## Physician - Pediatric Cardiac and Vascular Surgery/Adult Congenital Heart Diseases

### [MOB-06]

# Clinical Outcomes of Injectable Biopulmonic Valve Replacement *vs.* Conventional Pulmonary Valve Replacement in Tetralogy of Fallot Patients with Severe Pulmonary Regurgitation: A Comparative Study

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**Objective:** This study aimed to compare early- to mid-term outcomes of injectable biopulmonic valve replacement without cardiopulmonary bypass and conventional pulmonary valve replacement in patients with severe pulmonary regurgitation following tetralogy of Fallot (TOF) corrective surgery.

**Methods:** The study was conducted with 22 patients between ?? 2011 and ?? 2020. Injectable pulmonary valve replacement was performed in nine patients, while 13 patients underwent bioprosthetic aortic valve replacement using a conventional surgical approach. An injectable valve was chosen for patients with a pulmonary annulus diameter ≤30 mm and ≥15 mm when there was no need for additional procedures.

**Results:** Comparing postoperative outcomes between the injectable valve group and the conventional surgery group, the mean duration of intensive care unit stay was 16.78±6.22 *vs.* 37.00±23.43 h (p=0.003); the mean postoperative mechanical ventilation time was 5.22±3.93 *vs.* 15.38±23.43 h (p=0.001); the mean volume of chest tube drainage was 206.67±108.16 mL *vs.* 513.08±274.11 mL (p=0.003); the mean inotropic score was 5.00±5.59 *vs.* 10.96±8.98 (p=0.05); the mean vasoactive score was 6.11±8.20 *vs.* 12.11±10.40 (p=0.04); and the mean length of hospital stay was 5.44±2.35 *vs.* 8.38±3.09 days (p=0.04).

**Conclusion:** Injectable pulmonary valve replacement, which can be applied without cardiopulmonary bypass, has advantages such as being less invasive and having better postoperative results compared to the conventional procedure. However, more comprehensive studies with long-term results are needed.

**Keywords:** Tetralogy of Fallot, pulmonary valve replacement, injectable valve.

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