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Topic 5. Thoracic aorta, congenital heart diseases, right heart

Thursday, June 13, 2019 - 15h45—16h30

Poster n°23

6-month echocardiographic changes in pulmonary hypertension patients - Prognostic value of 3D area strain

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Introduction Outcomes in pulmonary hypertension (PH) are related to right ventricular (RV) function and remodeling. We hypothesized that changes in RV function, especially area strain (AS), could provide incremental prognostic data as compared to baseline data. We aimed to assess RV function changes between baseline and 6-months visit and evaluate their prognostic value in PH using 3D echocardiography.
Method 95 PH patients were prospectively included in this longitudinal study. All patients underwent 2D and 3D transthoracic echocardiography at baseline and 6-month follow-up. 3D RV echocardiographic sequences were analyzed by semi-automatic software and output meshes were post-processed to extract regional deformation.
Results Improvements in the global area strain (lower 2nd measure of area strain) were associated with stable or improving clinical condition as well as survival free from transplant ($P < 0.001$). The most significant regional changes occurred within the septum. Over a median follow-up of 24.8 months [22.1—25.7], 21 patients died from PH or were transplanted. On multivariate COX analysis, changes in WHO class, BNP and RV global AS were independent predictors of outcomes. Using follow-up data, RV area strain significantly improves the current risk stratification.
Conclusion Changes in RV function and especially follow-up 3D RV AS and RV end-diastolic volume are of prognostic importance. Our study underlines the importance of follow-up data in comparison with baseline data only and demonstrates the additional prognostic value of following changes in RV deformation using 3D echocardiography (Figure 1, Death or transplant).

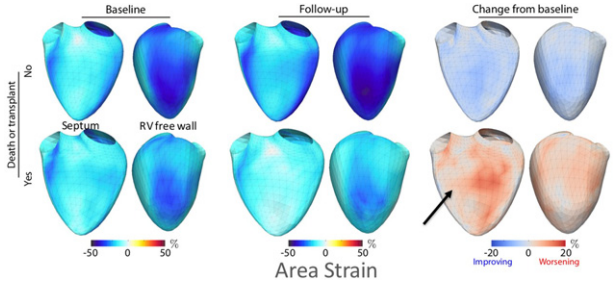

Figure 1

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

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Poster n°24

Can the right ventricular diastolic dysfunction in obstructive sleep apnea patients be improved by weight control and continuous positive airways pressure ventilation?

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Introduction To document if weight control and continuous positive airways pressure ventilation (CPAP), in obese, obstructive sleep apnea (OSA) patients, with right ventricular (RV) diastolic dysfunction, can improve right ventricular diastolic parameters.
Method Fifty obese with associated OSA patients (body mass index > 30), with altered RV diastolic performance but preserved RV ejection fraction, were included in our study. The patients were treated with CPAP, diet and physical exercise. Over a period of 1 year, we obtained in 44 of them a significant weight loss (BMI 34 ± 6.8 versus 24 ± 3.4). RV diastolic function was evaluated in these 44 patients at the start of study and at 1 year, by measuring the transtricuspid inflow parameters: maximal velocities of E