

 VALVULAR HEART DISEASE

**RESERVOIR FUNCTION OF LEFT ATRIUM IS IMPAIRED IN PATIENTS WITH HEART FAILURE AND SEVERE MITRAL REGURGITATION**

ACC Poster Contributions

Ernest N. Morial Convention Center, Hall F

Tuesday, April 05, 2011, 9:30 a.m.-10:45 a.m.

Session Title: Valvular Disease- Valvular Heart Disease- Rare and Novel Discoveries

Abstract Category: 19. Valvular Disease

Session-Poster Board Number: 1154-61

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**Background:** In patients with organic mitral regurgitation (MR), congestive heart failure (CHF) can develop even in patients with preserved left ventricular (LV) function. We hypothesized that the left atrial (LA) reservoir function may play an important role in the development of CHF.

**Methods:** Seventeen patients admitted with CHF due to severe MR but preserved ejection fraction (EF) (LVEF>60%) and no LV dilatation (LVDd<60 and LVDs<40mm) were compared with 24 severe MR patients without CHF. We excluded patients with atrial fibrillation, infectious endocarditis, other valve abnormality and cardiomyopathy. Pulmonary artery systolic pressure (PASP) was estimated from transtricuspid pressure gradient adding right atrial pressure. LA volume (LAVmax and LAVmin), atrial reservoir volume (ARV; LAVmax - LAVmin), ARV/LAVmax defined as LA reservoir function were measured by echocardiography in stable state.

**Results:** LV dimension, LVEF, LAV, MR jet area and patient clinical backgrounds except NYHA class were comparable in both groups. CHF group had higher PASP (50.3±13.4 vs. 31.4±7.0mmHg, p<0.0001) and lower LA reservoir function (ARV/LAVmax; 39±15 vs. 54±15%, p<0.01) than controls. Interestingly, reservoir function negatively correlated with PASP (r=-0.574, p<0.001).

**Conclusions:** CHF patients with severe MR showed reduced LA reservoir function and pulmonary hypertension. Impaired LA reservoir function may play an important role in CHF.

Correlation between LA reservoir function and PASP in severe MR

