



TWO-DIMENSIONAL STRAIN: A USEFUL TOOL FOR THE ASSESSMENT OF RIGHT VENTRICULAR DYSFUNCTION IN PULMONARY HYPERTENSION

ACC Poster Contributions

Ernest N. Morial Convention Center, Hall F

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Background: Right ventricular (RV) dysfunction has been associated with increased morbidity and mortality in patients with pulmonary hypertension (PH). RV ejection fraction assessment with 2D echocardiography lacks accuracy and is difficult to perform in clinical practice. Recent studies have shown that deformation parameters, strain (S) and strain rate (SR) are closely related to the intrinsic functional capacity of the myocardium, and they have been successfully applied to regional RV function assessment in PH patients. Our aim was to quantify longitudinal S and SR by the speckle tracking technique and to compare them with classic parameters (TAPSE and FAC) in PH patients and healthy volunteers.

Methods: A total of 26 consecutive patients with PH of varied etiology and 10 controls were enrolled. We measured maximum longitudinal systolic S and SR values for 6 RV segments from the 4 chamber apical view.

Results: We found a significant reduction of global and regional longitudinal S in PH patients when compared to controls (global S $-16,60 \pm 6,8$ vs $-25,87 \pm 4$, $P < 0,001$; lateral S $-20,42 \pm 8,3$ vs $-33,77 \pm 7,6$, $P < 0,001$; septal S $-13,45 \pm 6,8$ vs $-19,57 \pm 2,6$, $P = 0,01$) and a strong correlation between global longitudinal S and classic parameters, TAPSE ($r = -0,75$, $P < 0,001$) and FAC ($r = -0,55$, $P = 0,04$).

Conclusions: Strain provides a reliable description of RV global and regional function in pressure overloaded RVs and may be useful to follow up the time course of the disease and the therapeutic response in PH patients.

