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Outcome of atrioventricularseptal defect repair

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Background: For neonates with atrioventricularseptal defect and aortic arch obstruction including coarctation of the aorta, we sought to determine whether a difference in outcomes exists after a primary neonatal versus staged surgical repair (neonatal arch repair with delayed intracardiac repair).

Methods: This retrospective cohort study included consecutive neonates with atrioventricularseptal defect and aortic arch obstruction who underwent cardiac surgery before 28 days of age at six centers from 1990 to 2009. Characteristics and outcomes between patients undergoing neonatal versus staged repair were compared.

Results: Of 66 study patients, 31 (47%) underwent primary neonatal repair and 35 (53%) underwent staged repair. At baseline echocardiogram, a greater percentage of neonatal repair patients had relative unbalanced ventricular size (56% versus 35%, $p = 0.02$). There were no other differences in demographic characteristics, cardiac anatomical or functional details, or surgical technique. Those undergoing neonatal repair tended to be more likely to have at least moderate left atrioventricular valve regurgitation early after repair (42% versus 19%, $p = 0.05$) and to have at least one major in-hospital complication (42% versus 20%, $p = 0.06$). After the initial cardiac operation, compared with the neonatal repair group, patients undergoing staged repair had greater survival (87% versus 57% at 6 years, log-rank $p = 0.02$) and freedom from the first unplanned cardiac reoperation (69% versus 45% at 6 years, log-rank $p = 0.005$).

Conclusions: For neonates with atrioventricularseptal defect and aortic arch obstruction, when compared with neonatal repair, a staged approach was associated with improved survival and lower morbidity.

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