Postoperative outcome in infants with aortic coarctation of the aorta

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This study was to assess pronostic factors of outcome, in neonates and infants with coarctation of aorta (COA).

Methods: single-center analysis of clinical and echocardiographic data of neonates and infants <1 year of age with COA.

Results: 275 cases were included, diagnosis was suspected prenatally in 95 cases. Heart failure (HF) was the main symptom, absent in patients prenatally diagnosed (p< 0.0001). Diameter of isthmus(AOI), transverse arch(TrAO) and AAO were lower in antenatal cases. Systolic fraction was decreased in patients diagnosed after birth. Preoperative HF was associated with narrowest AOI, AAO, TrAO and decreased LVSF. PGE was administered in 53% preoperatively and mechanical ventilation in 39%. Among 275 confirmed COA, 272 underwent Crafoord operation, at mean age 29days (median 12days) and mean time after admission 3.4days. Residual postoperative aortic gradient was observed in 18 cases (6.7%), and spontaneously disappeared in the majority of them within 2 postoperative days. Median hospital stay was 11days. Survival was 98.5%. Restenosis occurred in 20cases(7%), was related to postoperative AOIdiameter and gradient, and AAO, and was more frequent in patients <1month at surgery (8.5%). Mortality was associated with Shone complex and parachute mitral valve (p<0.0001), LVdiameters(p= 0.02), ICU stay (p<0.0001), hospital stay (p= 0.02).

Conclusion: Antenatal diagnosis impacts on early outcomes of neonates with COA. Postoperative isthmus diameter and gradient, and <1month age at surgery impact on the risk of restenosis.