EARLY SINGLE STAGE HYBRID APPROACH FOR HYPOPLASTIC LEFT HEART SYNDROME: OUR EXPERIENCE

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Methods. From October 2011 to December 2012 at CCPM, 18 consecutive patients underwent hybrid approach procedure. After median sternotomy, the left and right pulmonary were banded by goretex, then stent was delivered in the arterial duct via a catheter positioned in the main pulmonary artery.

Results. All patients (median weight 3.04 Kg-range 2.2-4.2) received pre-operative continuous infusion of PGE2 and underwent procedure during the first 72 hours after birth. For arterial ductus stenting pre-mounted stents of diameter from 7 to 10 and length from 12 to 19 mm were used. Pulmonary arteries banding was performed by 3 mm custom goretex tube in 9 cases, and a 3.5 mm in the remaining cases. No patients required delayed sternal closure or ECMO. Post operative ICU management was characterized by continuous infusion of systemic vaso-dilatators, switched to oral therapy in all the cases.

Enteral feeding was started in the first 48 hours; no cases of Necrotizing Enterocolitis (NEC) was reported. No major cerebrovascular adverse events occurred during hospital stay. Mean hospital stay length was 20 days (range from 6 to 70 days), mean ICU stay was 11.8 days (range from 3 to 70 days). All patients survived to the procedure and were discharged successfully from the hospital. At the median follow up of 215 days no mortality was detected in patient while on Hybrid procedure. At a median age of 6.8 month, 9 patients underwent OMNIA procedure and one is listed for elective surgery; 8 patients are still on follow up after Hybrid procedure. 2 patient died after OMNIA procedure due to myocardial dysfunction and sepsis.

Interstage follow up was conducted by twice visits per month in a dedicated Hybrid Clinic focused on medical therapy, echocardiography evaluation and growth pattern.

Conclusion. In our experience “Early” single stage hybrid approach for HLHS or complex, demonstrated to be safe, efficacy and free from major in-hospital or mid-term adverse events. According to available literature freedom from peri-operative mortality, NEC, delayed sternal closure and high dose inotropic support make it a valid or superior approach when compared with Norwood Stage I.