

INNOVATIVE SURGICAL RE-DO REPAIR TECHNIQUE FOR A LITTLE PATIENT FROM ACROSS THE BORDER

Thirteen year old Karan Bari from Pakistan presented at Frontier Lifeline in June 2005 with symptoms of chest discomfort and progressive exertional dyspnoea. She was diagnosed to have Tetralogy of Fallot soon after birth for which she underwent left BT shunt placement in 1992. In May 1995 she underwent total intracardiac repair with VSD patch closure and a trans-annular patch enlargement of the right ventricular outflow tract (RVOT). Subsequent follow-up revealed progressive pulmonary regurgitation (PR), RV dilatation and dysfunction with consequent severe tricuspid valve regurgitation (TR). A CT scan of the chest in December 2004 revealed a marked aneurysmal dilatation of the RA, and RV, and a critical narrowing of the left pulmonary artery (LPA) origin. She required urgent surgical repair to ensure that the pulmonary and tricuspid valves were made competent and the critical stenosis in the LPA origin augmented to enhance blood flow to the left lung.

Picture: RV ANGIO PRIOR TO SURGERY

After confirming the above findings, the child was taken up for surgery. The RA was opened and tricuspid annuloplasty was performed using a 28 mm Carpentier Edward Annuloplasty ring. The RVOT was opened and the incision was extended across the stenotic LPA origin. A cut-open bovine jugular vein was used to augment the LPA and MPA. A 21 mm Biocor tissue valve was implanted in the RVOT. The patch was completed and RVOT was closed. The RA size was reduced by excision of the free wall and the RA was closed. After rewarming, the patient was weaned off cardiopulmonary bypass without any difficulty.

Picture: RV ANGIO AFTER SURGERY

Postoperatively, the patient made an uneventful recovery. Postoperative angiography and echocardiography revealed a competent pulmonary valve, a significant reduction in the tricuspid valve regurgitation and an improved RV function. The LPA origin showed enhanced flow with a peak pressure gradient across it of 18 mm Hg, suggesting no significant flow obstruction.

Re-do surgical procedures on the heart are made difficult by anatomical adhesions and complexity of the lesion. The use of bovine jugular vein grafts to augment the pulmonary artery stenosis in conjunction with abolishing the pulmonary regurgitation is an innovative measure for treating such complex cardiac disorders.

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