**LEFT ATRIAL FUNCTION IN IDIOPATHIC PULMONARY HYPERTENSION**

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Aim: Evidence exists supporting atrial interaction in patients with both right and left ventricular (LV) outflow tract obstruction. In view of that, we hypothesize that LA function is affected in patients with pulmonary hypertension (PH).

Methods: We studied LA size and reservoir function in 35 patients (age 63±15 years, 16 male) with PH who underwent right heart catheterization, to assess pulmonary artery systolic pressure, and speckle tracking echocardiography simultaneously and compared them with 27 age and gender matched controls.

Results: Compared to controls, patients had normal LA longitudinal diameter but reduced transverse diameter (3.0±0.6 vs. 3.7±0.5cm, p<0.001). LA lateral wall strain rate (SR) during LV systole (atrial reservoir function) was reduced at annular (p<0.001) and mid cavity (p<0.01) levels as were septal segments (p<0.03, for both). Opposite to controls, the two LA walls responded differently to right heart pressures with lateral SR inversely correlated with pulmonary artery systolic pressure (PASP) (annular: r=-0.45, p<0.005 and mid-cavity: r=0.43, p<0.01), but not with right atrial pressure (RAP) and septal SR inversely correlated with RAP (annular: r=-0.39, p=0.02 and mid-cavity: r=-0.38, p=0.03) but not with PASP.

Conclusion: In patients with PH, LA reservoir function is significantly impaired showing reduced SR and differentiated segmental response to raised right heart pressures with the septal wall related to right atrial pressure and lateral wall related to the PASP. This pattern of atrial interaction is likely to have significant impact on LV performance.