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Congenital Cardiology Solutions

IMPACT REGISTRY: FIRST REVIEW OF COMMUNITY PRACTICE WITH RESPECT TO DEVICE CLOSURE OF ASD AND PDA

Moderated Poster Contributions
Poster Sessions, Expo North
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Introduction: The IMPACT registry captures data on cardiac catheterizations in patients with congenital heart disease. Since inception in January 2011, IMPACT participation has increased to 65 congenital heart centers which have submitted 8889 reports of catheterization. These reports include data specific to ASD and PDA Closures.

Methods: From July 2011 until June 2012, 6834 catheterizations met IMPACT Data Quality Guidelines. Among these, reports of ASD and PDA closures were reviewed including hemodynamic data, procedural characteristics, and adverse events (AE).

Results: There were 532 (7.8%) ASD closures; median length of stay (LOS) 1.0 day. Indications: RV overload (79.9%), stroke prevention (14.1%), lung disease (2.3%), cyanosis (1.5%), migraine (1.3%). Median Qp/Qs was 1.7; median defect size 12.3 mm. Balloon sizing used in 77.8% (stop flow used in 89.1%). Rim measurement performed in 56.2%. Device implanted in 95%; reason for failure was insufficient rims in 53.9%. Residual shunt >3 mm in 2.7%. AEs included embolization 12 patients (2.3%); 8 retrieved in cath lab, 4 by surgery; arrhythmia requiring medication 4; device malposition or thrombus formation in 3 requiring surgery; tamponade requiring pericardial drainage in 1. Planned cardiac surgery performed in 9 patients; unplanned in 3. There were 472 (6.9%) PDA closures; median LOS < 1 day. Indications: LV overload 58.7%, SBE prevention 34.3%, pulmonary hypertension 7.0%. Median Qp/Qs was 1.4; 60% were conical, 21.5% tubular, 11.7% complex. Device implanted in 97.9%. Residual shunt >3 mm in 1.1%. Pulmonary artery or aortic obstruction in 0.7% and 1.3%. Other AEs: device embolization 6 (1.3%), with cath lab retrieval 5; bleeding needing transfusion 3. Planned cardiac surgery was performed 4; unplanned in1.

Conclusions: Reported success of Device closure of ASD and PDA is high and complication rates are low. Procedural success is lower than expected for ASD device implant. ASD device embolization and malposition were the most common procedural AEs. Device erosion requiring surgery was not reported. PDA device embolization was unusual and did not require surgery. There were no deaths reported.