

JSPCCS-AEPC Joint session

JSPCCS-AEPC Joint session (II-AEPCJS)

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[II-AEPCJS-2]A national study of the outcome after treatment of critical aortic stenosis in the neonate

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Aortic stenosis presenting with symptoms in the neonate is a serious condition that has been associated with significant risk for pre-, intra- and postoperative mortality and the need for repeated reinterventions. This study describes short-term and long-term outcome after treatment of critical valvular aortic stenosis in neonates in Sweden, with surgical valvotomy as first choice intervention. Methods: All neonates in Sweden treated for critical aortic stenosis between 1994 and 2016 were included. Patient files were analyzed and cross-checked against the Swedish National Population Registry as of December 2017, giving complete survival data. Diagnosis was confirmed by reviewing echo studies. Critical aortic stenosis was defined as valvular stenosis with duct-dependent systemic circulation or depressed left ventricular function with an echocardiographic measurement of fractional shortening of 28% or below. Primary outcome was all-cause mortality and secondary outcomes were reintervention and aortic valve replacement. Results: Sixty-one patients were identified (50 boys, 11 girls). Primary treatment was surgical valvotomy in 52 neonates and balloon valvotomy in 6. Median age at initial treatment was 5 days (0-26), and median follow-up time was 10.8 years (0.14-22.6). There was no 30-day mortality but four late deaths. Freedom from reintervention was 66%, 61%, 54%, 49%, and 46% at 1, 5, 10, 15, and 20 years, respectively. Median time to reintervention was 3.4 months (4 days to 17.3 years). Valve replacement was performed in 23 patients (38%). Conclusions: Aortic stenosis in the neonate is the start of lifelong need for surgical and catheter-based interventions and follow-up. Primary treatment with high short and long-term survival is possible. Surgical valvotomy is a safe and reliable treatment in these critically ill neonates, with no 30-day mortality and long-term survival of 93% in this national study. At 10 years of age, reintervention was performed in 54% and at end of follow-up 38% had had an aortic valve replacement.