

Utility of a Detachable Aortic Clamp in Robotic Mitral Surgery

Makoto Hibino, Tarek Malas, Marc Gillinov

Department of Thoracic & Cardiovascular Surgery, Cleveland Clinic, Cleveland, Ohio, USA



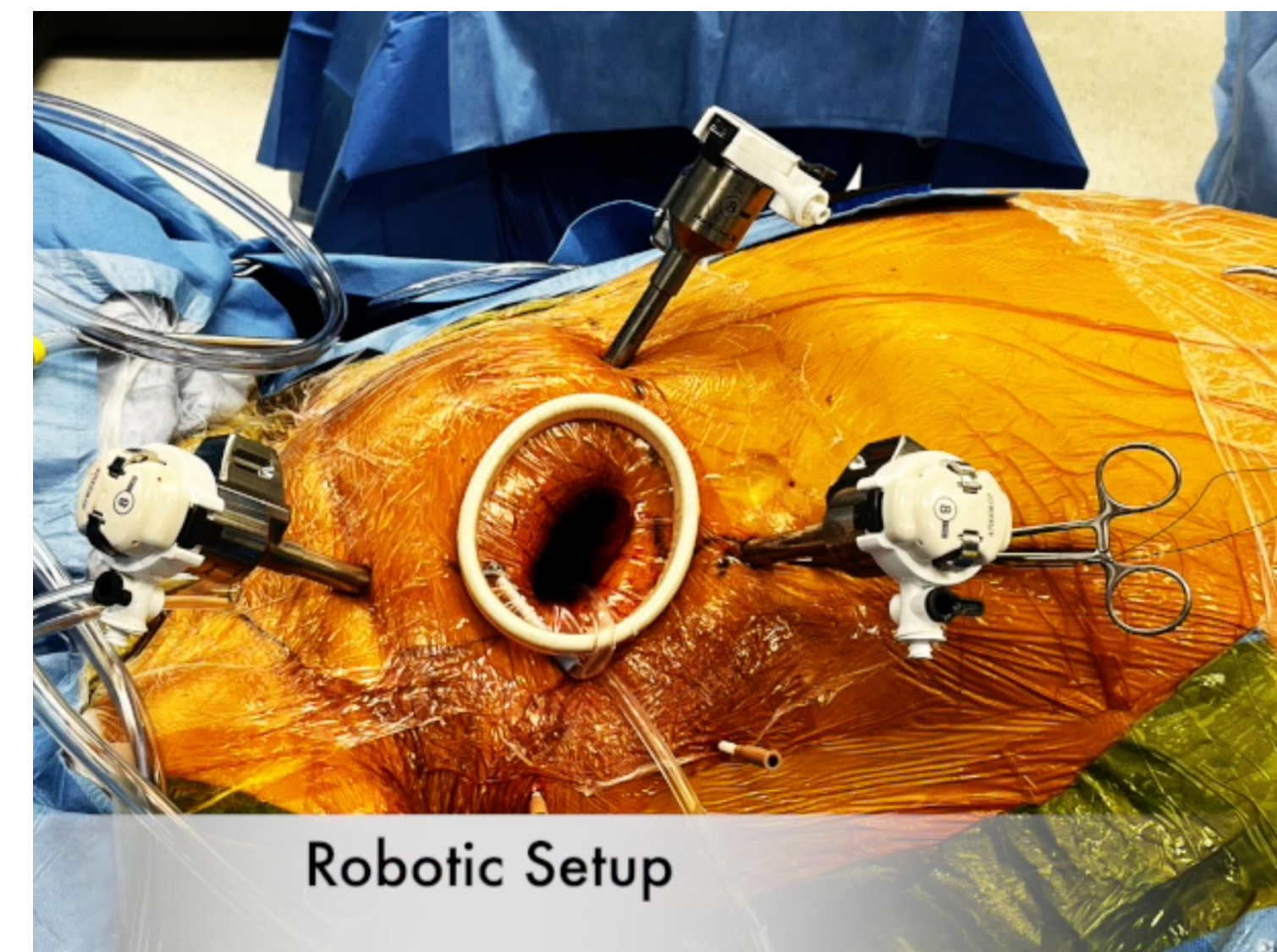
Background

- In robotic mitral surgery, application of aortic clamp is a critical step.
- This process can be done either endovascularly or externally using a clamp.

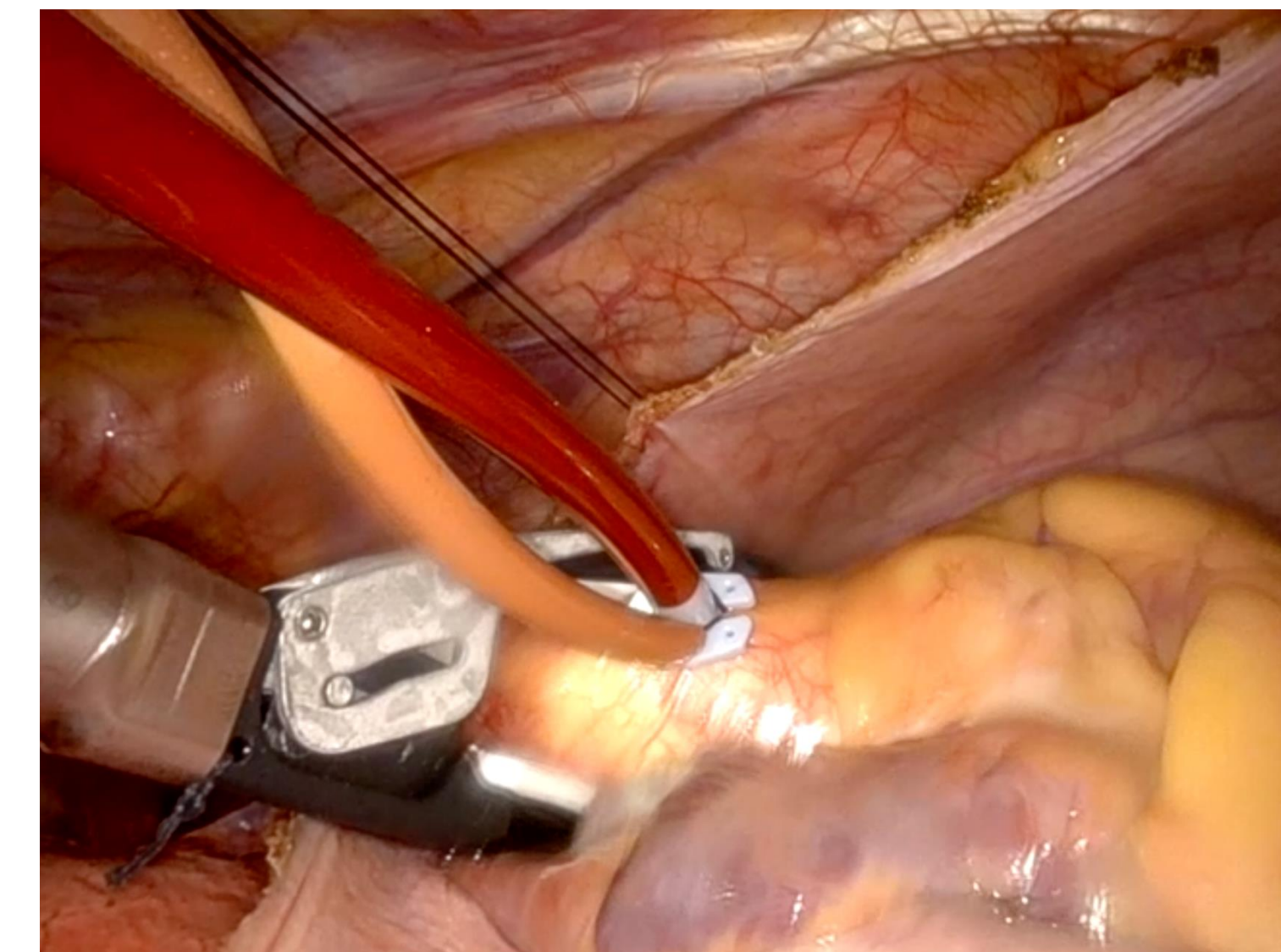
Methods

- We have utilized detachable aortic clamp to improve surgical field clearance, enhance mitral valve exposure, and ensure stable clamp application.
- This video case abstract demonstrates its application, removal, and key tips for its effective use.

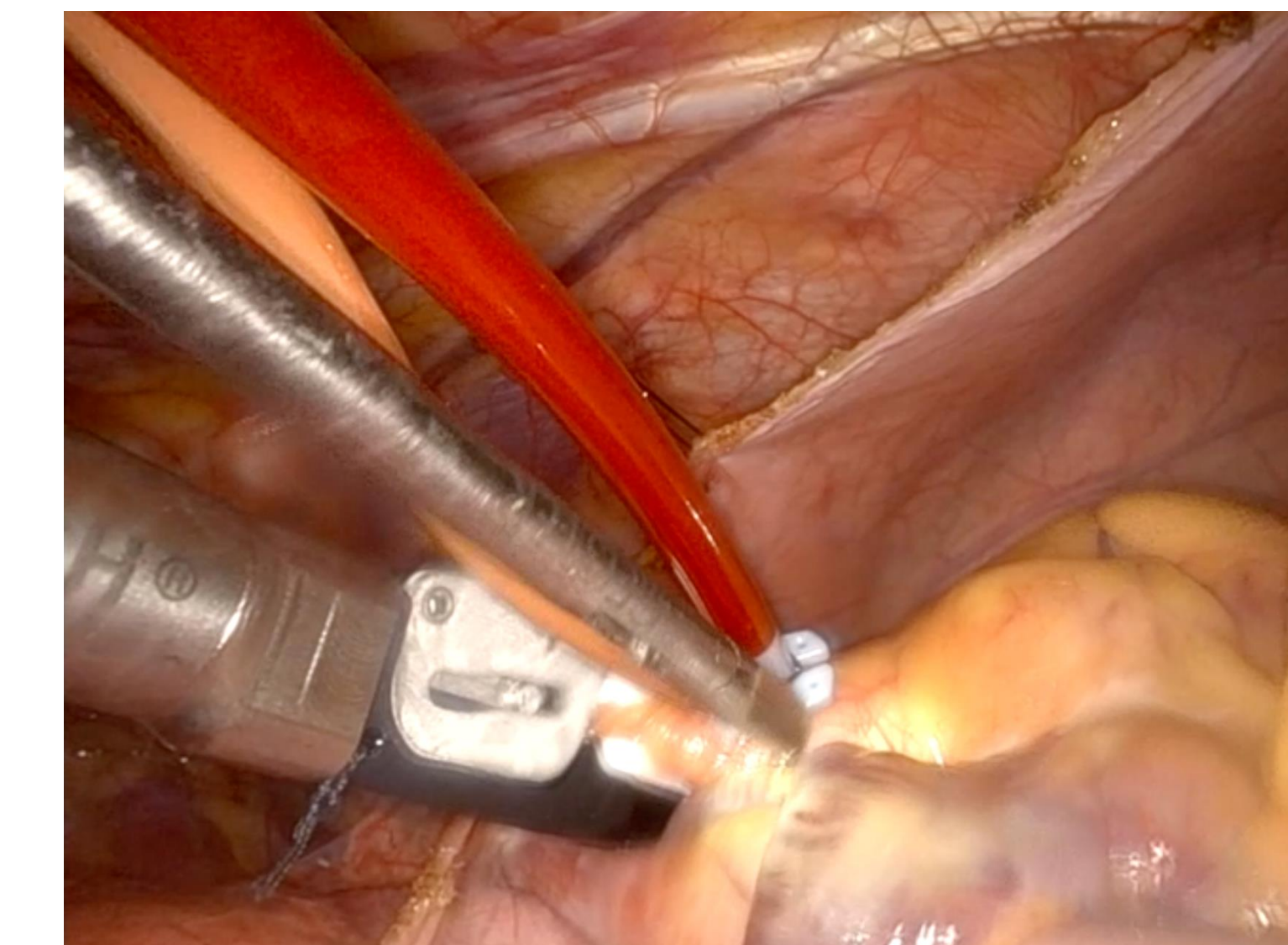
Results



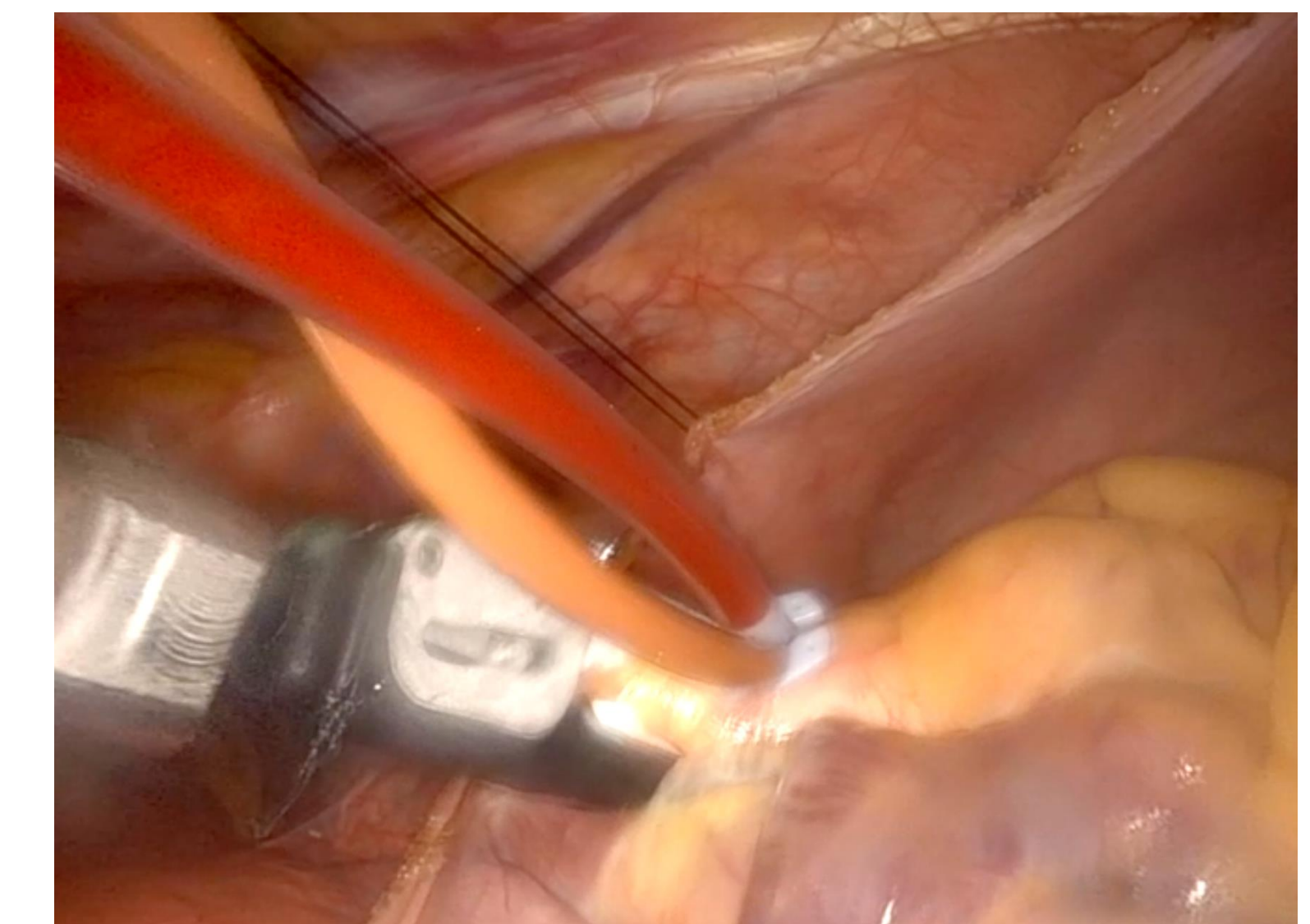
1. Robotic approach with mini-thoracotomy



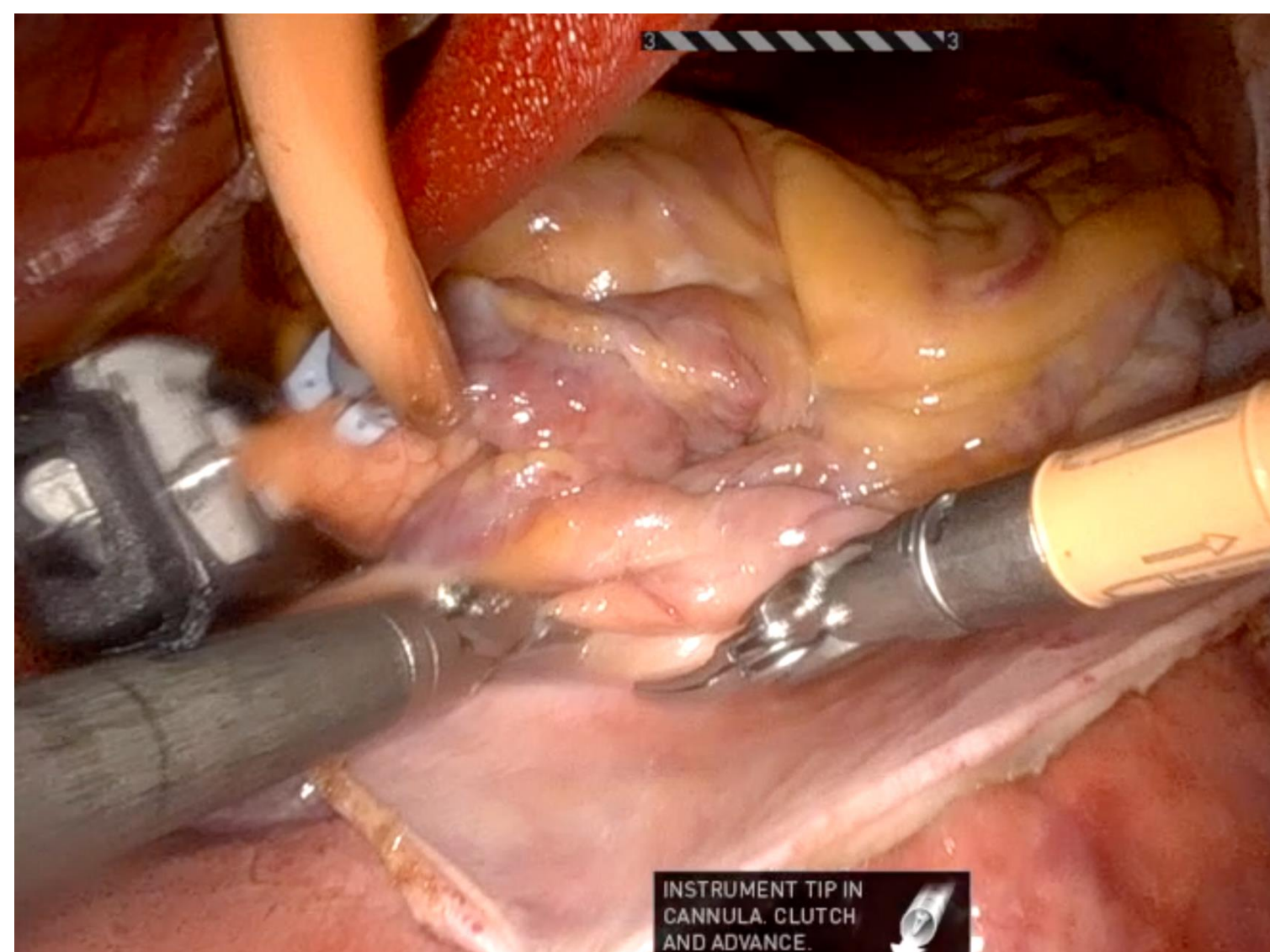
2. Detachable clamp inserted from main incision



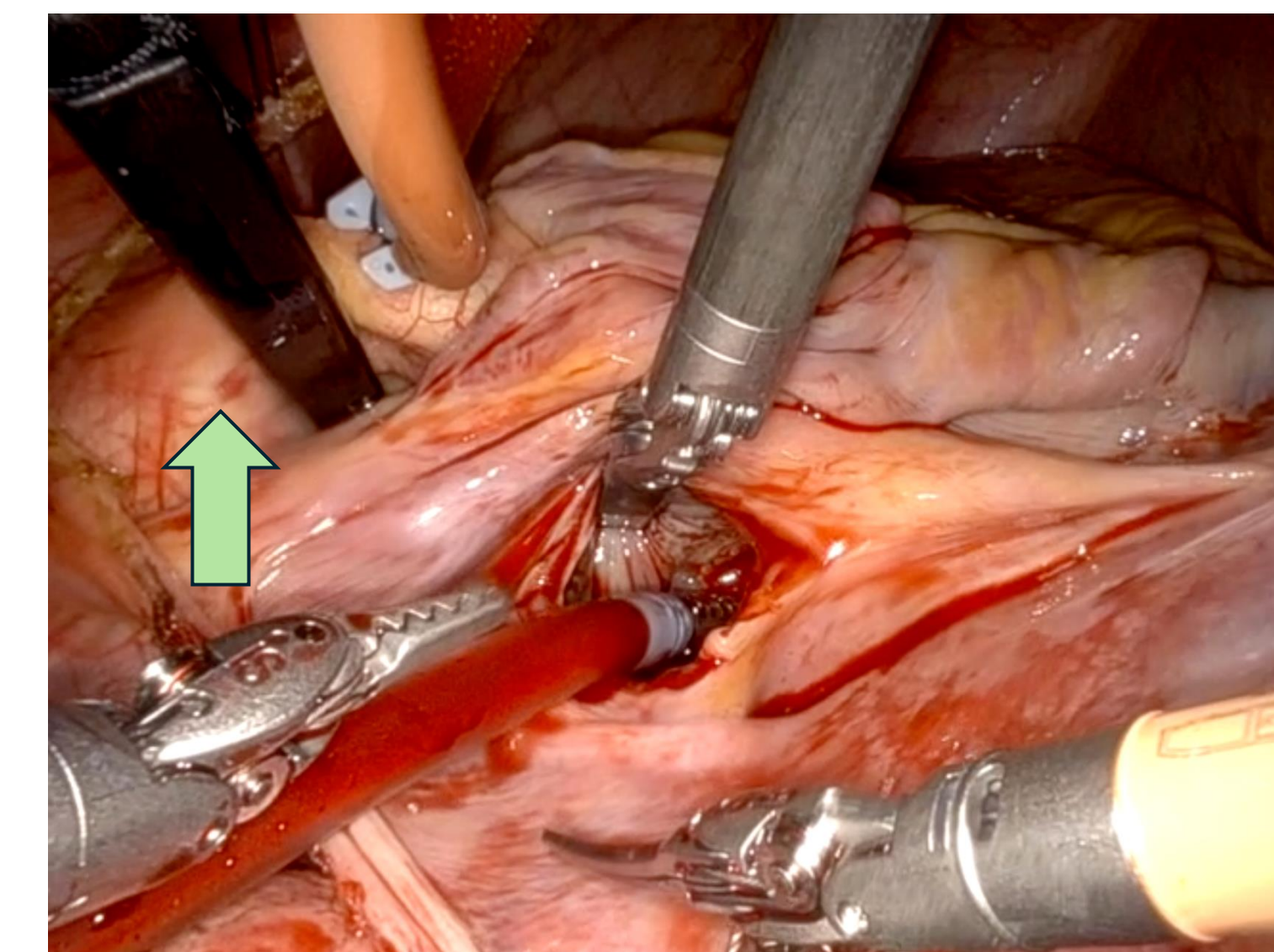
3. Checking tension of aorta by instrument after clamping



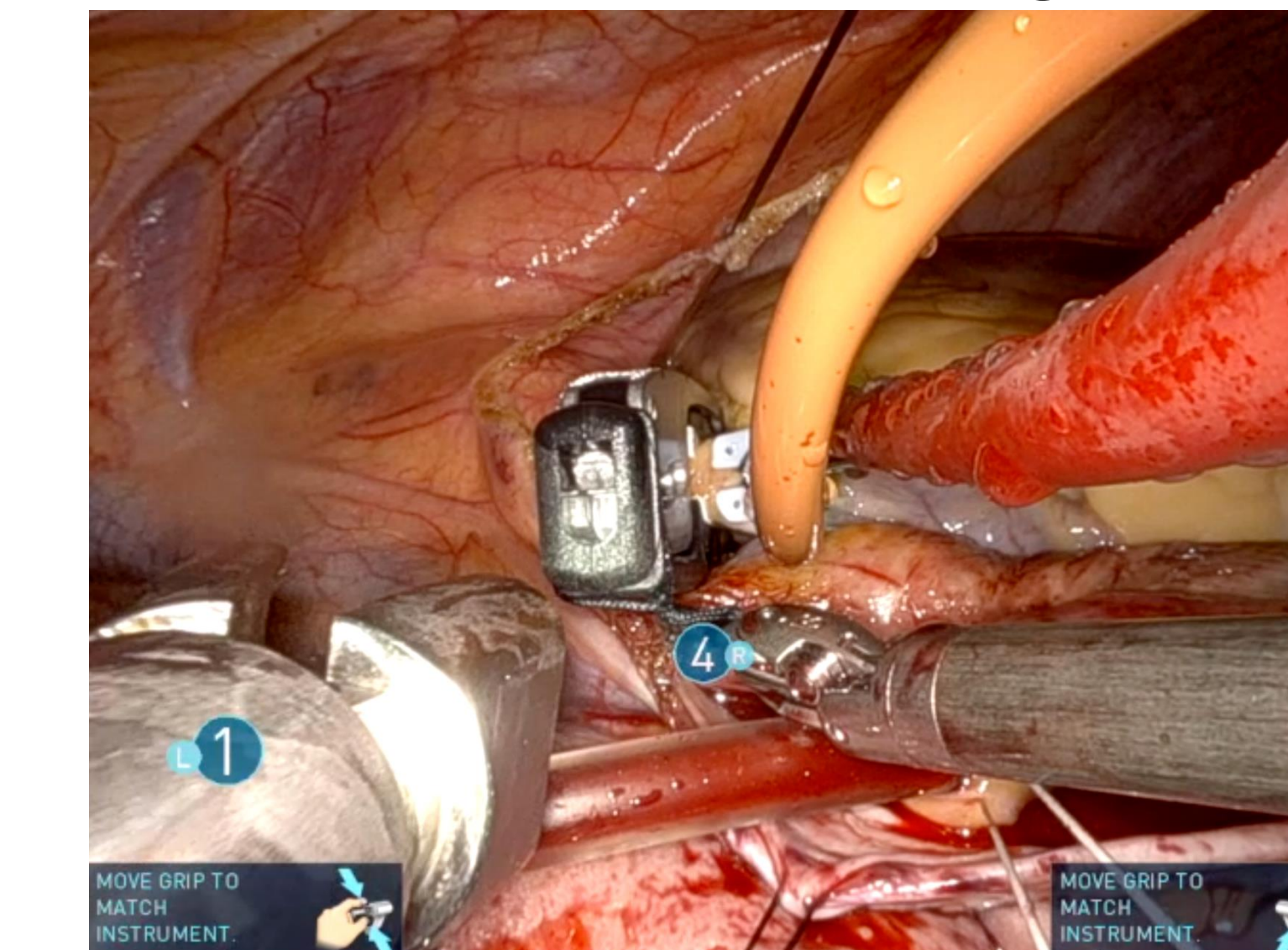
4. Detaching the applier of clamp



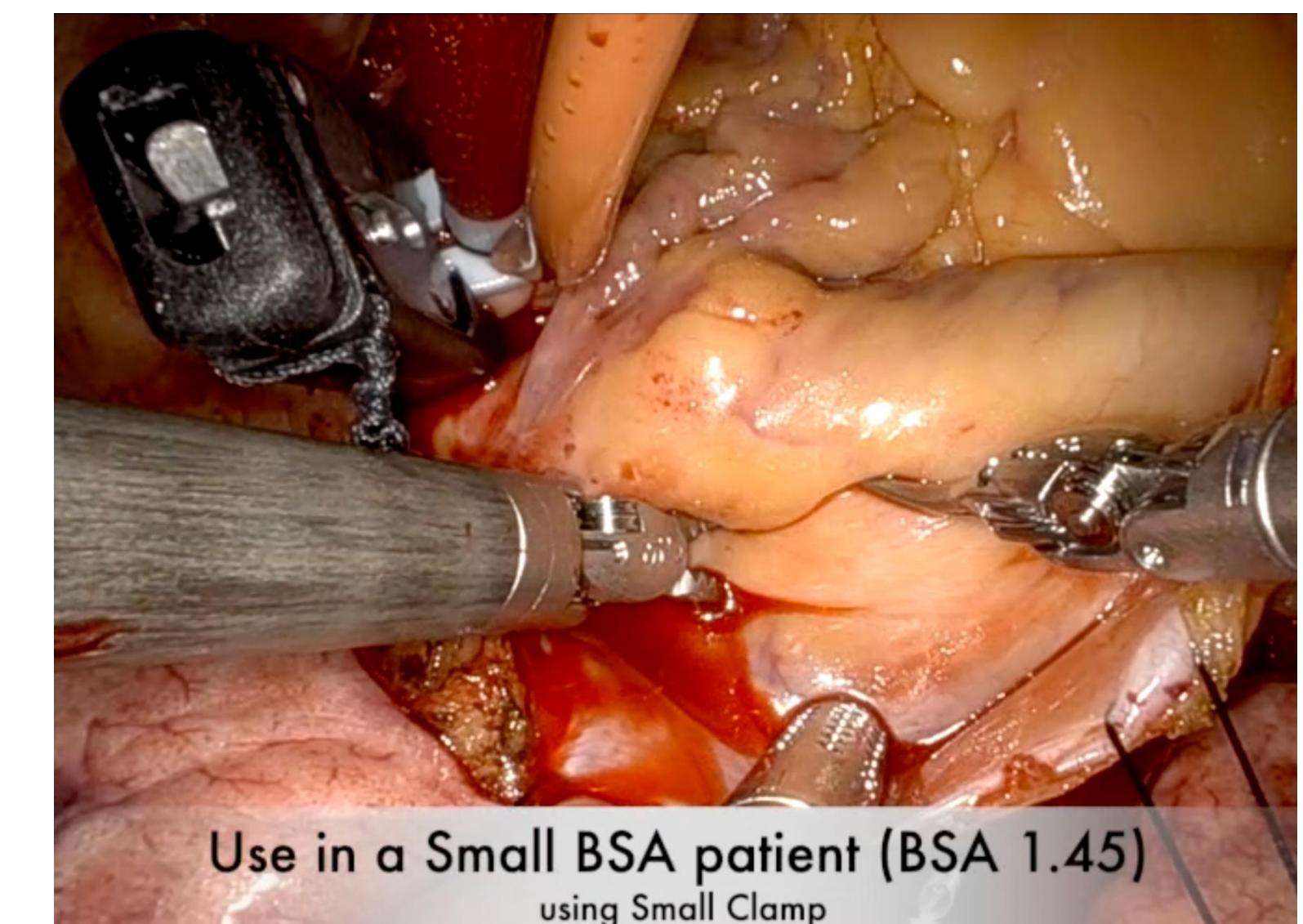
5. Left atriotomy



6. The detachable clamp moves freely as the atrium is retracted



7. Remove detachable clamp collaborating with a console surgeon



8. Use of small size clamp for patients with small BSA

Conclusions

- The detachable aortic clamp provides a reliable and efficient approach for aortic clamping in robotic mitral surgery, enhancing exposure and procedural stability.