16 physicians (1 junior and 1 senior in each center). Hence, 400 analysis per parameter have been obtained.
Results The overall interobserver agreement for effective regurgitant orifice area (EROA) and regurgitant volume (RV) was only moderate, lower in secondary MR. Interobserver agreement was better in the senior group than in the junior group regarding parameters used to quantify MR severity, i.e. EROA, respectively substantial (0.61, 95% CI:0.45—0.75) and fair (0.33, 95% CI:0.19—.51) and RV with the PISA method, respectively moderate (0.50, 95% CI:0.33—0.56) and fair (0.36, 95% CI:0.36—0.43) (Fig. 1). Finally, using a multiparametric approach, the overall interobserver agreement for grading MR severity was fair (0.30), slightly better in the senior group than the junior group (respectively 0.31 vs. 0.28) with a substantial or almost perfect agreement more frequently observed in the senior group than in the junior group (respectively 52% vs. 36%).
Conclusion The use of quantitative parameters to assess MR severity was moderately reliable in daily practice, even in case of multiparametric approach. The experience of the physician and the mechanism of the MR impact interobserver agreement, paving the way for a better learning of this valvular disease and for the use of multimodality imaging in case of complex or secondary MR (Fig. 1).
Disclosure of interest The authors declare that they have no competing interest.