In infants with tetralogy of Fallot and small PAAs, the PYA diameter increased from 5.2 ± 1.1 mm to 7.1 ± 1.4 mm (p < 0.03) and the McGoan ratio increased from 1.4 ± 0.4 to 2.1 ± 0.3 (p < 0.02).

Of the 20 pts, 11 pts underwent corrective surgery (8.0 ± 3.1 mm post-PBV with no surgical deaths; 5 pts remain in stable condition awaiting surgery; 3 pts required shunt placement 9-66 days post-PBV; 1 pt died due to other congenital anomalies.

Conclusions: Pulmonary balloon valvuloplasty promotes growth of the PAs and PVA in infants with TOF and small PAs, offering a safe and effective alternative palliation for infants who are not yet candidates for complete repair.

At intermediate FU, the above variables achieved similar statistical significance in describing differences between success (n = 54) and failure (n = 21). Logistic regression analysis using isthmus z-score yielded a prediction model P (Fail) = (1 + e^(-6.22 -1.14 ± 0.98 -2.61 ± 0.53 <0.0001). In the intermediate FU group, stepwise logistic regression with aortic annulus, isthmus z-score and coarctation site/isthmus ratio yielded a model predicting failure with 91% sensitivity, 81% specificity. Though less sensitive (39%), echocardiographic presence of patent ductus arteriosus was a highly specific (93%) predictor of failure at intermediate and immediate FU, with positive predictive value of 81%. A single patient failed during the long-term FU interval. Conclusion: Quantitative echocardiographic analysis of aortic arch morphometry predicts outcome of BA of native COA. These data may improve selection of candidates for BA.

At 7/20 pts underwent follow-up (FU) cath 8.2 ± 2.4 mo post-PBV. Compared to pre-PBV measurements, the PVA diameter increased from 5.2 ± 1.1 mm to 7.1 ± 1.4 mm (p < 0.03) and the McGoan ratio increased from 1.4 ± 0.4 to 2.1 ± 0.3 (p < 0.02).

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