



Bentall Procedure Through A Right Anterior Minithoracotomy

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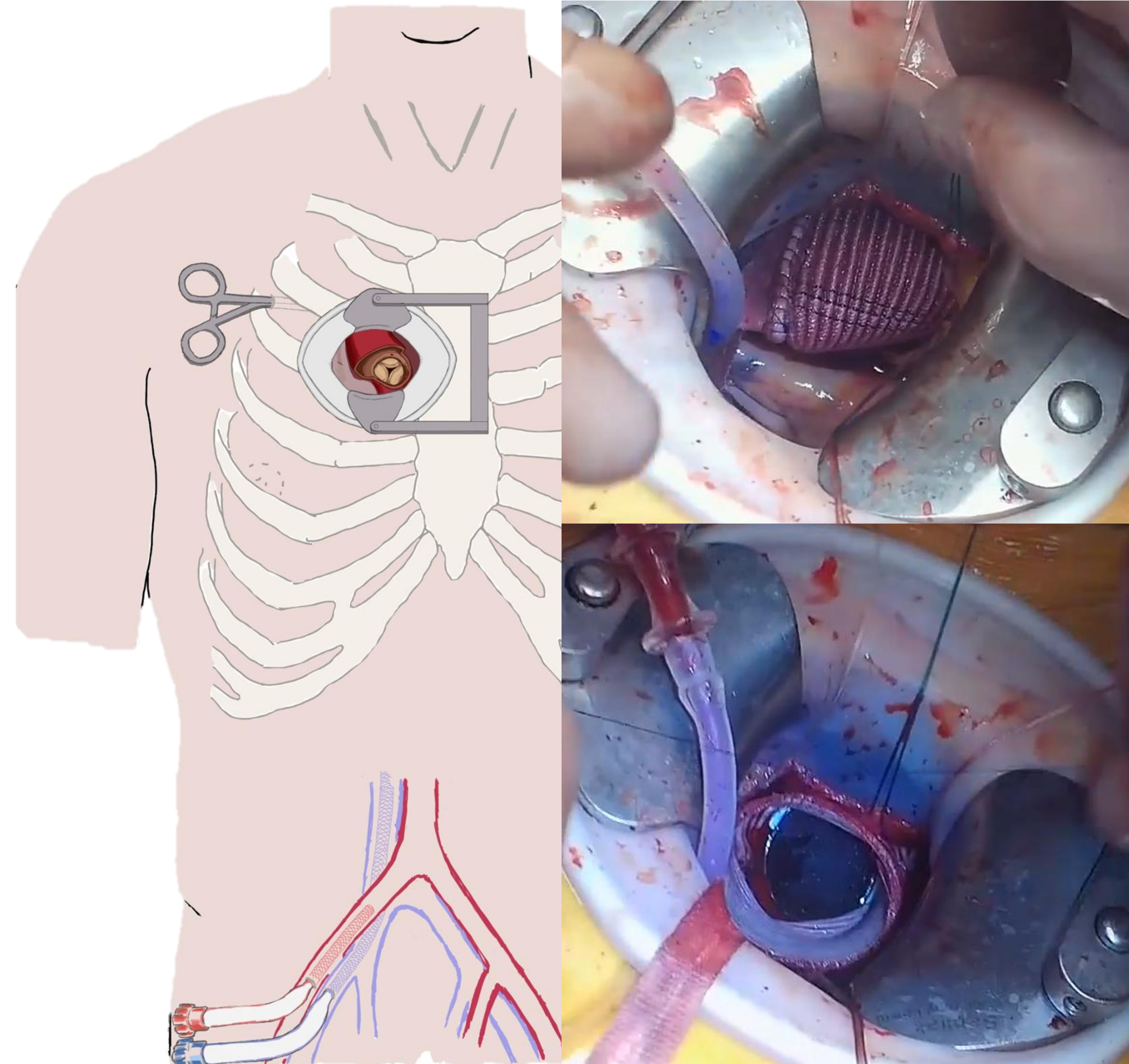
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Background

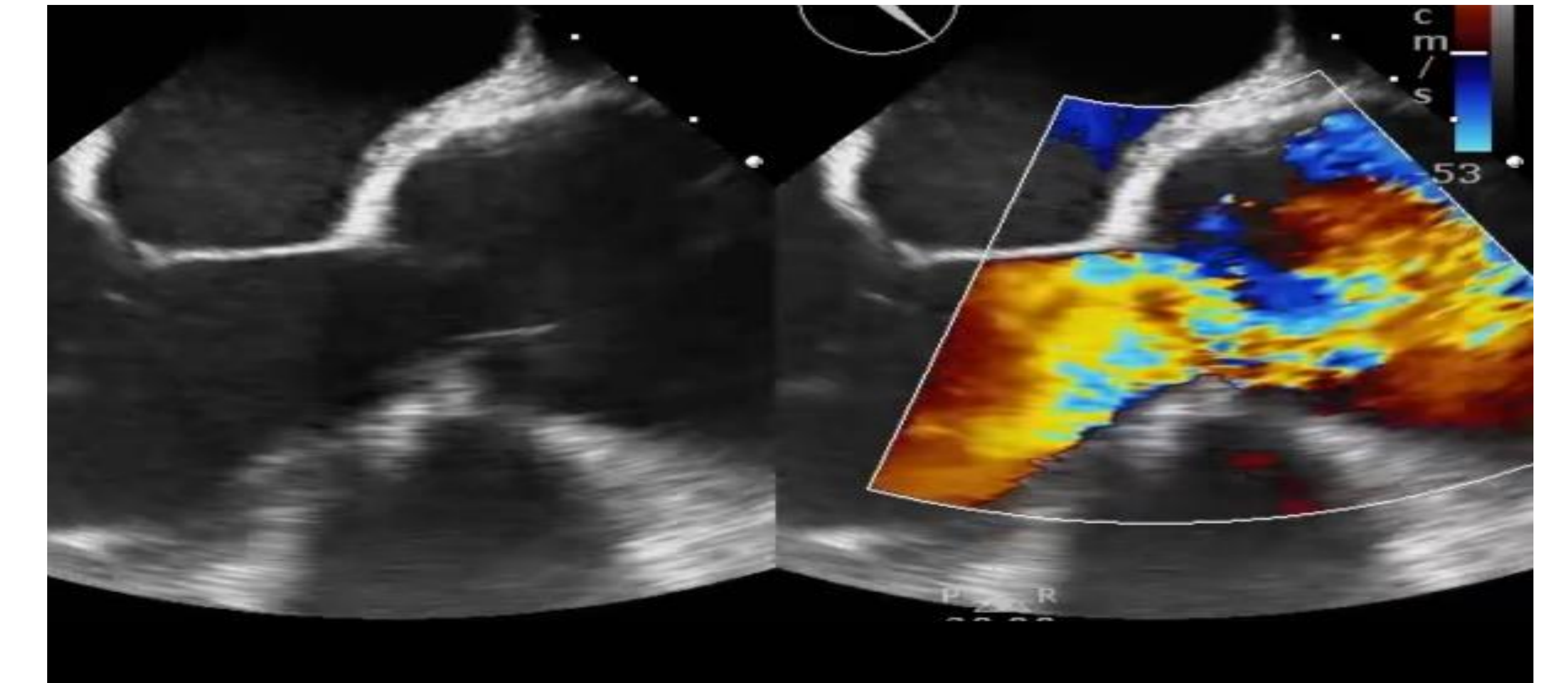
The Bentall procedure, traditionally performed through median sternotomy, is associated with significant surgical trauma, prolonged recovery, and an increased risk of perioperative complications. Advances in minimally invasive cardiac surgery have made it possible to perform this operation through a right anterior mini-thoracotomy approach, providing reduced bleeding, shorter intensive care unit and hospital stay, and enhanced postoperative recovery.

Case presentation

A 44-year-old male patient (109 kg, BSA 2.3 m²) with a history of arterial hypertension presented with progressive dyspnea during minimal physical activity corresponding to NYHA class II–III heart failure symptoms. Echocardiographic assessment demonstrated severe aortic insufficiency with a pressure half-time of 198 ms and significant aneurysmal dilatation of the ascending aorta measuring 73 mm. Left ventricular ejection fraction was moderately reduced at 50%, with a left ventricular end-diastolic diameter of 56 mm. Mild mitral valve insufficiency was also noted.



Pre-operative echocardiography



Results

The intraoperative course was uneventful, with a cardiopulmonary bypass time of 220 minutes and an aortic cross-clamp time of 156 minutes. Postoperatively, the patient demonstrated a favorable recovery with total drain output of 540 mL during the first 12 hours, an intensive care unit stay of 1 day, and discharge from the hospital on postoperative day 6.

Conclusions

This case demonstrates the feasibility of performing the Bentall procedure through a right anterior mini-thoracotomy approach, achieving favorable surgical outcomes while minimizing operative trauma. The minimally invasive strategy contributed to enhanced postoperative recovery, shorter intensive care unit stay, reduced blood loss, and decreased requirement for narcotic analgesics.