

months, with the greatest reduction in LV strain was observed in the basal region, (overall LSM difference $-2.08 \pm 0.75\%$, $P=0.006$), 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).

Least-squares mean change in LV regional longitudinal strain from baseline at 18 months (modified Bull's eye plot)

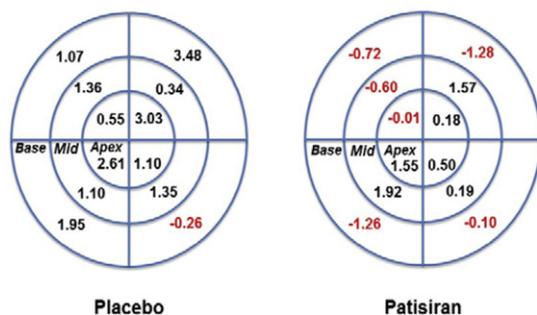


Figure 1

1 introduction Disclosure of interest

The authors have not supplied their declaration of competing interest.

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Poster n°31

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

Y. Nahmani^{1,*}, N. Hammoudi², F. Huang², N. Bouziri², F. Pousset², C. Maupain², P. Charron², R. Isnard²

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 $66 \pm 7\%$, 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.

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Poster n°32

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

E. Baron^{1,*}, C. Szymanski¹, C. Lepère², H. Mustafic¹, O. Dubourg¹, N. Mansencal¹

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).