ECHO ESTIMATES OF PULMONARY ARTERY PRESSURE CORRELATES POORLY WITH RIGHT HEART CATHETERIZATION

ACC Poster Contributions
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**Background:** Non invasive measurements of pulmonary artery pressure by echocardiography have been accepted as a reliable method of measuring pulmonary pressures. To determine whether echo derived systolic pulmonary artery pressure (SPAP) correlated well with those measured in the cath lab we studied 70 consecutive patients with suspected pulmonary hypertension (PH) who underwent both right heart catheterization (RHC) for evaluation of pulmonary pressures and an echocardiogram with doppler within 30 days of each other.

**Methods:** Independent evaluation of echocardiograms were performed by a cardiologist and cardiology fellow. SPAP's were calculated using peak tricuspid regurgitation velocity to estimate right ventricular pressure and inferior vena cava size and right atrial size to estimate right atrial pressure. Pulmonary pressures calculated by echocardiography were compared to those obtained by RHC invasively at end expiration.

**Results:** The average age of patients evaluated was 56.4 +/- 15.3 y; 30 had left heart disease, 2 had restrictive lung disease, 3 had obstructive lung disease and one obstructive sleep apnea. Five had combined restrictive lung and left heart disease, six had combined obstructive lung and left heart disease and 4 had combined obstructive sleep apnea and left heart disease. Fifty percent had Grade II or III diastolic dysfunction and 34% had moderate or severe mitral regurgitation. Ninety-one percent had hypertension. The average PASP estimated by echocardiography was 53.7 +/- 19.2 mmHg and the average PASP measured by RHC was 60.2 +/- 13.8 mmHg. The overall correlation between echo derived PASP and measured RHC PASP was 0.47, p<.001. The correlation for those with isolated left heart disease was 0.51, p <.001 and for those with lung disease 0.48, p <.001.

**Conclusions:** In this population of patients with pulmonary hypertension patients often had multiple etiologies with a high preponderance of left heart disease. The correlation between echo and RHC was poor overall and similar in those with isolated left heart disease and lung disease. Patients should be referred for RHC for diagnosis and assessment of severity.