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Right ventricular outflow tract reconstruction with handmade valve conduit: A short experience from a developing country

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Background & Aim: Abnormalities of right ventricular outflow tract continuity are one of the most commonly encountered entities in congenital cardiac surgery. Various strategies utilize homografts, synthetic valve conduits, Contegra, or patch enlargement with valve replacement ($2500) to restore anatomical and functional continuity between right ventricle and pulmonary artery. In countries like Pakistan, these conduits may not be easily available or affordable. We report the experience of our short observational study of using a handmade tri-leaflet valve conduit to establish right ventricular outflow tract and pulmonary artery continuity ($700).

Materials & Methods: From September 2015 to December 2016, a total of 15 patients with different diagnoses of congenital heart disease in the pediatric age group underwent corrective surgery along with restoration of RV to PA continuity, by using a handmade valved conduit. The size of the conduit is determined by using an available nomogram. A 10x10 cm bovine pericardial sheet is used to construct the conduit and a 0.5 mm thin polytetrafluoroethylene (PTFE) sheet is used to construct the valve.

Results: Patients ranged from 1 year to 16 years. Seven patients had previous palliation. One patient underwent 3rd time redo procedure for RV to PA homograft stenosis. Late postoperative complications were observed in 2 patients. One patient developed aneurysm at RVOT-conduit junction requiring surgical repair and the other underwent conduit dilatation for moderate stenosis (gradient 60 mmg). No significant regurgitation was observed and the gradients were a mean of 25 mmHg.

Conclusions: This short report highlights that the handmade valve conduits are a cost effective alternative where well-established conduits have cost implications and questionable availability.

Biography

Muneer Amanullah has done his FRCS in the field of General Surgery at Edinburgh (UK). He was a Fellow Researcher in the Department of Congenital and Pediatric Cardiac Surgery in UK London. Currently, he is an Interim Associate Dean and also an Associate Professor for Congenital and Pediatric Cardiothoracic Surgery at Aga Khan University, Pakistan.

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