OUTCOMES OF INFANTS UNDERGOING SUPERIOR CAVOPULMONARY CONNECTION IN THE PRESENCE OF VENTRICULAR DYSFUNCTION

ACC Poster Contributions
Ernest N. Morial Convention Center, Hall F
Sunday, April 03, 2011, 10:00 a.m.-11:15 a.m.

Session Title: Pediatric Cardiology: Intervention in Infancy and Outcomes
Abstract Category: 41 Pediatric Cardiology
Session-Poster Board Number: 1029-432

Authors: Matthew O'Connor, Matthew Elias, Meryl Cohen, Michael Quartermain, The Children's Hospital of Philadelphia, Philadelphia, PA

Background: In patients with single ventricle defects, ventricular dysfunction is a risk factor for mortality. Some advocate transplantation rather than further staged palliation, yet outcomes for this high-risk group have not been previously reported.

Methods: We included patients undergoing superior cavopulmonary connection (SCPC) at our center between 12/2005 and 10/2009, if interpretations of echocardiograms (TTEs) performed < 60 days prior to SCPC reported at least moderate subjective ventricular dysfunction. Images were re-evaluated to verify moderate or greater subjective ventricular dysfunction; TTEs performed at least three months following SCPC were similarly evaluated. Patients with aortic arch obstruction or death < 3 months after SCPC were excluded. Data on the clinical course and outcome were recorded, with results reported as median (range).

Results: 214 patients underwent SCPC; 13 met inclusion criteria. Diagnoses were hypoplastic left heart syndrome (n=12) and rightward unbalanced AV canal (n=1). Age at SCPC was 5.5 (3.7 - 10.3) months. Length of hospital stay was 6 (2 - 74) days. Duration of post-SCPC mechanical ventilation was 1 (1 - 315) hour and duration of chest tube drainage was 28 (20 - 258) hours. Three patients had arrhythmias; none had postoperative catheter-based interventions. Ventricular function was assessed 6.0 (3.5 - 9.7) months after SCPC and was unchanged in 6/13 (46%), improved in 6/13 (46%), and worsened in 1/13 (8%). One patient died 6.0 months post-SCPC and one had heart transplant 21.9 months post-SCPC, while 11/13 patients (85%) survived SCPC with follow-up of 28.6 (7.4 - 40.8) months. Three survivors have reached appropriate age for Fontan completion.

Conclusions: Significant ventricular dysfunction as assessed subjectively by TTE occurs infrequently in single ventricle patients presenting for SCPC. All patients meeting inclusion criteria had a morphologic right ventricle. Ventricular performance improved in nearly half of patients, and despite significant ventricular dysfunction, midterm survival and postoperative morbidity were comparable to prior reports, suggesting that these patients remain candidates for staged palliation.