months, with the greatest reduction in LV strain was observed in the basal region, (overall LSM difference −2.08 ± 0.75%, $P = 0.006$), and no significant differences in the mid and apical regions among groups (Figure 1).

Conclusion Patisiran improved LV GLS driven primarily by improvements in the basal region, suggesting that basal regional longitudinal strain may be a more sensitive marker to evaluate treatments for the cardiomyopathy in hATTR amyloidosis (Figure 1: Least-squares mean change in LV longitudinal strain from baseline at 18 months).

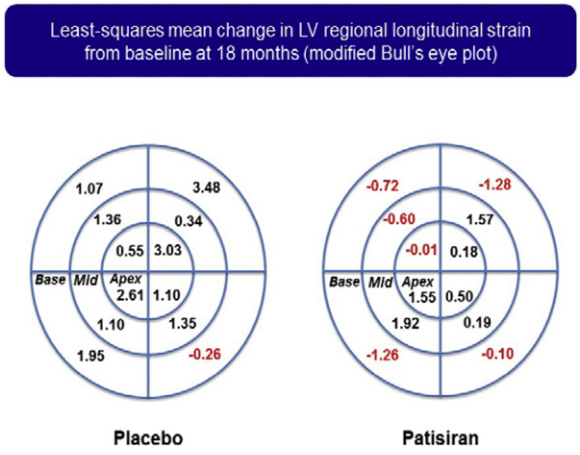

Figure 1

1 introduction Disclosure of interest

The authors have not supplied their declaration of competing interest.

https://doi.org/10.1016/j.acvdsp.2019.04.033

Poster n°31

Exercise left ventricular outflow track obstruction in hypertrophic cardiomyopathy: Peak exercise or post-exercise pressure gradients?

Y. Nahmani*[,1], N. Hammoudi[2], F. Huang[2], N. Bouziri[2], F. Pousset[2], C. Maupain[2], P. Charron[2], R. Isnard[2]
[1] *CHI André Gregoire, 93100 Montreuil, France*
[2] *Hopital La Pitié Salpetriere, 75013 Paris, France*
* *Corresponding author.*
E-mail address: yoram-nahmani@hotmail.fr (Y. Nahmani)

Introduction Left ventricular outflow track obstruction (LVOTO) is a key feature of hypertrophic cardiomyopathy (HCM). Exercise echocardiography is necessary to unmask latent obstruction in patients with HCM. However, little is known about the role and impact of obstruction according to the precise time of occurrence during exercise or immediate recovery. We hypothesized that LVOT pressure gradients could be enhanced during immediate recovery after exercise compared to peak exercise in patients with HCM.

Method We conducted an observational, single center and retrospective study and included all the patients with HCM referred to our department between 2010 and 2018 for an exercise echocardiography. All exercises were performed on a bicycle in a semi-supine position and LVOT pressure gradient were recorded continuously during and immediately after exercise in the same position.

Results In total, 121 patients with HCM were included (age 49 ± 16 y, 64% male, 59% NYHA 2 and 3, LV ejection fraction 66 ± 7%, max LV wall thickness 19 ± 5 mm, 69% receiving betablockers). Overall, the maximal LVOT gradients increased from rest, to peak exercise and recovery (respectively 17 ± 18, 39 ± 43 and 55 ± 60 mmHg, $P < 0{,}0001$). Sixty-three patients (52%) had a gradient ≥ 30 mmHg at least in one phase, but a maximal gradient ≥ 50 mmHg (threshold for invasive treatment) was observed in 7% of the population at rest, 25% at peak exercise and 37% at recovery ($P < 0.001$). Finally, a maximal gradient ≥ 50 mmHg was recorded only during immediate recovery (69 ± 25 mmHg) and not during exercise in 16 patients (13%).

Conclusion The time course of significant LVOTO during exercise in HCM should be evaluated carefully. LVOTO is more severe and more prevalent during immediate recovery. Some patients exhibit only significant post-exercise LVOT pressure gradients, which therefore cannot explain limitation during exercise.

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

https://doi.org/10.1016/j.acvdsp.2019.04.034

Poster n°32

A natural history of carcinoid heart disease in the modern management era

E. Baron[1,*], C. Szymanski[1], C. Lepère[2], H. Mustafic[1], O. Dubourg[1], N. Mansencal[1]
[1] *Service Cardiologie, Hôpital Ambroise-Paré, Boulogne-Billancourt, France*
[2] *Service Cancérologie oncologie, Hôpital européen Georges-Pompidou, Paris, France*
* *Corresponding author.*
E-mail address: emiliebaron01@gmail.com (E. Baron)

Introduction The development of carcinoid heart disease (CaHD) is still relatively unknown at present. It is difficult to define an optimal follow-up for patients initially free from cardiac involvement. The aim of this study was to assess the prevalence and the evolution of CaHD using annual echocardiographic follow-up.

Method We reviewed from our database 137 patients (61 ± 12 years, 53% men) with histologically proven neuroendocrine tumor between 1997 and 2017. All patients underwent serial conventional transthoracic echocardiographic studies. Right-sided and left-sided CaHD were systematically assessed. We used a previous validated echocardiographic scoring system of severity for the assessment of CHD. An increase of 25% of the score was considered as significant.

Results Mean follow-up was 2.6 ± 3.5 years [0;16]. Prevalence of CaHD was 27% (37 pts) at baseline and 36% (49 pts) at the end of follow-up. Among patients with initial CaHD followed for more than one year, disease progression was observed in 28% of cases. Among the patients free from initial cardiac involvement, an onset of the disease was observed during follow-up in 21% of cases. The onset of CHD could be very late, more than 5 years from the initial echocardiographic examination in 42% of our cases (Figure 1). This late occurrence of CaHD was only observed in patients presenting with new resumption of neuroendocrine tumor (symptoms, increased of 5-HIAA, occurrence of new metastasis).

Conclusion Our study demonstrated that in patients without initial CaHD, cardiac involvement may occur tardily after a normal initial assessment. Our data suggest the need for prolonged echocardiographic follow-up in patients presenting with a resumption of tumor process (Figure 1).

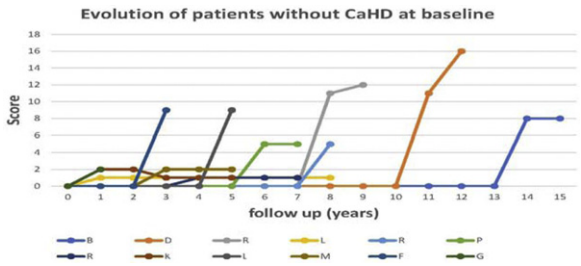

Figure 1

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

https://doi.org/10.1016/j.acvdsp.2019.04.035

Poster n°33

Is left ventricular longitudinal strain a good prognostic factor in Friedreich ataxia?

C. Heuze[1,*], L. Legrand[1], A. Diallo[2], M.L. Monin[3], C. Ewenczyk[4], R. Isnard[1], E. Vicaut[2], A. Durr[3], F. Pousset[1]
[1] *AP—HP, Department of Cardiology, ICAN (Institute for Cardiometabolism and Nutrition), Pitié-Salpêtrière University Hospital, Paris, France*
[2] *Groupe ACTION (Allies in Cardiovascular Trials Initiatives and Organized Networks), URC Lariboisière, Paris, France*
[3] *AP—HP, Department of Genetics, ICM (Brain and Spine Institute), Pitié-Salpêtrière University Hospital, UMR S 1127, Inserm U 1127, CNRS UMR 7225, Paris, France*
[4] *AP—HP, Department of Genetics, Pitié-Salpêtrière University Hospital, Paris, France*
* *Corresponding author.*
E-mail address: cecile.heuze30@gmail.com (C. Heuze)

Introduction Friedreich ataxia (FRDA) is a rare genetic ataxia. The causal mutation is an expanded trinucleotide repeat (GAA) in the frataxin gene. Hypertrophic cardiomyopathy in FRDA is the major cause of early death. Patients with progressive decline of the left ventricular ejection fraction (LVEF) have the worst prognosis. The aim of the study was to evaluate the prognostic value of 2D global longitudinal strain (GLS) compared to LVEF in FRDA patients.
Method From 2003 to 2017 consecutive patients with genetically confirmed FRDA were included. GLS was retrospectively performed. News was obtained for all patients until April 2018.
Results The study included 156 patients of 35 ± 12 years (mean ± SD) with an age at disease onset of 17 ± 11 y and GAA repeat on the shorter allele of 590 ± 241 pb. The following echocardiographic parameters were studied: LVEF 64 ± 9%, GLS -19.8 ± 5% (n = 141), septal wall thickness (SWT) 11.4 ± 2.5 mm, posterior wall thickness (PWT) 10.4 ± 1.8 mm, LV end diastolic diameter (LVEDD) 44.4 ± 6 mm. Correlation between GLS and LVEF was 0.31 (P = 0.0002).
After a mean follow-up of 7.7 ± 4.0 y, 17 (11%) patients died and the outcome (cardiac arrhythmia, heart failure, stroke or death) concerned 28 (18%) patients. In univariate analysis (Cox model), factors associated with mortality were: GLS (HR:1.2;95%CI 1.10—1.32, P = 0.0001), LVEF (HR:0.88;95%CI 0.85—0.92, P < 0.0001), GAA (HR:1.28;95%CI 1.11—1.47, P = 0.0008), age at onset (HR:0.84;95%CI 0.76—0.94, P = 0.002), LVMi (HR:1.02;95%CI 1.01—1.04, P = 0.0078), SWT (HR:1.18%CI 1.01—1.36, P = 0.03) and LVEDD (HR:1.09;95%CI 1.00—1.19, P = 0.04). In multivariate analysis LVEF was the only independent predictor of long-term mortality (HR:0.93;95%CI 0.88;099, P = 0.02). GLS was also an independent predictor of the composite outcome in multivariate analysis.
Conclusion GLS is a predictor of morbimortality but is not superior to LVEF in FRDA patients.
Disclosure of interest The authors declare that they have no competing interest.

https://doi.org/10.1016/j.acvdsp.2019.04.036

Poster n°34

Reliability of the latest echographic recommendations for estimating left ventricular filling pressures: A comparative study with left cardiac catheterization

W. Dali[1,2,*], H. Ben Slima[1,2], Y. Kilani[1,2], A. Ben Khalfallah[1,2]
[1] *Service de Cardiologie de l'hôpital régional de Menzel Bourguiba, rue de Palestine, 7050 Menzel Bourguiba Bizerte, Tunisie*
[2] *Faculté de médecine de Tunis université Tunis el Manar, Tunis, Tunisie*
* *Corresponding author.*
E-mail address: wassim.dali1718@gmail.com (W. Dali)

Introduction The current recommendations regarding the estimation of left ventricular filling pressures are based on expert consensus. We tried to evaluate the reliability of the actual algorithm in comparison with the left cardiac catheterization and with the algorithms published in 2009.
Method We enrolled 100 adult patients scheduled for coronary angiography between December 2017 and May 2018. An estimation of filling pressures by transthoracic echocardiography and cardiac catheterization on the same day was performed.
Results The mean age of our patients was 62.79 years ± 10.35 with a male predominance (sex ratio at 3.34). The majority had coronary artery disease (66%). The mean ejection fraction was 53% ± 13. The 2016 algorithm was superior to those published in 2009 compared to the invasive estimate. In fact, its sensitivity and specificity were 70.14% and 86.66% with an accuracy of 75.25% versus 62.21%, 86.66% and 69.79% respectively for the 2009 algorithms. Analysis, in case of preserved systolic function, showed a great decrease in the results of the 2009 algorithms while the 2016 algorithm remained valid. Regarding echographic parameters, the E/e' ratio had the highest coefficient value (r = 0.47) whereas no correlation was found for the tricuspid regurgitation jet velocity.
Conclusion In addition to its simplicity, the actual decision tree for estimating left ventricular filling pressures seems reliable and more efficient than the previous ones.
Disclosure of interest The authors declare that they have no competing interest.

https://doi.org/10.1016/j.acvdsp.2019.04.037

Poster n°35

Association between AF progression phenotypes with LAA strain, cardiac NT-proANP and VCAM1 levels in atrial fibrillation

A. Nechitaylo*, R. Spampinato, P. Buettner, G. Hindricks, J. Kornej
Heart Center Leipzig at University of Leipzig, Department of Electrophysiology, Leipzig, Germany
* *Corresponding author.*
E-mail address: deralexander@mail.de (A. Nechitaylo)

Introduction Atrial natriuretic peptide (ANP) is specifically secreted from the atria in response to tension stress and together with vascular cell adhesion protein-1 (VCAM-1) is associated with AF progression and recurrences. Recently we demonstrated an association between NT-proANP and VCAM1 levels with AF progression phenotypes based on persistent AF and low voltage areas (LVA):