PREDICTORS OF PULMONARY ARTERIAL HYPERTENSION IN ATRIAL SEPTAL DEFECT PATIENTS

ACC Moderated Poster Contributions
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Background: Pulmonary arterial hypertension (PAH) in the patient with atrial septal defect (ASD) represents a challenging problem. Which characteristics identify patients at risk for developing this complication, are uncertain.

Methods: We reviewed all ASD patients referred to a large tertiary medical center for hemodynamic evaluation over a 10 year period. Baseline characteristics, initial echocardiographic data and invasive parameters were collected and analyzed.

Results: Of 390 patients with secundum ASD, 54 (14%) had a mean pulmonary artery pressure (PAP) ≥ 25 mmHg with normal pulmonary capillary wedge pressure (<15 mm Hg) and thus constituted the PAH group. Compared to non-PAH patients, PAH patients were older at referral (59.1±15.3 vs 45.6±16.7 years, p=0.0001) but similar in sex (79% vs. 68.4% women, p=0.1). ASD size was similar (22±7.9 vs 20.3±10.8, p=0.10) but PAH patients had larger left atria (p=0.0001), larger right atria (p value 0.0001), larger right ventricles (p=0.0001), worse tricuspid valve regurgitation (p<0.0001) and worse right ventricular function (p<0.0001). No significant difference in shunt was observed (Qp:Qs 1.9±0.8 vs. 2±0.9, p=0.70). Over median follow-up of 84±33.8 months, 99% of non-PAH patients survived compared to 95% in the PAH group, p=0.07.

Conclusions: ASD patients with PAH are older at presentation but have surprisingly similar defect sizes, suggesting that PAH may represent a concomitant disease process rather than a natural sequelae of anatomy. A trend toward worse outcome in patients with PAH suggests a role for earlier identification and/or intervention.