

## **SIMULTANEOUS PERCUTANEOUS TRICUSPID AND PULMONARY VALVE IMPLANTATION VIA RIGHT INTERNAL JUGULAR VEIN APPROACH USING REVERSE LOADING TECHNIQUE IN PATIENT WHO UNDERWENT ONE-AND-A-HALF VENTRICLE REPAIR**

Kim Jung Yoon,<sup>1</sup> So Ick Jang,<sup>2</sup> Seong Ho Kim<sup>3</sup>

<sup>1</sup> Sejong Hospital, Bucheon, Korea; Child Cardiology ; Interventional, <sup>2</sup> Sejong General Hospital; Sejong General Hospital; Pediatric Cardiology, <sup>3</sup> Sejong General Hospital; Intervention and Surgery; Structural Heart Disease

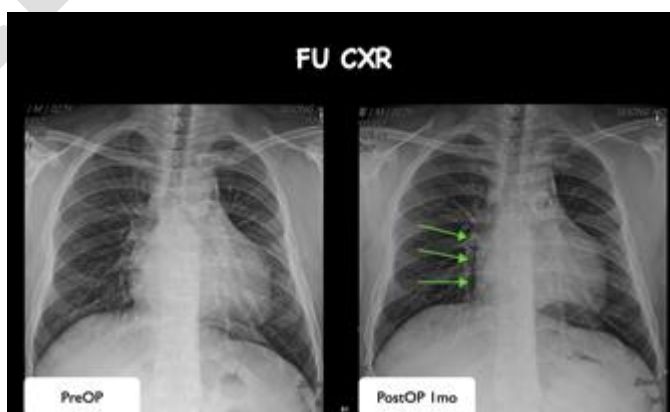
Correspondence: So Ick Jang, Schweitzer21@naver.com

---

### **History and physical:**

A 27-year-old male was initially diagnosed with pulmonary atresia with intact ventricular septum (PA IVS) with moderate to severe RV hypoplasia. He was performed open cardiac surgery 4times. The lasted surgery, at the age of 16 years, he underwent tricuspid valve replacement with Hancock II 31mm, pulmonary valve replacement with Hancock II 25mm, RV overhauling, and ASD creation. Unfortunately, both prosthetic valve degeneration developed so earlier than our expectation. Only 3 years after the last surgery, follow-up echocardiography revealed moderate TSR, moderate PR, severe RA enlargement worsened again, RV apex bulging and RV wall thinning with dysfunction

### **Imaging:**





**Indication for intervention:**

1. Severe TSR with RA enlargement
2. Moderate PR with RV enlargement
3. High surgical risk patient due to moderate to severe RV failure and several times of open-heart surgery.

**Intervention:**

Simultaneous percutaneous tricuspid valve in valve implantation with self-expandable PULST valve and pulmonary valve implantation with balloon-expandable Melody valve.

**Learning points of the procedure:**

We described a first challenging experience of simultaneous percutaneous tricuspid valve in valve implantation with self-expandable PULST valve which overcome that limitation as large size of TV and pulmonary valve implantation with balloon-expandable Melody valve via right internal jugular vein approach using reverse device loading technique without temporal pacing in patient who underwent one-and-a-half ventricle repair with severely enlarged right atrium and right ventricle successfully.