morbidity, Cath lab team should be prepared with all necessary equipments for positioning and snaring/retrieval of devices.

Echocardiography

**To study the efficacy of right ventricular isovolumic acceleration by 2D-Echo in evaluating post operative outcomes in Tetrology of Fallot**

Haribabu, B. Kumar, K.R. Asha
Vydehi Institute of Medical Sciences and Research Centre, India

**Background:** Tetrology of Fallot (TOF) is a most common cyanotic congenital heart disease encountered in clinical practice. Right ventricular function is an important determinant of post operative outcomes in these patients. Cardiac Magnetic Resonance Imaging is a gold standard in evaluating right ventricular function. However this technique is expensive, has limited availability, and requires significant expertise to acquire and interpret. Hence we would like to use 2D-Echo which is easily available. Most of the parameters used in 2D-Echo in evaluating right ventricular function are load dependent except for isovolumic acceleration (IVA) and myocardial performance index (MPI). Hence in view of lack of data on Isovolumic acceleration on pre-operative evaluation in Congenital Heart Disease, we used this parameter in evaluating the post-operative outcomes in (TOF). Isovolumic acceleration is a ratio of peak velocity during isovolumic contraction and time to peak.

**Methods:** Sixty three consecutive TOF patients planned for intracardiac repair referred for pre-operative Echocardiographic evaluation were studied. Their mean age was 9+/3 years. All patients were in sinus rhythm with stable hemodynamic condition during Echocardiographic examination. Doppler tissue imaging technique was used to determine IVA. Recordings were made at a sweep speed of 50 to 100mm/s. Values are presented as means of 3 consecutive beats and the sample volume of 6mm. From the basal right ventricular free wall IVA was measured. These patients were followed up with IVA for 2 weeks and at 1 month. We correlated preoperative IVA to length of ICU stay and 30 day mortality using chi-square test. A P value of <0.005 was considered significant.

**Results:** Sixty three TOF patients were divided into four groups based on IVA values. Group 1 consisted of 19 patients who had IVA > 2.2m/s² were used as controls. Group 2 consisted of 12 patients who had IVA between 1.5 and 2.2m/s². Group 3 consisted of 17 patients who had IVA between 1 and 1.5m/s². Group 4 consisted of 15 patients who had IVA <1m/s². Each group was further subdivided based on length of ICU stay and mortality. Group 1 and group 2 had no mortality nor was postoperative ICU stay more than a week. In group 3, twelve had ICU stay for more than a week and three died in hospital. Group 4, thirteen patients had ICU stay for more than 1 week and 11 died in hospital.

**Conclusion:** Our study showed there is a significant association of pre-operative IVA to post operative outcomes in TOF patients and those patients whose IVA values < 1m/s² had high 30 day mortality with significant P values < 0.0001. Hence, IVA can be used as a prognostic marker in TOF patients who are planned for intracardiac repair.

**Noninvasive estimation of pulmonary vascular resistance in patients of pulmonary hypertension in unclassified congenital heart disease with unobstructed pulmonary flow**

Arindam Pande, Achuyt Sarkar
IPGME & R and SSKM Hospital, Kolkata, India

**Background:** Pulmonary vascular resistance (PVR) is a critical and essential parameter during the assessment and selection of modality of treatment in patients with congenital heart disease accompanied by pulmonary arterial hypertension. The present study was planned to evaluate non invasive echocardiographic parameters to assess pulmonary vascular resistance.

**Methods:** This prospective observational study included 44 patients admitted in the cardiology and pediatric cardiology ward of our institution for diagnostic or pre-operative catheter based evaluation of pulmonary arterial pressure and PVR.

**Results:** The TRV / VTIRVOT ratio correlated well with PVRcath (r = 0.896, 95% confidence interval [CI] 0.816 to 0.9423, p < 0.001). Using the Bland-Altman analysis, PVR measurements derived from Doppler data showed satisfactory limits of agreement with catheterization estimated PVR. For a PVR of 6 WU, a TRV / VTIRVOT value of 0.14 provided a sensitivity of 96.67% and a specificity of 92.86% (Area under the curve 0.963, 95% Confidence Interval 0.858 to 0.997) and for PVR of 8 WU a TRV / VTIRVOT value of 0.17 provided a sensitivity of 79.17% and a specificity of 95% (Area under the curve 0.923, 95% Confidence Interval 0.801 to 0.982).

**Conclusions:** Doppler-derived ratio of TRV / VTIRVOT is a simple, noninvasive index which can be used to estimate PVR. We found that TRV / VTIRVOT ratio correlated well with catheterization-derived PVR and the following formula predicted PVR with reasonable certainty – PVRDoppler (WU) = 37.96 × (TRV / VTIRVOT) – 0.131

**McConnell’s sign predictor of massive pulmonary embolism by echocardiography**

Sujai, Ashwin, Ravi, G. Anand Kumar, Arun Prasath
Mahatma Gandhi Medical College, Puducherry, India

**Background:** We intended to study the utility of McConnell’s sign as a predictor of massive pulmonary embolism.

**Methods:** Between July 2011and June 2013 the patients admitted with the diagnosis of pulmonary embolism in the intensive care unit where included into the study. The diagnosis of pulmonary embolism was confirmed by a spiral computed tomography (CT) scan showing obstruction in the pulmonary artery or its branches. Their echo report were collected retrospectively through the electronic data system and analysed. Patients who had an alternative diagnosis for breathlessness were excluded from the study.

**Results:** Forty seven patients were admitted to the intensive care unit with the diagnosis of pulmonary embolism during the study