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Stenting of the Right Ventricular Outflow Tract

*Stumper O., Reinhardt Z. Noonan P. Ramchandani B. Miller P. Dhillon R. Mehta C. Bohle V. DeGiovanni J.V.
Birmingham Children's Hospital
Birmingham
UK*

Objective: To assess the indication, technical aspects and outcome of stenting of the right ventricular outflow tract (RVOT) in the management of symptomatic patients with severely limited pulmonary blood flow.

Methods: Retrospective case note and procedure review of patients undergoing stenting of the RVOT over a 7 year period.

Patients: Between 2005-2011, 38 selected patients underwent cardiac catheterization with a view to stent a very narrow RVOT to improve pulmonary blood flow. In all, cardiac surgical intervention was deemed high risk due to presenting condition, weight, associated defects, underlying anatomy, or co-existing syndromes. In 3 patients the procedure was abandoned due to unsuitable anatomy. Median age at stent implantation was 64(range7-406) days and median weight was 3.8(1.7-12.2) kg.

Results: Thirty-five patients underwent stent implantation. Median procedure time was 60(29-260) and fluoroscopy time 16(8-73) minutes. There was one procedural death (2.9%) and one requiring emergency surgery (2.9%). Saturations increased from 70(52-83)% to 91(81-100)% [$p<0.001$].

Eleven further catheter interventions were carried out (balloon in 6, further stent in 5). Twenty patients underwent delayed surgery (complete repair in 15, palliative in 5) at a mean of 264(10-758) days post stenting. Thirteen patients remain well palliated after a mean of 202(14-508) days.

Conclusion: Stenting of the RVOT is an effective treatment option in the initial management of selected patients with very reduced pulmonary blood flow.