

## The Modified Starnes Operation: Clinical Image

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### Clinical Image

A 6-month-old girl with severe **Ebstein anomaly** underwent a modified Starnes operation because of progressive cyanosis (SpO<sub>2</sub>: 75%), worsening cardiomegaly (CTR: 85%), and deteriorating right ventricular function. Preoperative evaluation demonstrated moderate tricuspid regurgitation, resulting in a predominant right-to-left shunt across the patent foramen ovale with significant impairment of right ventricular performance.

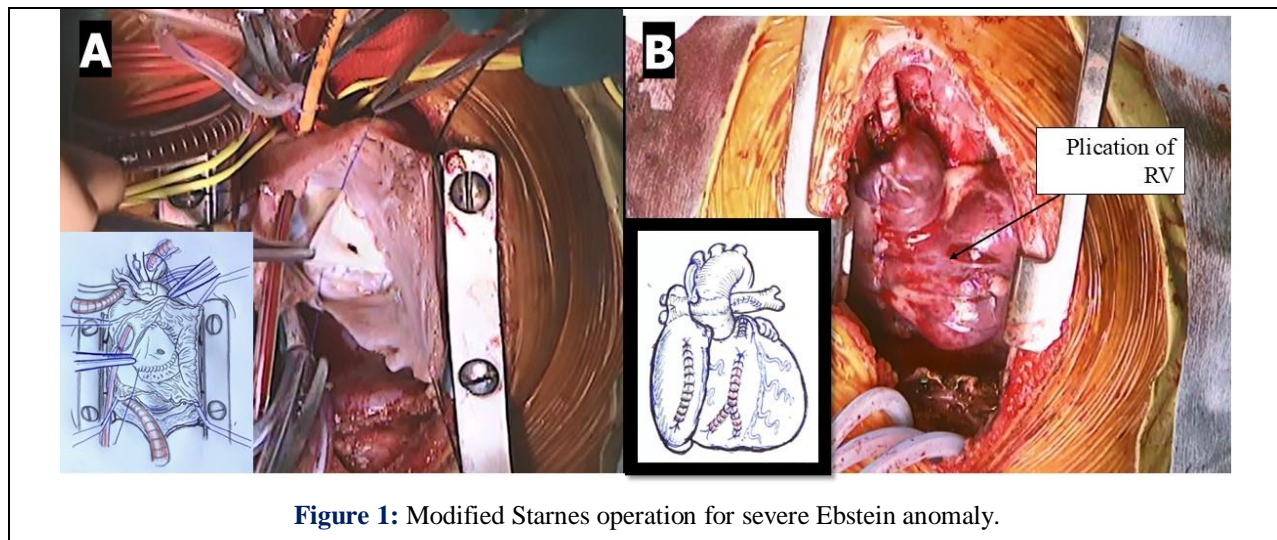
**Figure A:** The tricuspid valve orifice was surgically excluded using a perforated Xenomedica patch (20x20 mm) with a central 4-mm fenestration to decompress the right ventricle while maintaining controlled intracardiac flow.

**Figure B:** A triangular resection of the anterior right ventricular free wall was performed, followed by plication to reduce the volume of the atrialized right ventricle and improve ventricular geometry.

The postoperative course was uneventful. The patient subsequently underwent a **Bidirectional Glenn**

**(BDG) procedure** at 11 months of age, followed by a **modified Fontan procedure** using an extracardiac Total Cavopulmonary Connection (TCPC) with an 18-mm expanded Polytetrafluoroethylene (ePTFE) graft at 18 months of age, with satisfactory clinical progression. Now, she is doing well with NYHA class: I. The Cardiac catheterization data revealed CVP of 9 mmHg and cardiac index of 3.1L/min/m<sup>2</sup>.

**Keywords:** Ebstein anomaly; Modified Starnes operation; Bidirectional Glenn; Fontan procedure; Congenital heart disease; Clinical image.



**Figure 1:** Modified Starnes operation for severe Ebstein anomaly.

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