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Percutaneous balloon dilatation for congenital aortic stenosis during infancy: A 15-years single-center experience

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Background: Congenital AS is a rare disease. Treatment options for newborns are challenging. Newborns may have higher reintervention rate and mortality.

Objectives: The objective of this study is to identify factors predictive of reintervention following balloon aortic valvuloplasty (BAV) for aortic stenosis (AS) during infancy.

Methodology: The work involved a retrospective study carried out between 2001 and 2016. Echocardiography (echo) and cardiac catheterization (cath) data for infants with AS were analyzed, including follow ups and reinterventions. Percent reduction was defined as the ratio between the drop of aortic valve (AV) peak gradient to the baseline peak gradient.

Results: Sixty infants were included, 48 were followed up. Sixteen patients (27%) were neonates. Peak-to-peak gradient at AV was 64 ± 27 mmHg, which was reduced to 27 ± 13 mmHg. Percent reduction was $53\pm24\%$. Forty nine patients (82%) had adequate results (residual AV gradient less than 35 mmHg). No significant aortic insufficiency (AI) before procedure, while 6 patients (10%) had increased AI immediately after BAV. 14/48 patients (29%) required an additional BAV. 8/48 patients (17%) required surgical interventions following BAV. Reintervention was associated more with small left ventricular outflow tract (LVOT), high residual AV and low percent reduction. Mortality was 8.3%.

Conclusions: BAV in infancy has a reasonable success rate (82%) with high rate of reintervention. PDA dependent neonates carried the highest risk of mortality. Small LVOT, high AV residual gradient and low percent reduction resulted in more reinterventions.

Biography

Abdulraouf Jijeh has completed his Pediatric Cardiology training (2009) at King Abdulaziz Cardiac Center, Riyadh, Kingdom of Saudi Arabia. Curently he is a Consultant in Pediatric Cardiac Intensive Care at the same center.