

Endoscopic Aortic Sutureless Valve Implantation With Concomitant Mitral Valve Repair

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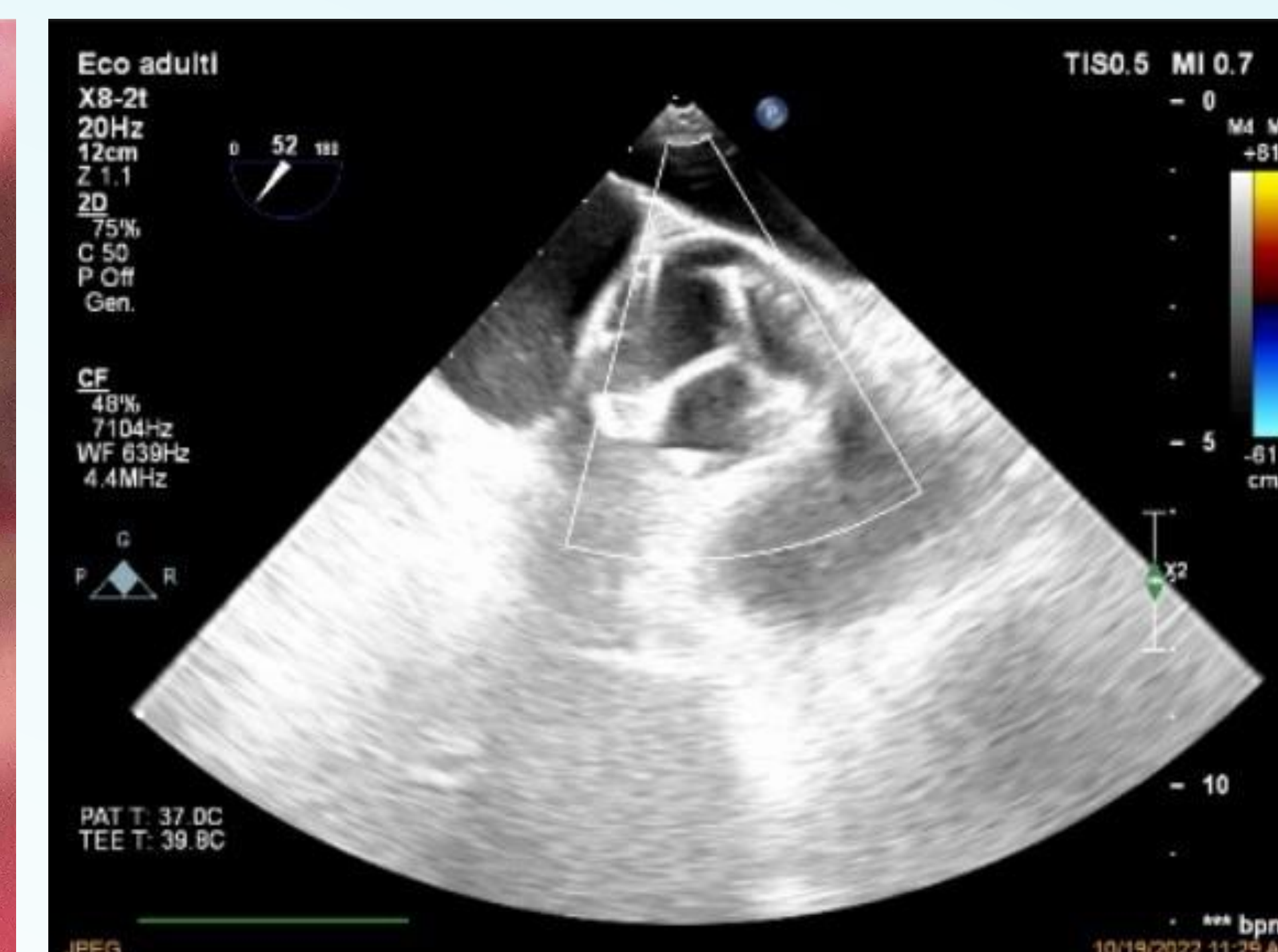
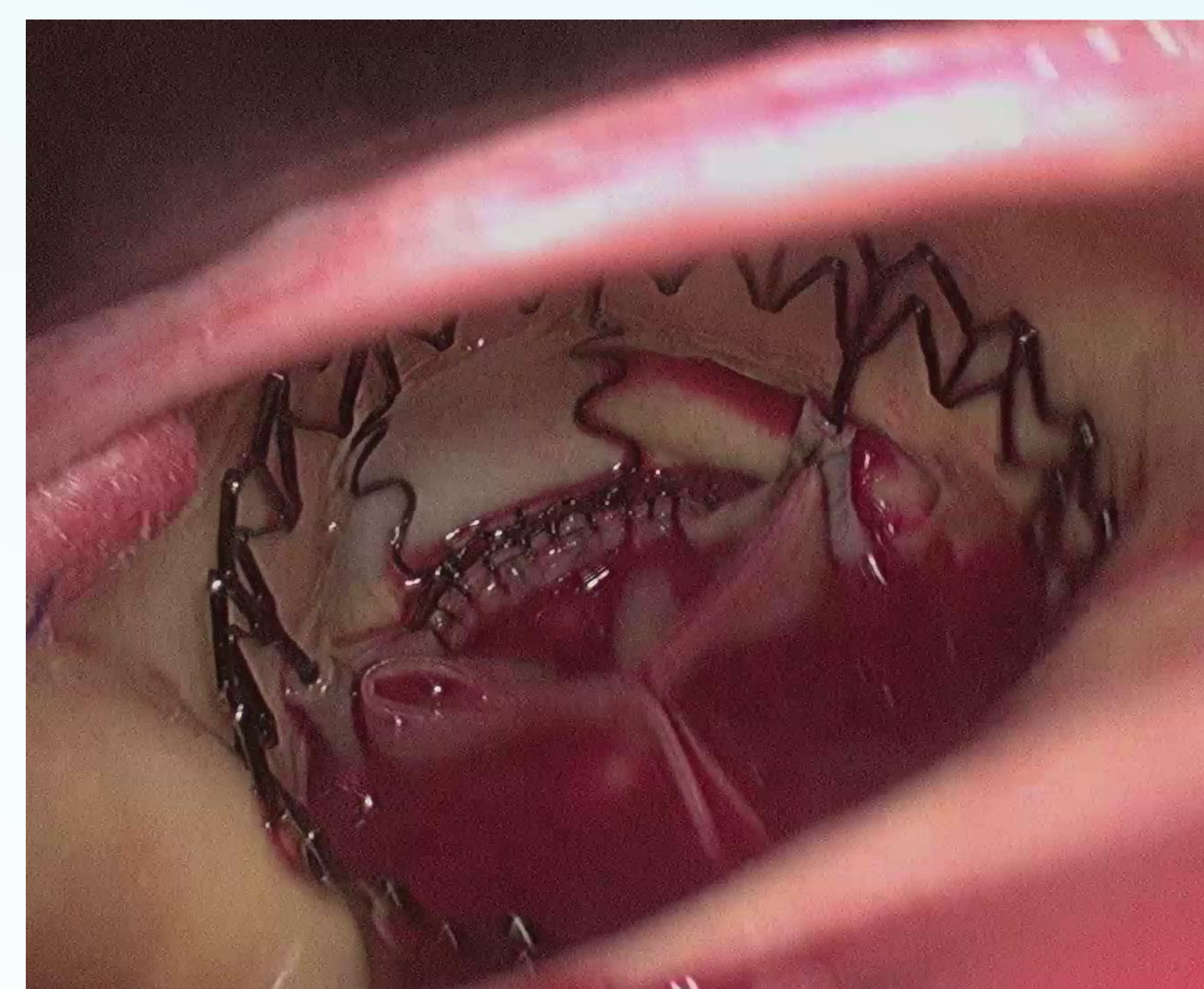
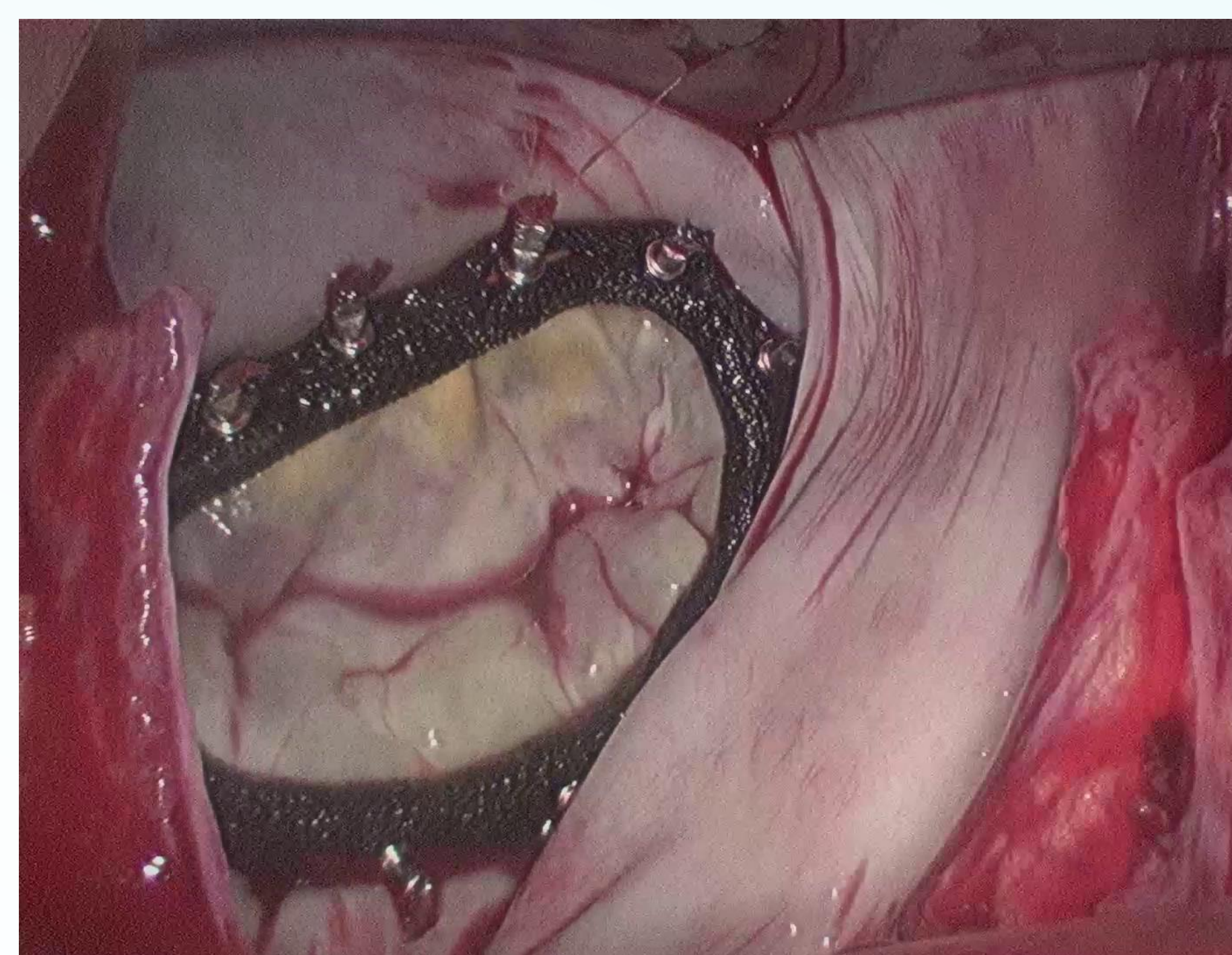
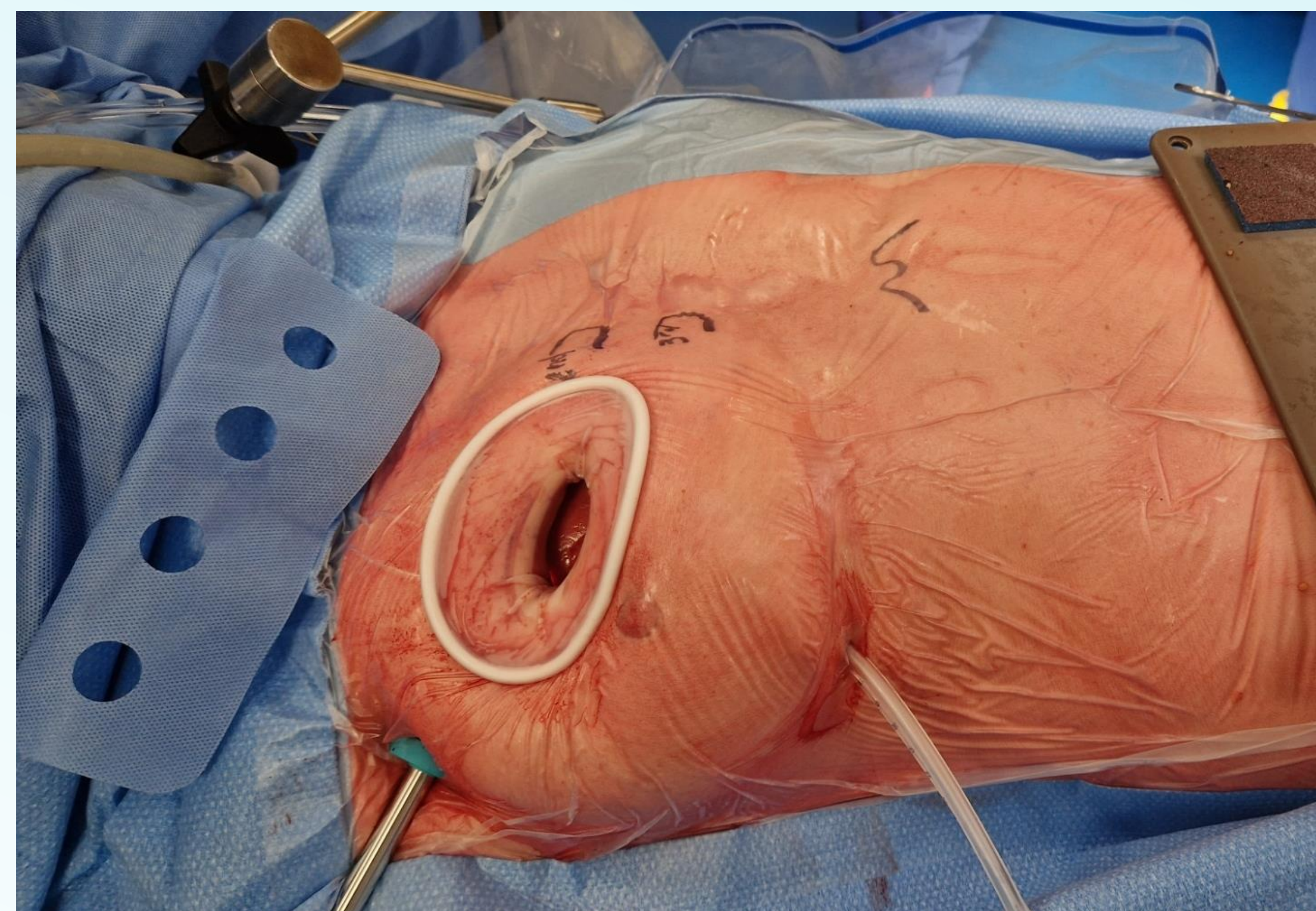
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Objective

The presence of a valvular prosthesis or ring in mitral position is generally regarded as a concern in case of aortic valve replacement using a sutureless bioprosthesis, due to the alteration of the three-dimensional structure of the aorto-mitral curtain. We aim to demonstrate how to technically perform a sutureless aortic valve replacement with concomitant mitral valve repair surgery via an endoscopic approach.

Methods

We present a 76-year-old female patient with a history of paroxysmal atrial fibrillation, arterial hypertension and hypercholesterolemia which came to our Institution for a severe mitral regurgitation due to fibroelastic deficiency and moderate to severe rheumatic aortic regurgitation. The preoperative TTE demonstrated a dilated left ventricle with preserved EF and a dilated left atrium. Severe MR due to a restricted motion of the posterior leaflet and central coaptation gap due to FED. Moderate to severe AR due to thickening and retraction of the cusps (rheumatic).



Results

In October 2022 we performed an **aortic valve replacement (Perceval Plus size L) + mitral valve annuloplasty repair (Memo 4D 32 mm ring) + LAA closure (Atriclip 35 mm)** in right anterior mini-thoracotomy.

Important points:

- A 2 staged aortic valve sizing is performed, before and after the mitral valve ring implantation.
- Great care should be taken to ensure that aorto-mitral curtain remains intact. After performing MVr, three guiding sutures are positioned in each valve sinus, taking care to avoid accidental stitching of the underlying mitral prosthetic ring.
- Assuring a correct positioning and expansion of the sutureless bioprosthesis is essential

→ Postoperative course:

- ICU stay: 2 days
- Postoperative hospital stay: 8 days
- Transient second-degree atrioventricular (AV) block

Conclusion

Sutureless aortic valve replacement in concomitant mitral valve repair is feasible and can be safely performed via an endoscopic approach.