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Thesis Title	EFFECT OF AGE AT DIGNOSIS AND DEFECT SIZE SYSTOLIC PLUMONARY ARTERY PRESSURE IN PATIENTS WITH CONGENITAL ISOLATED ATRIAL SEPTAL DEFECT
Year	2013
Abstract	<p><u>Background:</u> Pulmonary arterial hypertension (PAH) is a major complication of atrial septal defect (ASD) and can be responsible for significant functional limitations and early mortality. Various factors have been shown to predispose ASD patients to the development of PAH.</p> <p><u>Aim of study:</u> Our study aimed to determine the association between the size of the ASD, the age of the patient and the increase in pulmonary artery systolic pressure (PASP).</p> <p><u>Methods:</u> Data from 100 ASD patients was prospectively reviewed, including the patients' presenting symptoms, vital parameters, comorbidities, as well as their preoperative diagnostic workup. Echocardiography findings were used to determine the type and size of the ASD, and pulmonary artery pressures were evaluated using tricuspid regurgitation velocity as assessed by echocardiography. All patients underwent ASD repair either surgically or via percutaneous repair. Univariate and multivariate linear regression was performed to analyze the effect of age and defect size on pulmonary artery pressures. Model adequacy check was also done for the final model. Postoperative morbidity/mortality was additionally evaluated.</p> <p><u>Results:</u> The study sample comprised 50% males and 50% females. The most prominent presenting features were shortness of breath (70.3%), chest pain (43.2%), and palpitations (33.8%), and arterial hypertension was the commonest morbidity. Using multiple linear regression analysis, age and size of ASD were found to be independently associated with pulmonary artery pressure. We found that for every 1mm increase in the size of the ASD, pulmonary artery systolic pressure (PASP) increased by 0.32mmHg (p</p>

≤ 0.05). Similarly, with every increase of one year in age, pulmonary artery pressure increased by 0.24mmHg ($p \leq 0.02$). A small defect (less than 0.5 cm in diameter) is associated with a small shunt and the significant sequels appearing in old age. A larger defect (more than 2 cm in diameter) associated with a large shunt and the significant sequels appearing in younger age. No significant postoperative complications were reported following both types of repair.

Conclusions:

Our study concludes that ASD patients are at greater risk of developing PAH with increasing age and increasing ASD size. This can potentially help to determine which ASD patients are at greater risk and require urgent repair of their defects. The study also shows that early repair is best to prevent complications.