

Section B – Abstract 4 – 11:30 AM

Staged Biventricular Repair for Neonate with Left Ventricular Outflow Obstruction, Ventricular Septal Defect, and Aortic Arch Obstruction

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Purpose: Biventricular repair (BiV) for neonates presenting with critical left ventricular outflow tract obstruction (LVOTO) and aortic arch obstruction (AAO) (interruption (IAA) or coarctation (CoA)) in whom the native LVOTO cannot be used as the sole systemic outflow can be challenging. The staged Yasui operation may be necessary in cases of borderline size of the left ventricle.

The purpose of this study is to evaluate outcomes of neonates who underwent a Norwood operation as a first step of a planned BiV repair and the impact of associated risk factors.

Methods: This is a retrospective study of all neonates (n = 44) undergoing the Norwood operation as a first stage of a BiV repair from 01/2000 – 12/2012 at a single center. Multivariable analysis was performed to identify predictors of survival.

Results: Stage one mortality was 9%. The interstage survival for non-syndromic (NSYN) and syndromic (SYN) patients was (100%) vs. (46%) respectively, $p < 0.001$. Twenty-four patients (55%) underwent BiV completion repair with no mortality. Freedom from reintervention after BiV completion was 53% at 6 years. The overall survival for NSYN vs. SYN patients was (86%) vs. (43%) respectively, $p = 0.01$. Genetic syndromes and prematurity were significant predictors of interstage mortality on multivariable analysis.

Conclusion: Staged biventricular repair for patient with complex LVOTO, VSD, and AAO can be achieved with excellent outcomes in neonates without genetic syndromes. The staged approach is associated with longer time to reintervention following the BiV completion.