were showing significant MAPCAs. There was statistical significant association between hypoplastic LPA &RPA and presence of MAPCAs (p-value <0.0001). 21 (75%) patients out of 56 with presence of MAPCAs, had O2 saturation of >80%, while only 6 (22.2%) had O2 saturation <70%. 21 (77.8) Oxygen saturation had statistical significant association with MAPCAs present (pvalue=0.0062). Out of 56 patients with MAPCAs present, 34 (60.7%) were greater than 5 years of age. Greater than 5 years age group of patients had statistical significant association with the presence of MAPCAs (p value=0.038). Patients with hypoplastic pulmonary artery branches had more number of MAPCAs with direct origin. (p value <0.001). The diameter of MAPCAs $\geq$ 3 mm was present in 19 (70.3%) and 26 (65%) patients with hypoplastic LPA and hypoplastic RPA respectively.

Conclusions: MAPCAS were present in significant no. of patients of TOF/PA/severe PS and were significantly associated with hypoplastic pulmonary arteries, higher O2 saturation, and higher age. Also size of MAPCAS was inversely related to the size of pulmonary arteries.

Right ventricular form and functional assessment after percutaneous atrial septal defect device closure

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Objectives: We sought to assess the right heart's response to percutaneous device closure of moderate sized atrial septal defects (ASDs) in adults over a one-year follow-up period. We also study the right ventricular function (RV) assessed by myocardial performance index (MPI).

Background: Percutaneous ASD device closure is a safe and effective means of reducing or eliminating interatrial shunting. The response of the adult's right heart to device closure is incompletely understood.

Methods: 25 adult patients underwent secundum ASD device closure from December 2012 to July2013 at tertiary care center in Mumbai. Of which 23 had Amplatzer device occluder and 2 lifetech device). The patients were assessed with echocardiography, chest radiography and electrocardiography before the procedure and at 1, 6 and 12 months.Data are presented as the mean value ±SD fornormally distributed data obtained before the procedure and at 1, 6 and 12 months after the procedure. Echocardiographic, ECG and chest radiographic variables at each follow-up period were compared with the pre-procedural values.

Results: The mean ASD size was 21± 5.80 mm, and the device size ranged from 14mm to 36 mm. At one month, heart size (49% vs. 45%),four-chamber right ventricular (RV) size (45 vs. 40 mm), paradoxical septal motion (80% vs.8%), QRS duration (110 vs. 104 ms), PR interval (178 vs. 157ms) and echocardiographically determined significant improvement in RV MPI (0.36 to 0.28, p $\leq$ 0.004), pulmonary artery systolic pressure decreased significantly and was maintained at12-month follow-up. At six months, right atrial length decreased from 48 to 41 mm. At one year, 20% of patients had persistent RV enlargement.

Conclusions: Right heart morphology undergoes rapid improvement within one month of defect closure, with associated mechanoelectrical benefit. Device closure of ASDs leads to improvement of RV function too. A small number of patients had persistent RV enlargement or pulmonary hypertension, or both, at one year. Our data support the application of transcatheter methods in achieving excellent hemodynamic and anatomic outcomes.

The role of preoperative cardiac catheterisation in predicting outcomes of surgery for CHD — The PRECIOUS-CHD study

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Background: Patients with congenital heart disease with PAH are frequently subjected to preoperative cardiac catheterization for determining operability based on various hemodynamic parameters as also the PVR,PVRI and shunt fractions.This study was conducted to determine whether, during a cath study for determination of operability in shunt lesions,an improvement in pulmonary saturation alone, a fall in pulmonary artery mean or diastolic pressure or a combination of the two was better in prognosticating postoperative outcomes especially post operative PAH.

Methods: 50 (M=22, F=28) patients who had shunt lesions and PAH were serially recruited between Jan 1 2012 to Jan 1 2013 for the study. Of these, 32 patients had been given at least a three month course of sildenafil and then underwent cath. All 50 patients underwent a preoperative cath study which consisted of measurement of pulmonary artery systolic and end-diastolic pressures, pulmonary and systemic saturation, pulmonary wedge pressures, as well as systemic saturation, and measurement of the same parameters after administration of 100% oxygen for 10 minutes. Suitable sized wedge catheters were employed for this purpose. PVR, PVRI, SVR, SVRI and shunt fraction Qp:Qs were calculated by the usual formulae.The patients were then followed up immediately postoperatively during hospital stay and at third- month follow-up visit (non invasively).

Results: Average age of the patients was 12.8+/-1.28 years. Of the 50 patients who underwent cath, (ASD=14 VSD =23, PDA=7, APW =3, TAPVC=2, Lutembacher=1), post operative need for longer ICU stay and ventilation, and need for milrinone was seen in 13 patients. Multiple regression analysis and Pearsons rank linear correlation coeefficients were calculated for each of the hemodynamic parameters in correlation with the use of milrinone for post op PAH and for residual PAH at third month followup. This had good relation with degree in fall in PA end diastolic pressure (r=0.67 for fall in PA diastolic pressure) .Fair corelation was seen for improvement in pulmonary artery saturations during oxygen administration in pre op cath(r= 0.61)and fall in PA systolic pressure with oxygen=0.61)and with PA mean pressure drop with oxygen administration(r=0.60).However the strongest correlation was seen with combination of both fall in PAEDP and improvement in pulmonary artery saturations(0.74 when combination of fall in PA diastolic pressure and improvement in PA sats), indicating best outcomes when both these parameters were satisfied.

Conclusion: The **PRECIOUS-CHD** inferred that a combination of both *fall in PAEDP* and *improvement in pulmonary artery saturation* with oxygen administration during preoperative cath may be a better predictor of post operative outcomes after surgery for congenital heart disease than a fall in the PA mean or a fall in PVR