



David Procedure Through A Right Anterior Minithoracotomy

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Background

This case demonstrates a minimally invasive approach for David procedure in a 63-year-old male. The patient presented with dyspnea during physical activity, weakness, severe aortic valve insufficiency. The diameter of the aorta at the level of the sinus of Valsalva was 4.16 cm, and at the level of the sinotubular junction it was 5.5 cm. Traditional sternotomy was avoided in favor of a less invasive strategy.

Case presentation

The patient had a body weight of 103 kg and a BSA of 2.28 m². Surgical access was achieved through a right anterior thoracotomy in the 2nd intercostal space. Peripheral cannulation for cardiopulmonary bypass was performed. During inspection of the aortic valve, a tricuspid aortic valve without any damage was identified. The following procedures were performed:

- Replacement of the ascending aorta with a 30 mm Integard vascular graft.
- Reimplantation of the coronary arteries.
- Reimplantation of the aortic valve.

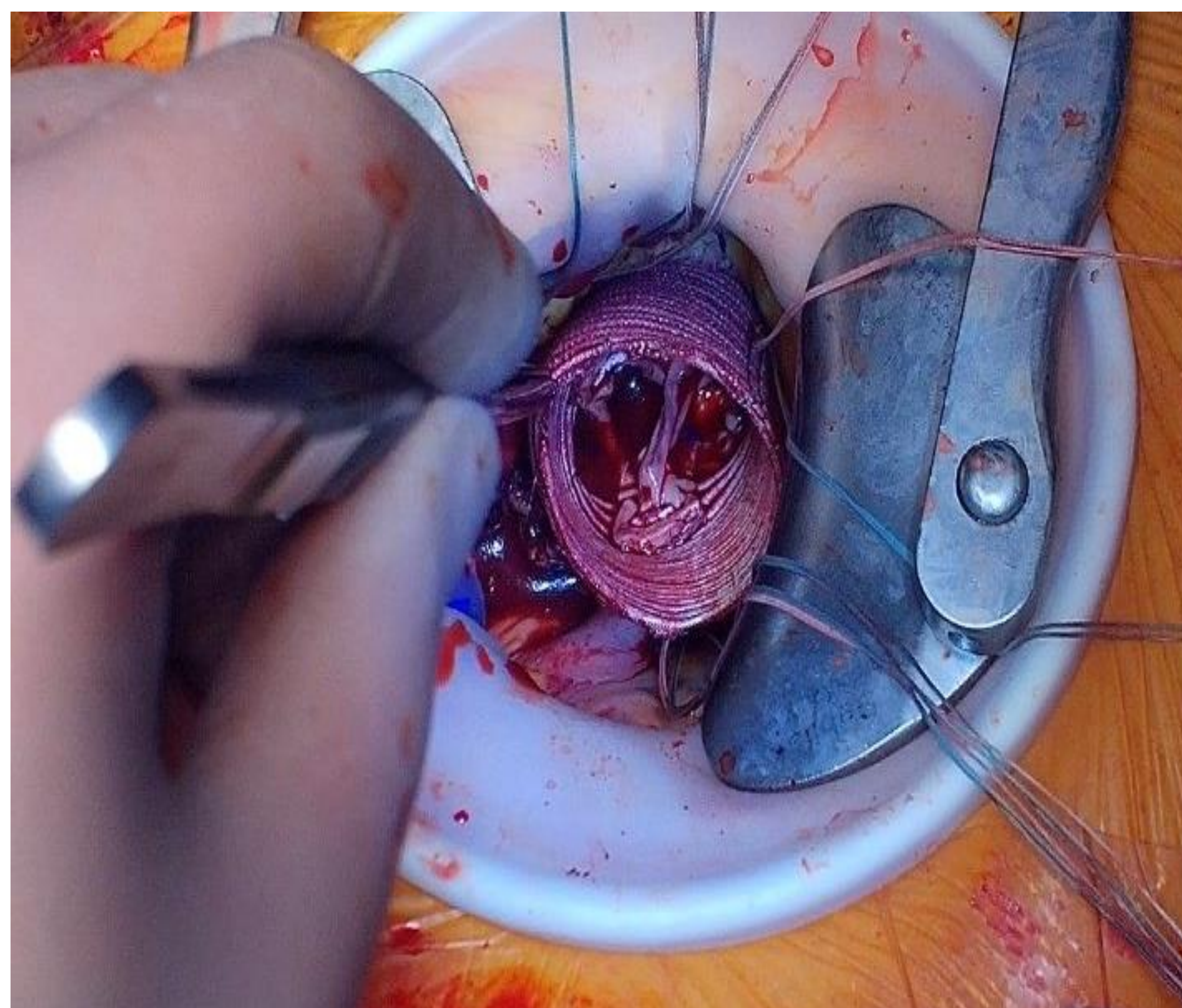
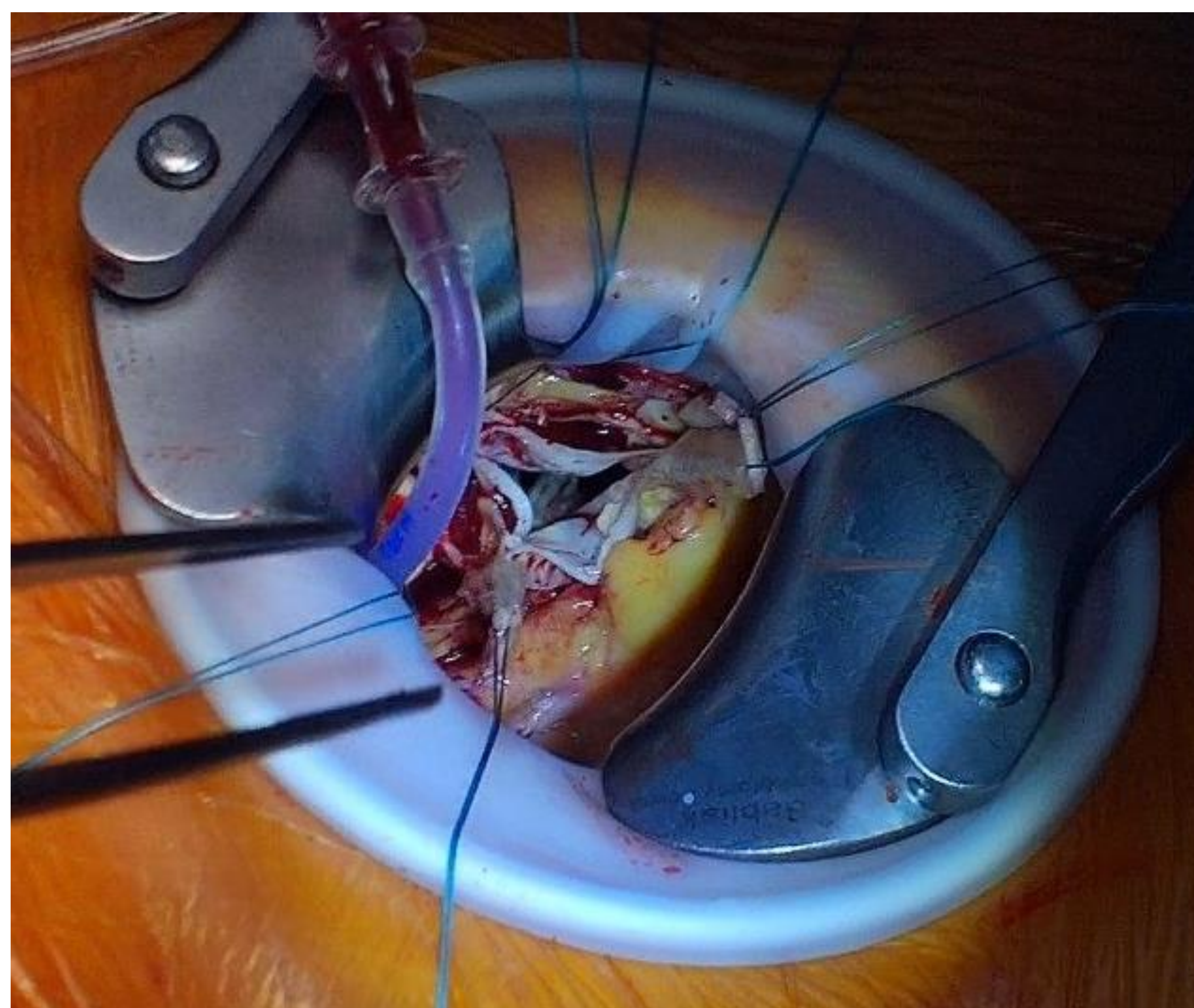
Results

Intra-operative data

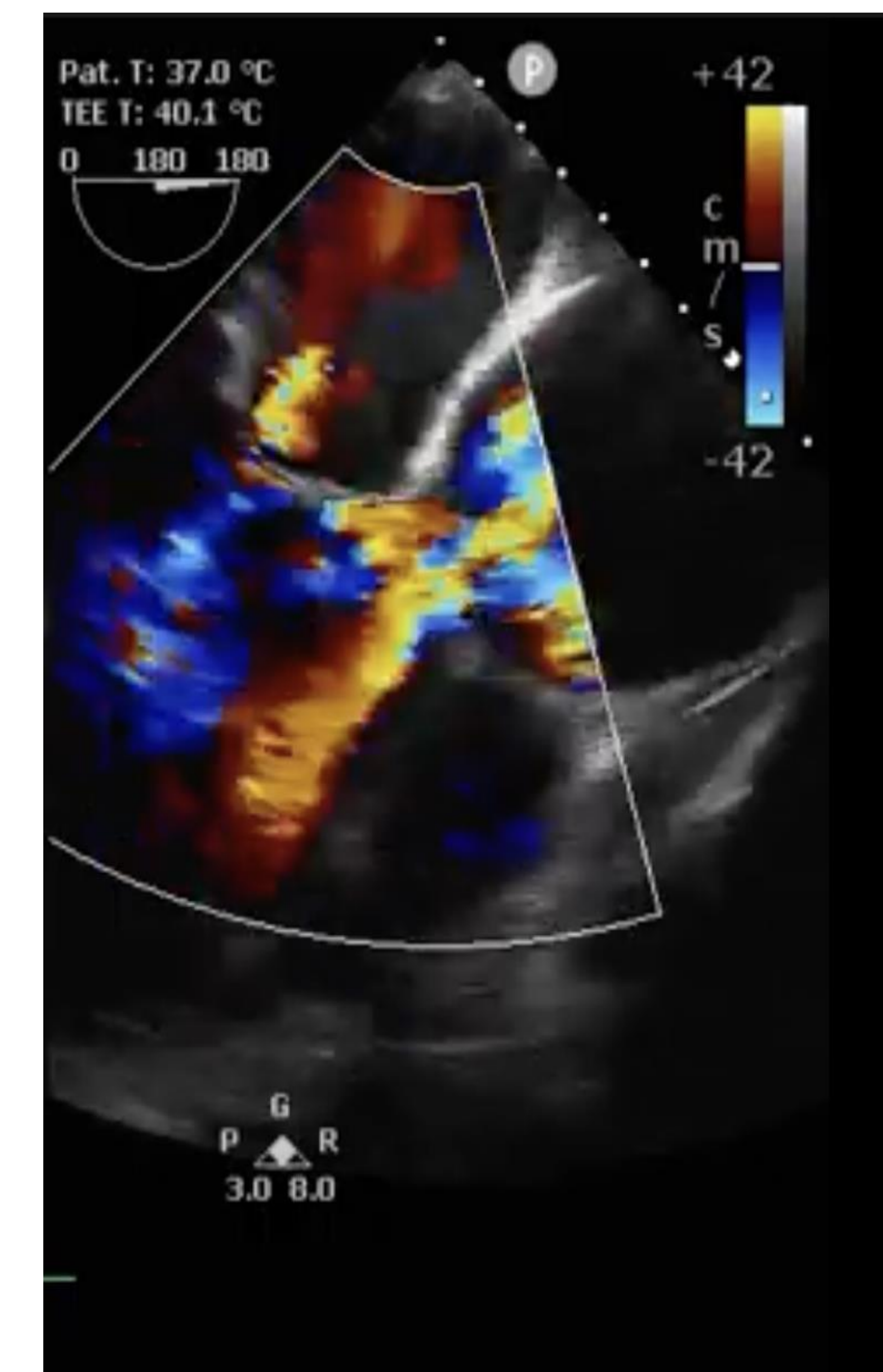
- CPB time - 337 min, Aortic cross-clamp time - 226 min.

The postoperative echocardiography showed low residual AV insufficiency. Postoperative recovery was uneventful:

- 1 night in the intensive care unit
- No neurological symptoms
- Drain leakage (12 hours) - 400 ml
- Discharge on the 6th postoperative day



Pre- and postoperative echocardiography



Conclusions

The minithoracotomy offers adequate exposure for complex surgery as David procedure. Combined aorta and aortic valve surgery can be applied without the need for sternotomy, resulting in excellent recovery, cosmetic outcomes, and surgical effectiveness.