A after B : Management of Retrograde Dissection complicating TEVAR

AHMED ELSHARKAWY, MD, MEBCTS

SAID ABDELAZIZ ,MD

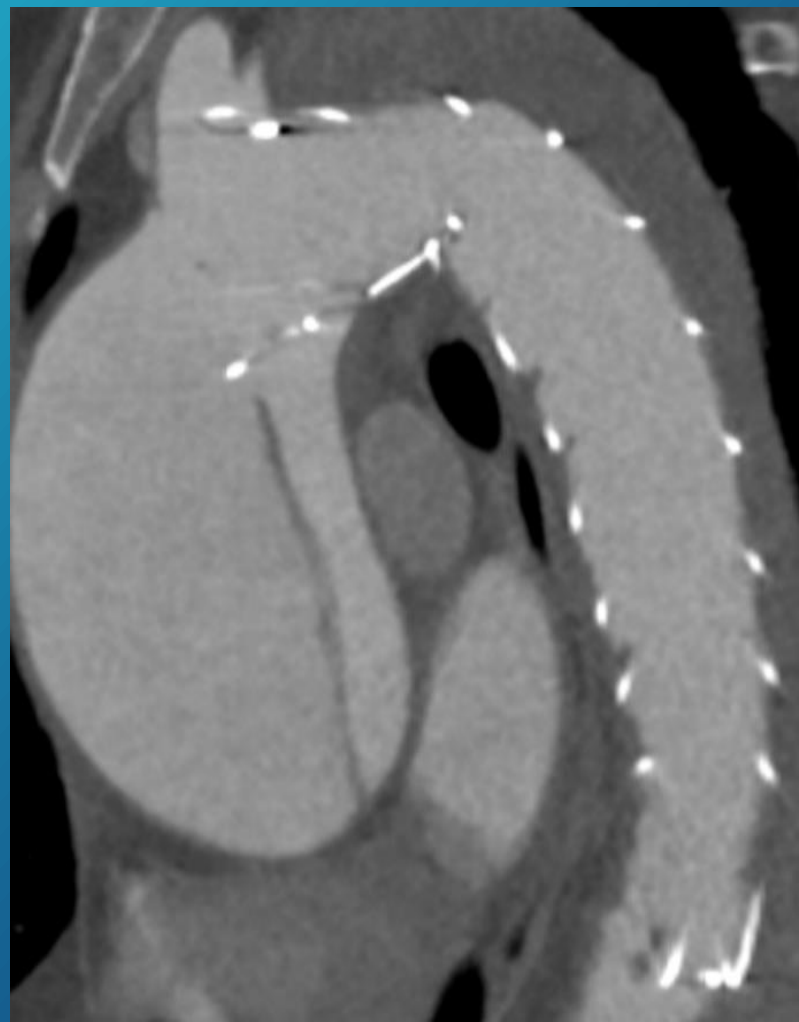
Cardiac surgery Department

Kasr Alaini Hospital

Cairo university

A after B : Management of Retrograde Dissection complicating TEVAR

AHMED ELSHARKAWY, MD, MEBCTS
Cardiac surgery Department
Faculty of medicine, Cairo university

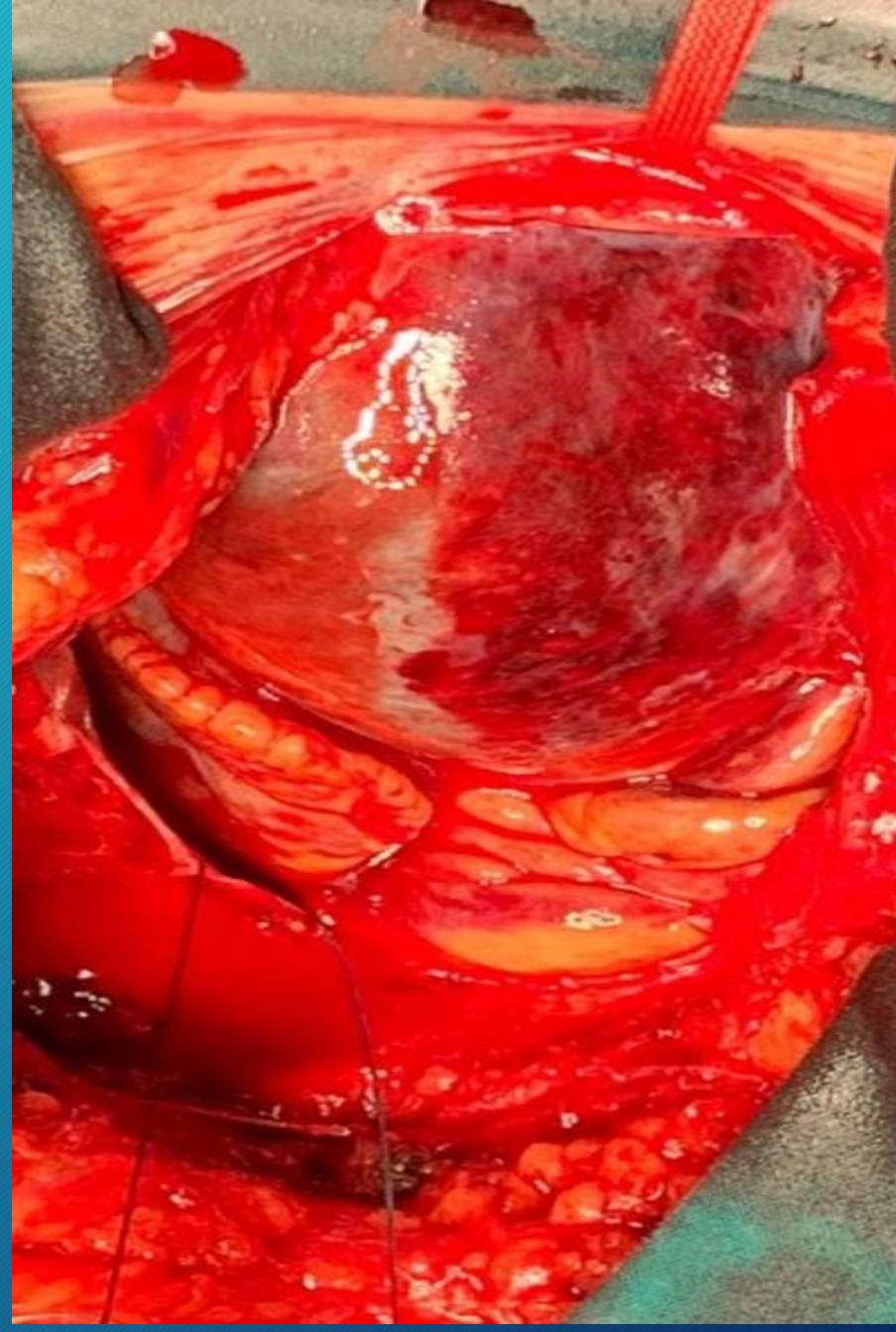


INTRODUCTION:

- There is no doubt about advantages of TEVAR as standard of care in treating different aortic pathologies.

- RAD:Uncommon but Serious problem that may complicate TEVAR,and mostly avoidable by sticking to the IFU.

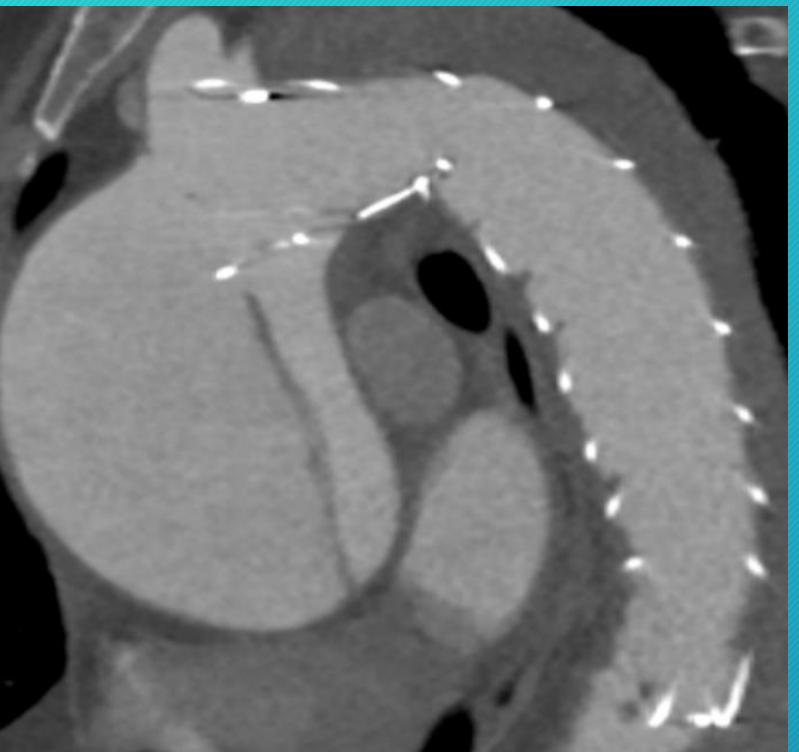
- Timing :May occur shortly after TEVAR deployment or later on in patients with poorly controlled blood pressure as a delayed seaquale.



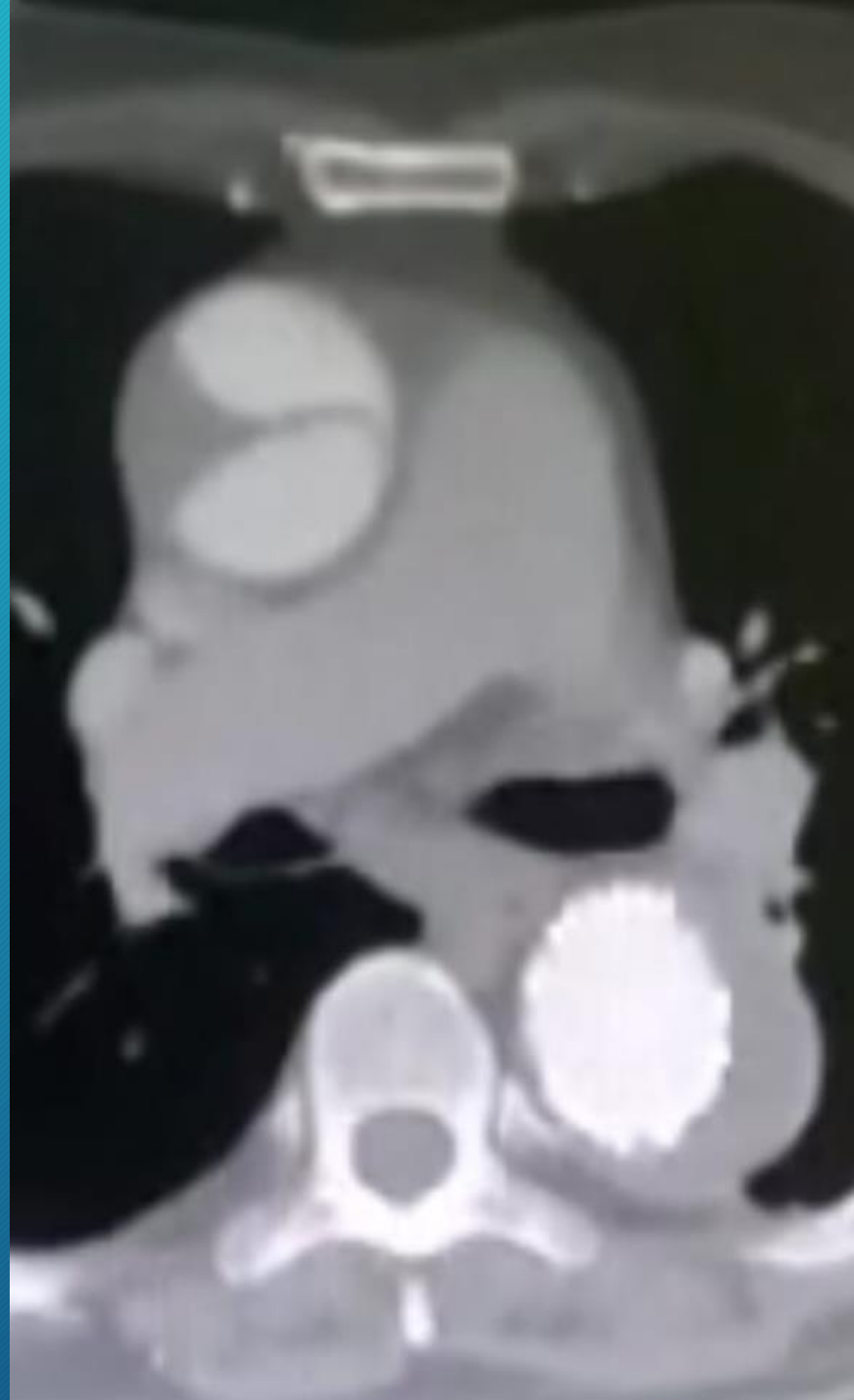
Diagnosis

Clinically: new onset of chest pain or shock with pericardial collection

Radiologically: (echocardiography , MSCT) Flap ascending aorta, new AI, pericardial collection/ Heamopericardiam.



Intimal tear is related to proximal end of stent, mostly on lesser curve of arch ,with flap extent into ascending aorta.



Risk Factors to get RAAD post TEVAR:

1) Type of primary pathology: IMH B at risk > AAD B
2) Timing of TEVAR: unless complicated,waiting for subacute phase of dissection is safer

3) Anatomical factors: PIT location concavity> convexity
(arch branches= normal barriers)
Dilated ascending Aorta >37-40 mm
4)Patient related factors:uncontrolled HTN, Heavy atheromas

5)Technical factors: excessive oversizing and ballooning
excessive arch wiring and manipulations
TEVAR with proximal bare metal springs

Learned lessons

- Do the best to create optimum PLZ in terms of
- length ,angulation and healthy wall to avoid excessive shearing stress on aortic wall by radial force of the stent

- Always remember that TEVAR(radial force of metal frame) was originally designed for aneurysms then usage extended to dissection….so no oversizing, ballooning,or bare metal prox stents(use closed web)

- Don’t compensate for a short neck by excessive oversizing

- Keep low threshold for debranching if large tear in close proximity to arch vessels

Surgical strategy :

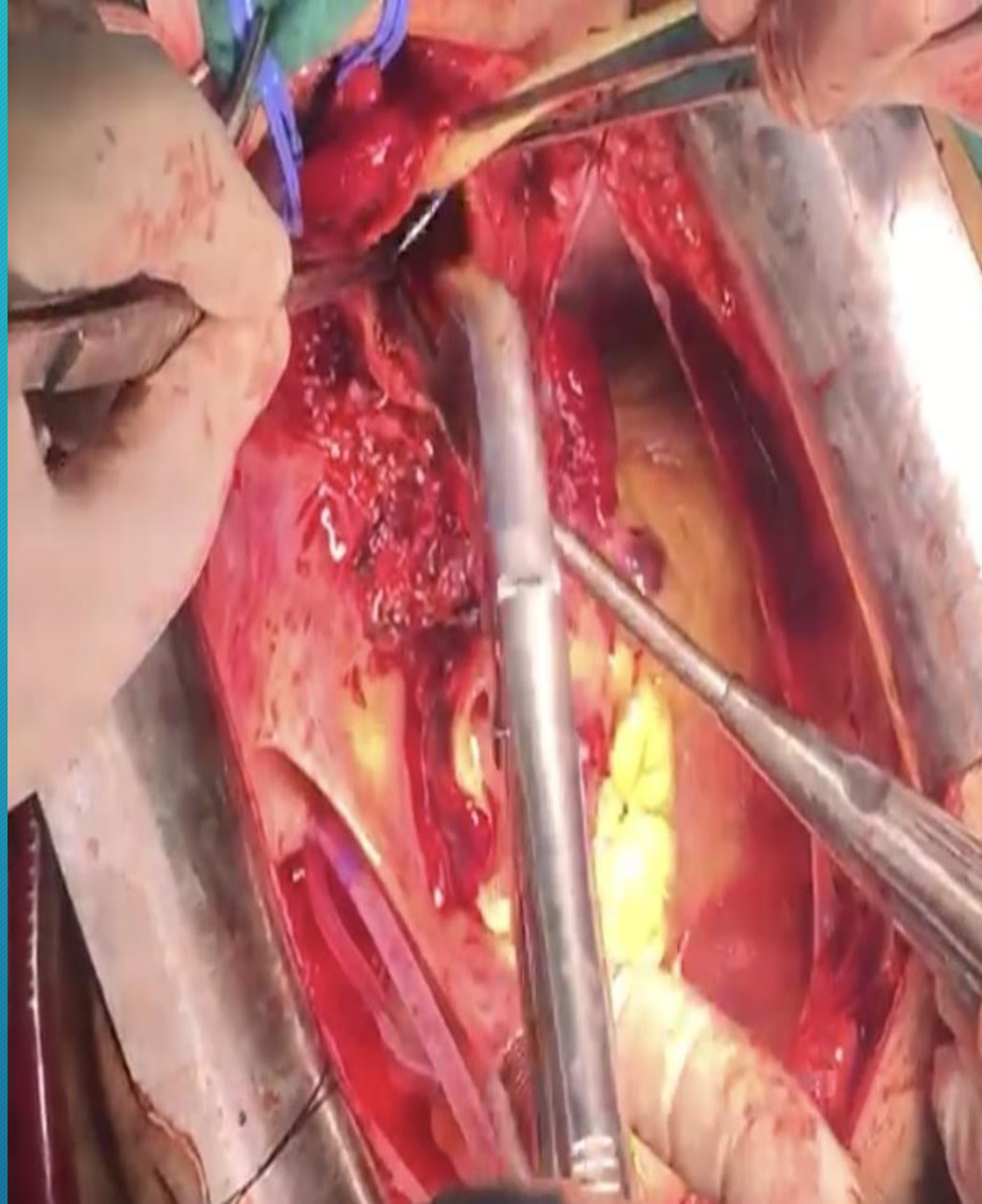
median sternotomy/CPB

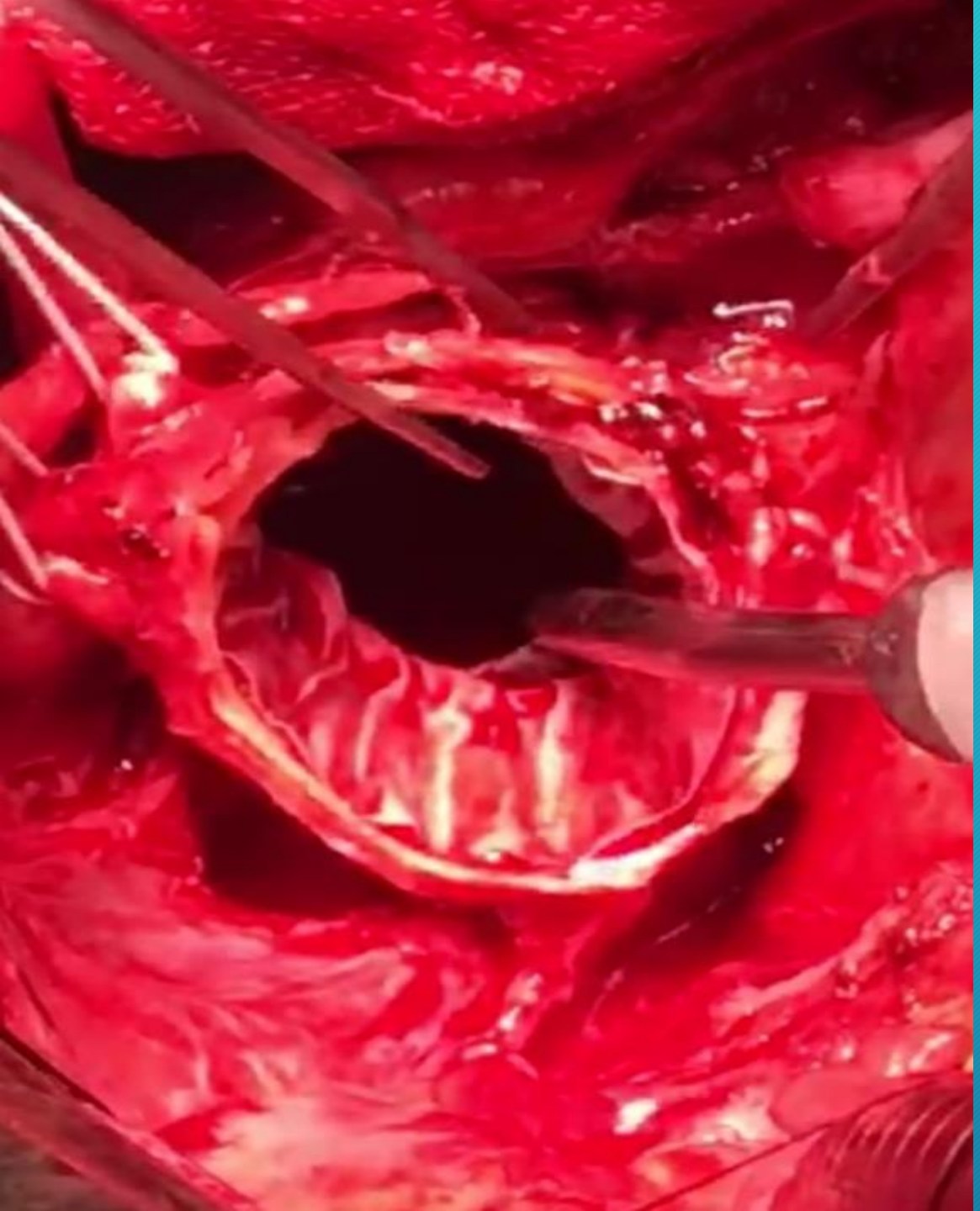
- **Remote arterial cannulation:**

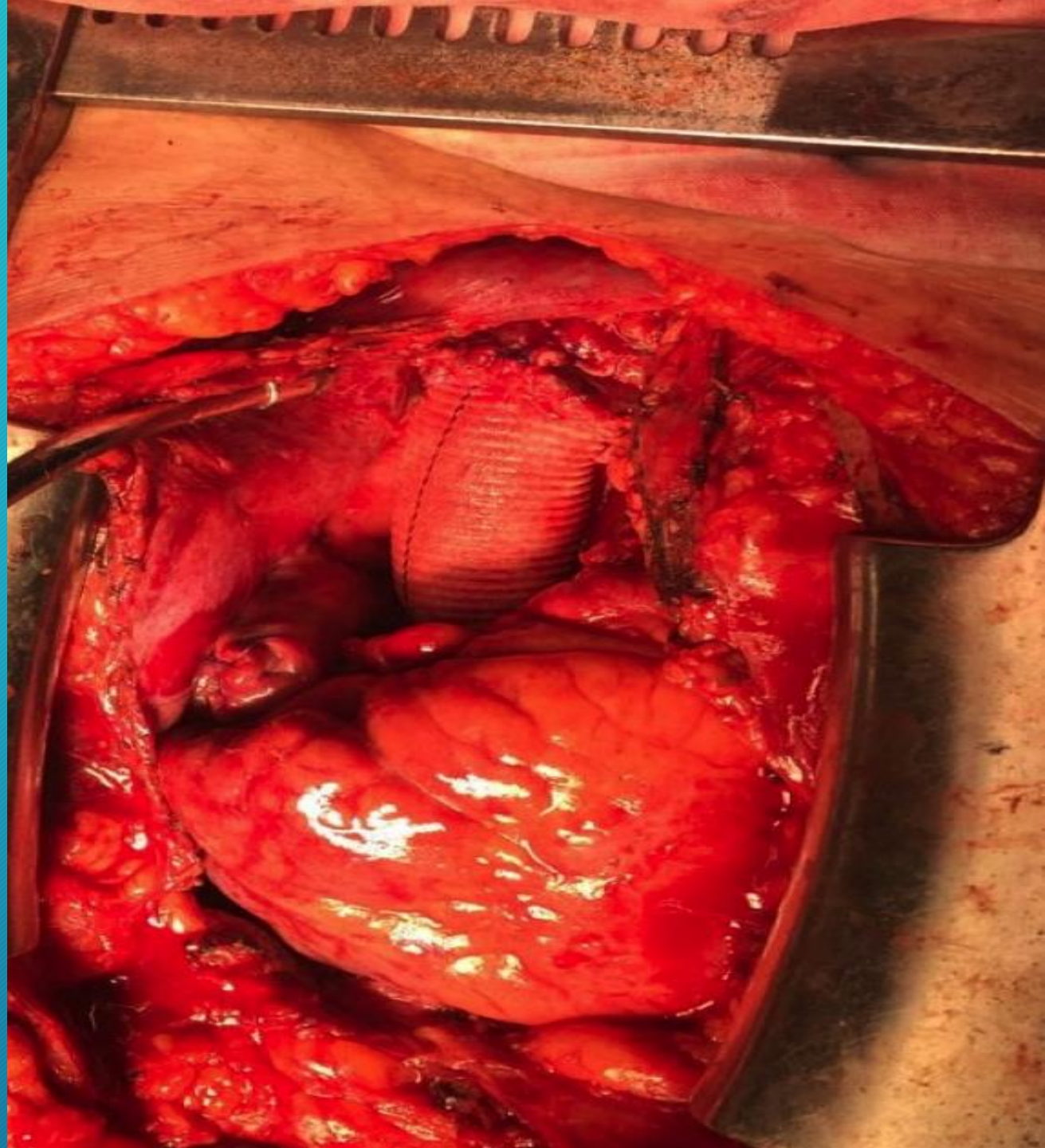
  Axillary and/or Femoral artery.

- Arch repair under hypothermic circulatory arrest
- Vessel loops controlling carotids.
- Complete excision of SINE with HAR (typically at lesser curve of arch)

- **Trimming** proximal struts / springs and protruding metal using cutter
- **Proximal** root repair and replacement of ascending aorta with dacron graft with AV resuspension.







Our patient cohort:

- Between 1/2011 to 1/2021
- 100 patients underwent TEVAR (DAAA/CH AD B/ COMP AAD B)
- 8 developed RAD (time interval 2 weeks to 6 months)

- 1 mortality due to massive Hematemesis (on day 2 post op)

- 1 significant paraparesis that resolved with spinal drain (csf drainage) and physiotherapy…..so dual arterial cannulation and balloon occlusion of TEVAR during arch distal reconstruction Considered in subsequent patients.

CONCLUSION

- ✓ RAAD Post TEVAR is uncommon but serious complication
- ✓ High index of suspicion is needed to detect it early
- ✓ Follow up MSCT post TEVAR allows early detection
- ✓ Don’t rush for TEVAR in uncomplicated AAD B and IMH B
- ✓ Don’t compromise a short PLZ by excessive oversizing