



Aortic Live  
October 17,18 - 2016  
Essen, Germany



# Open surgery after failed endo repair for TAAA

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# Conflict of interest

- Dr Chiesa is the Co/PI for several thoracic and abdominal aortic stent graft trials (*Cook, Inc, Cordis® Corporation, Bolton Medical*)
- Dr Chiesa participated as a lecturer at symposia hosted by *Cook, Inc., Bolton, W.L. Gore and Associates, and Medtronic, Inc.*
- Dr Chiesa has received educational grants from *Cook, Inc.*





# Are we ready ?



BMW i8 – Electric car

## ... to jump into the the future?





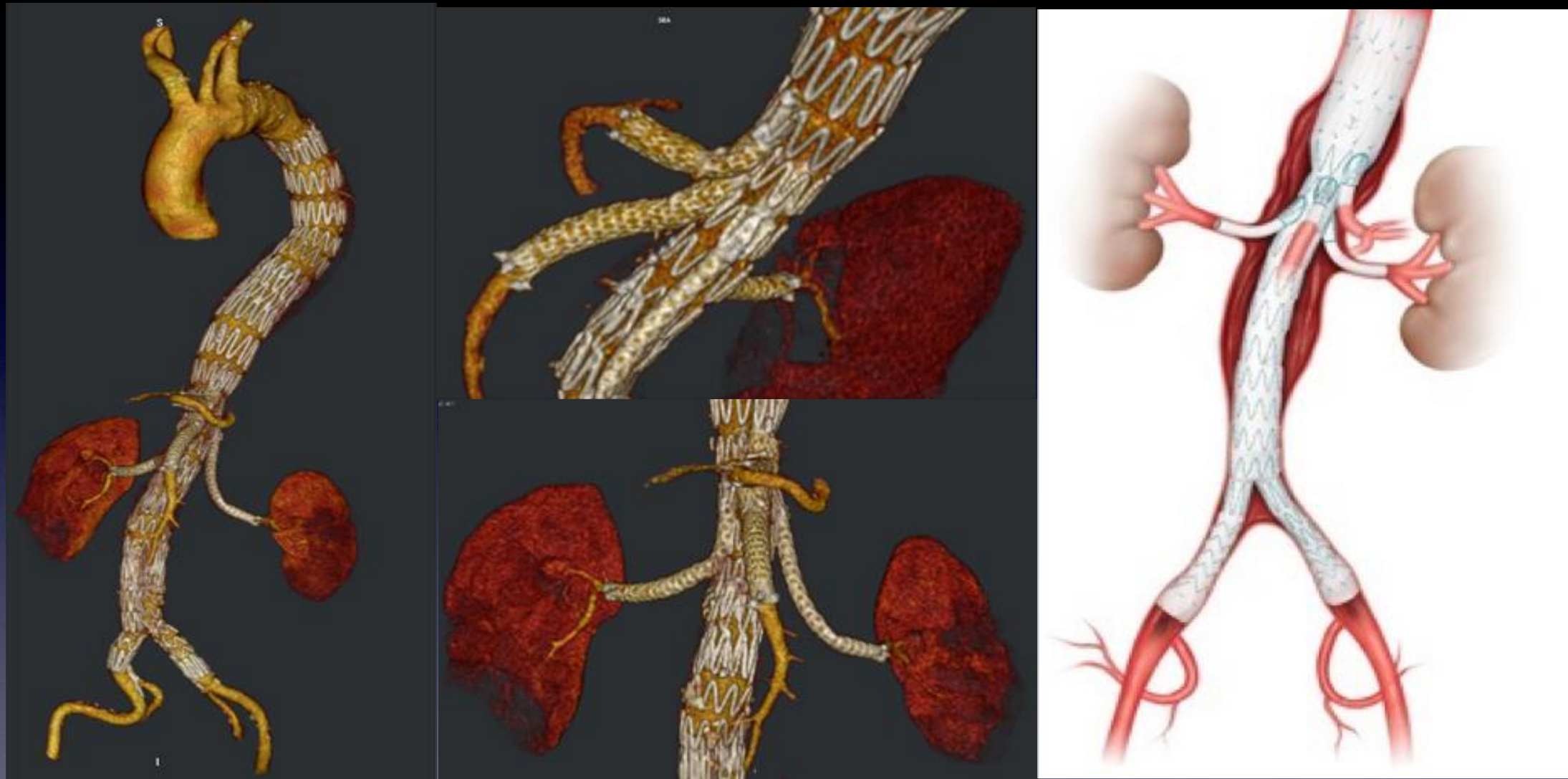


Porsche Carrera 911

... and abandon the classic?



# Fenestrated & Branched EVAR Guidelines



Endovascular approach for TAAA is an option in patients **unfit for open surgery**, in experienced centers

# Endovascular TAAA repair

## Critical Issues

1. Wrong patient selection
2. Branch instability  
(occlusion, migration)
3. Progression of disease



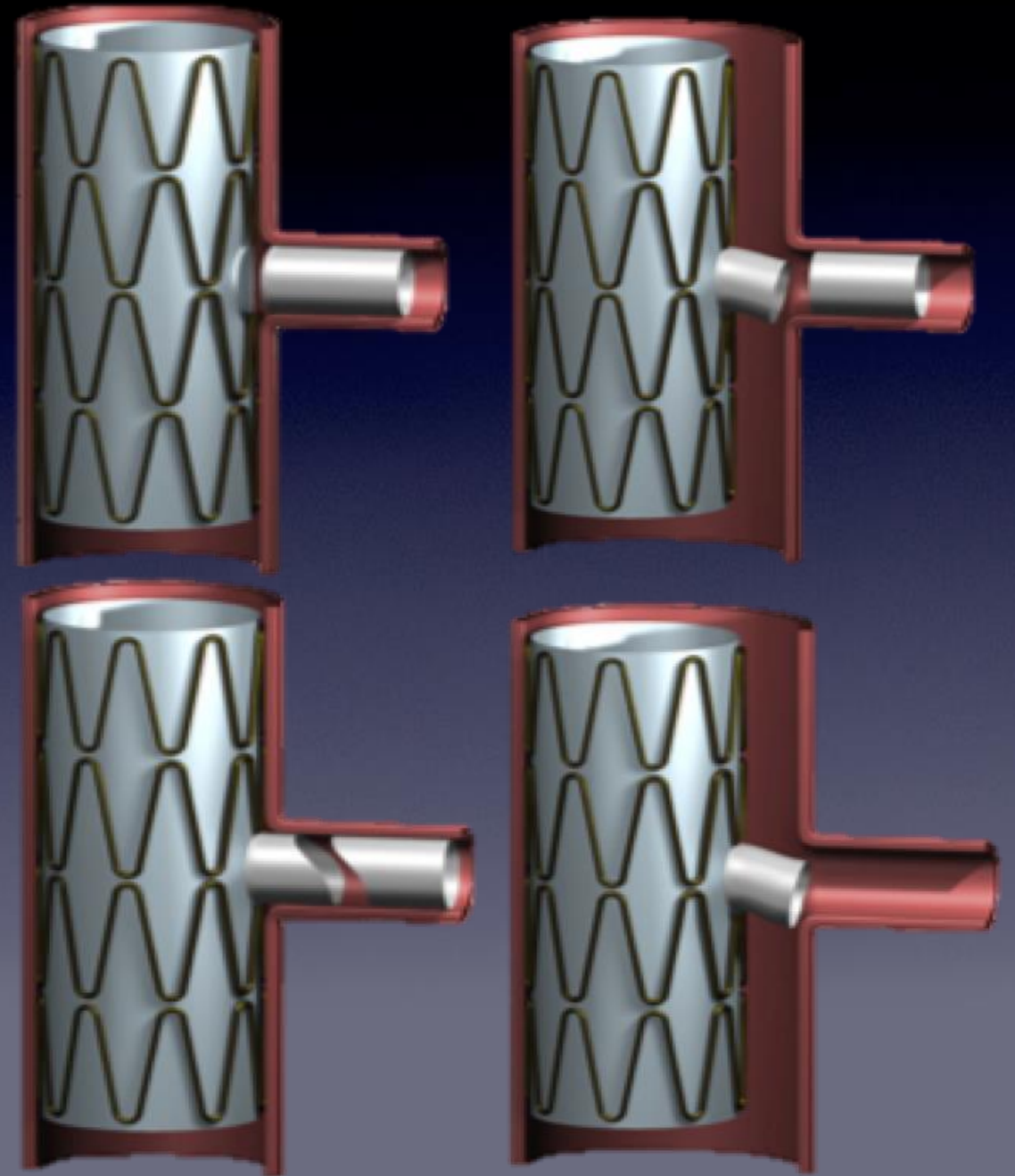
# Endovascular TAAA repair

## Critical Issues

1. Wrong patient selection

2. Branch instability  
(occlusion, migration)

3. Progression of disease



Mastracci T. et al. Vasc Surg 2013



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# Endovascular TAAA repair

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**OPEN  
CONVERSION**





TAAA Open conversion

This image shows an intraoperative view of a TAAA open conversion. The surgical field is exposed, showing the aorta and surrounding tissues. A large, white, cylindrical object, likely a graft or a retractor, is visible on the right side of the frame. The text "TAAA Open conversion" is overlaid in white.



Failure of a F/B-EVAR

This image shows an intraoperative view of a failed F/B-EVAR. The surgical field is exposed, showing the aorta and surrounding tissues. The text "Failure of a F/B-EVAR" is overlaid in white.



# San Raffaele, Milan

## TAAA Open conversion after primary Endo Repair

N = 37



Type I

5



Type II

12



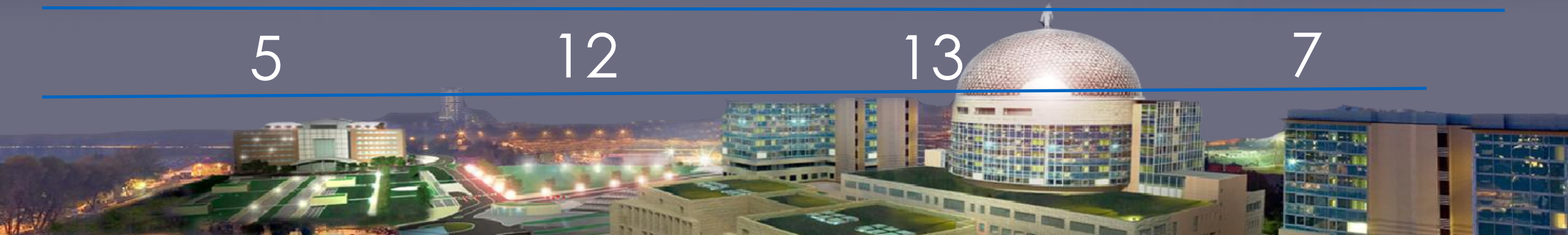
Type III

13



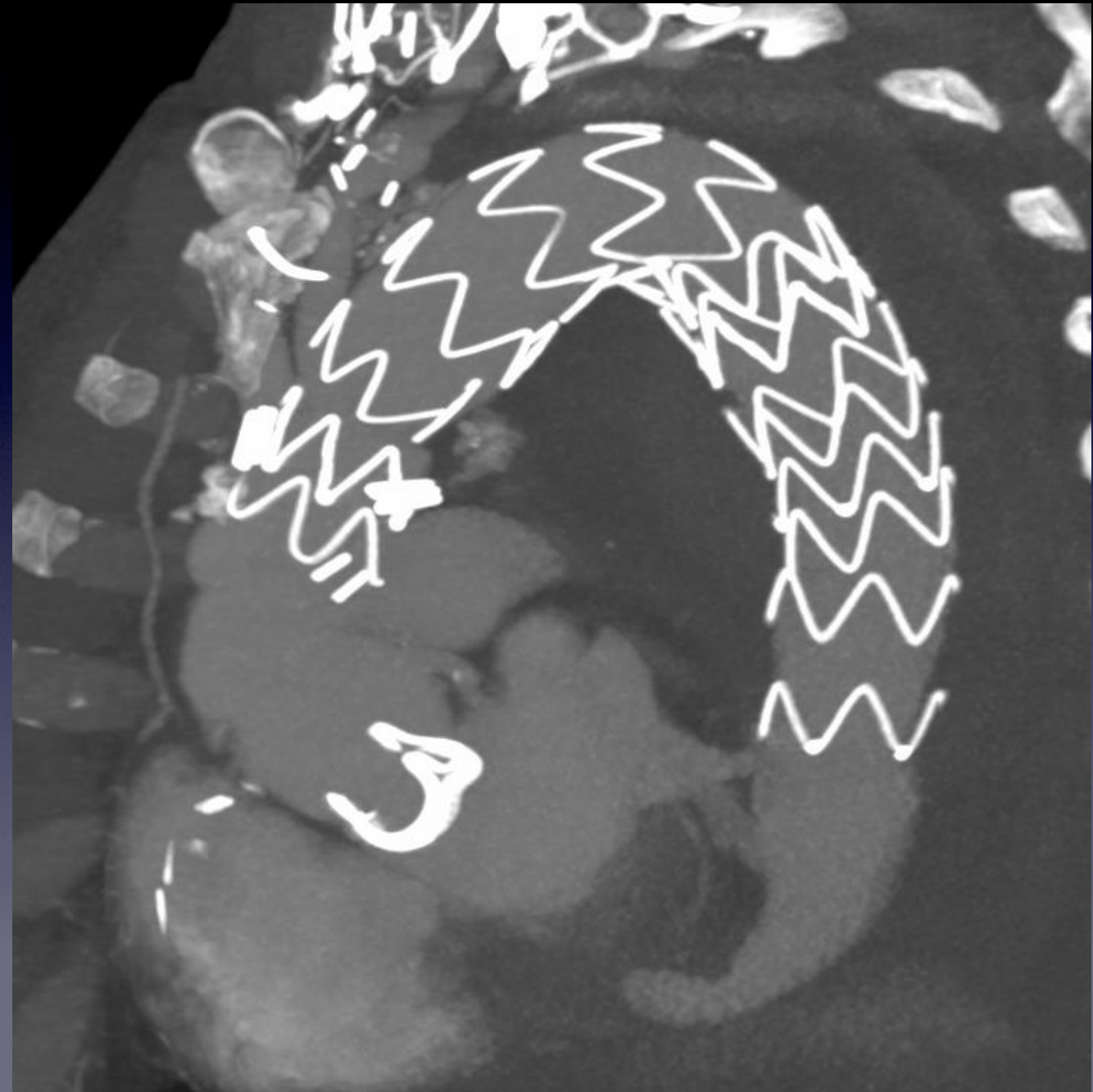
Type IV

7



# Case #1

- ♂, 59 yrs
- 2015: Type A aortic dissection
  - Ascending aortic repair + emiarch + SAT rerouting + valve repair
- 2016: TEVAR for residual TBD

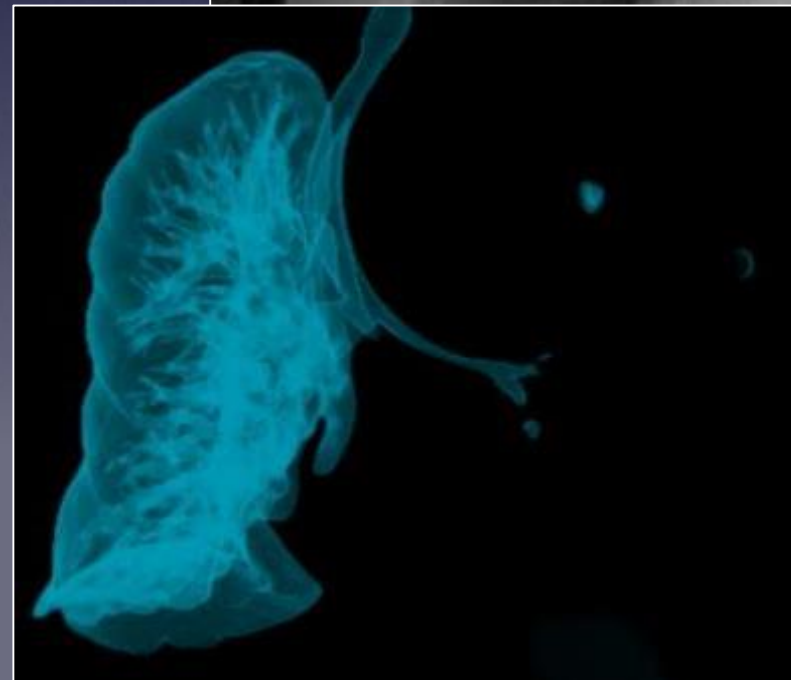
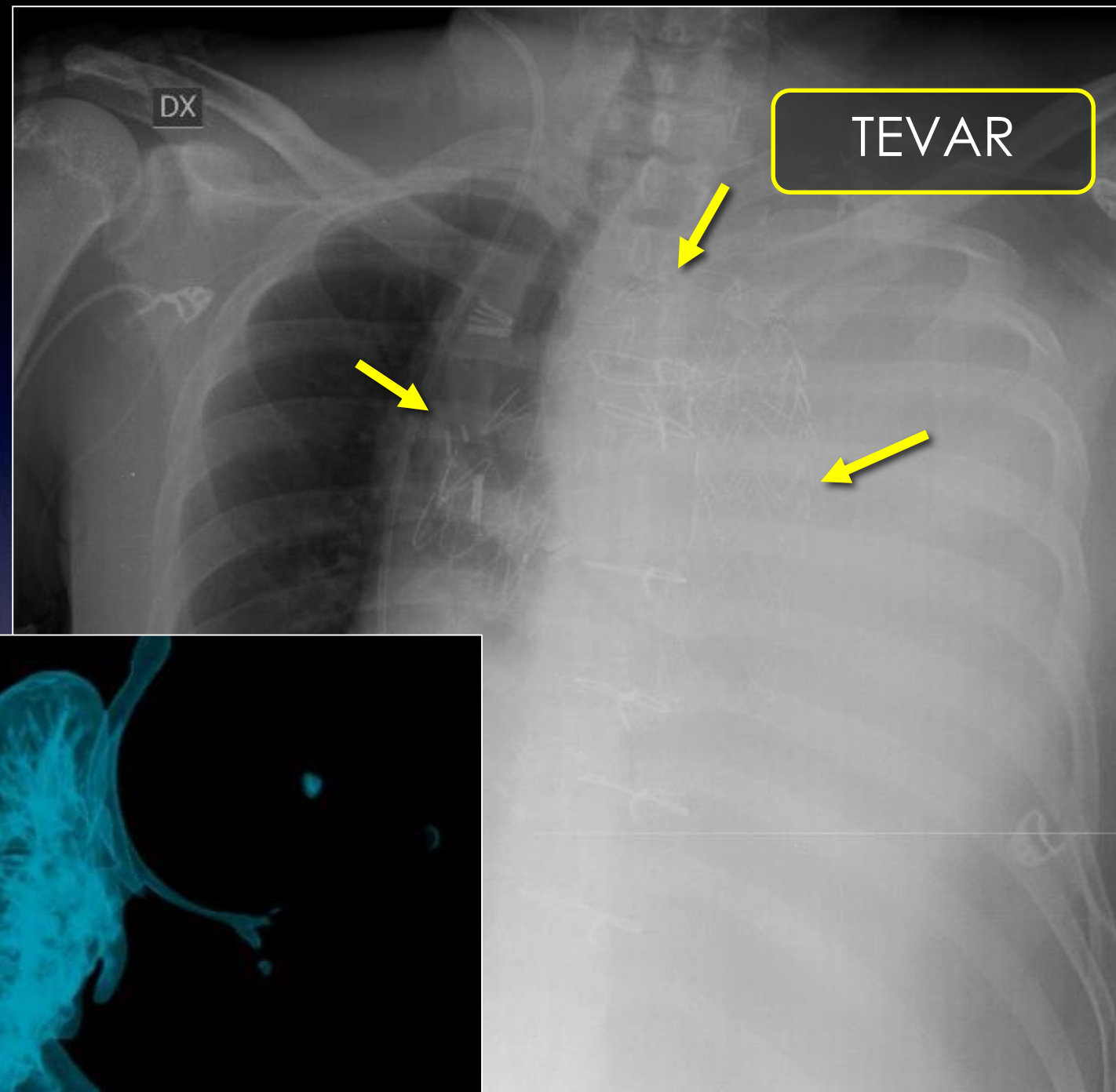




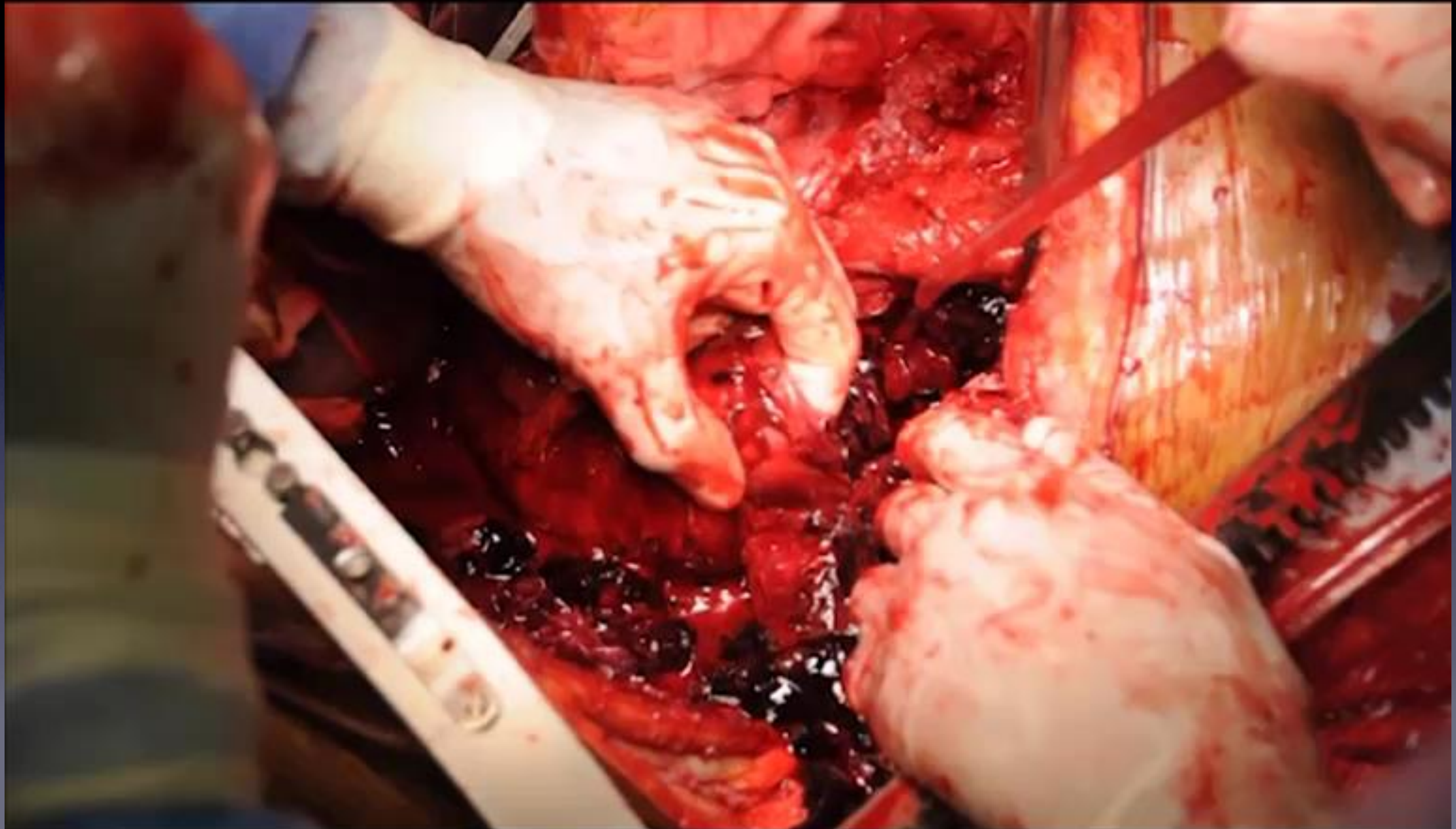
# 2016 ... 3 months later

- Stent Induced New Entry with 13 cm Ø TAAA reperfusion

- Lung compression

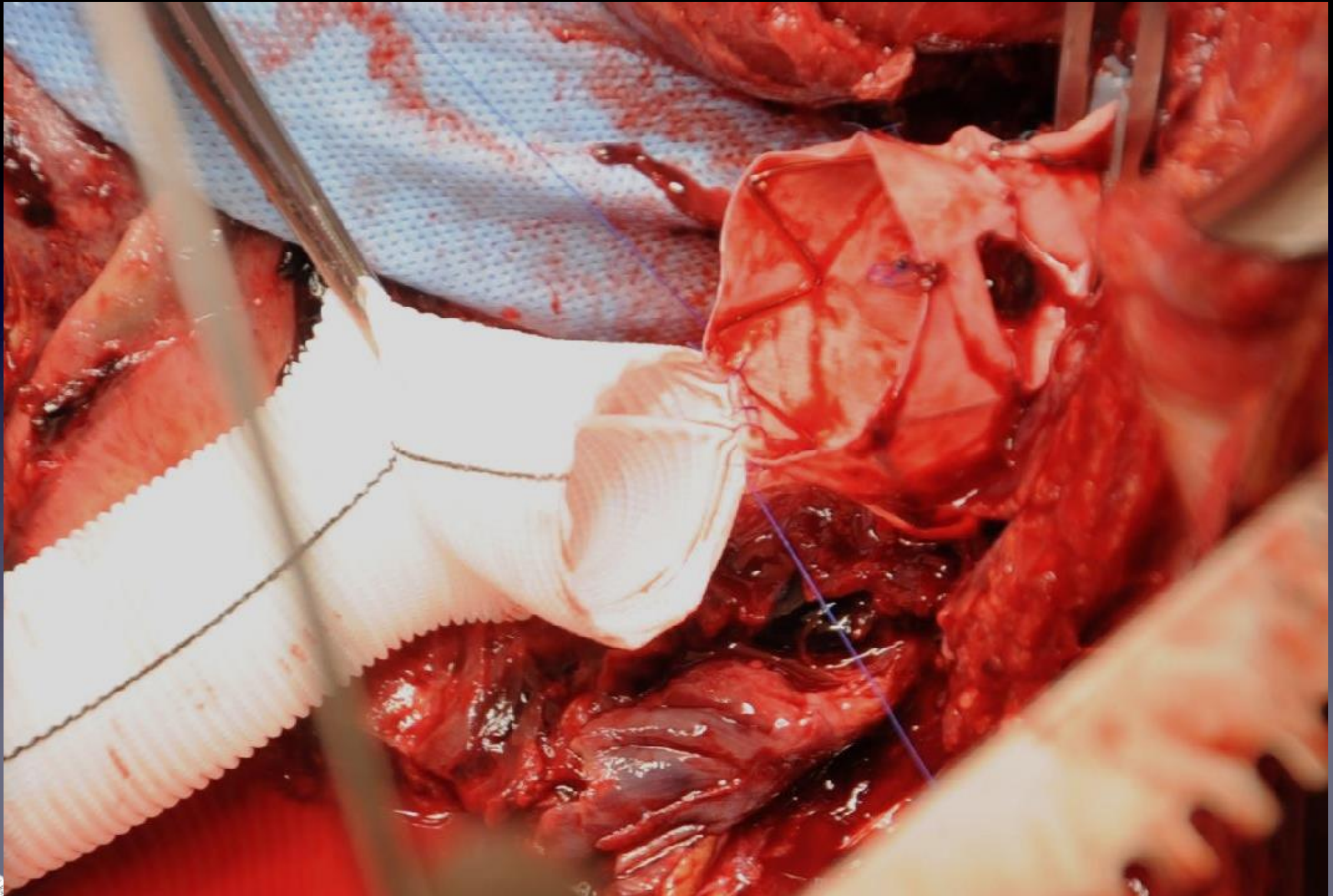


# TAAA open repair



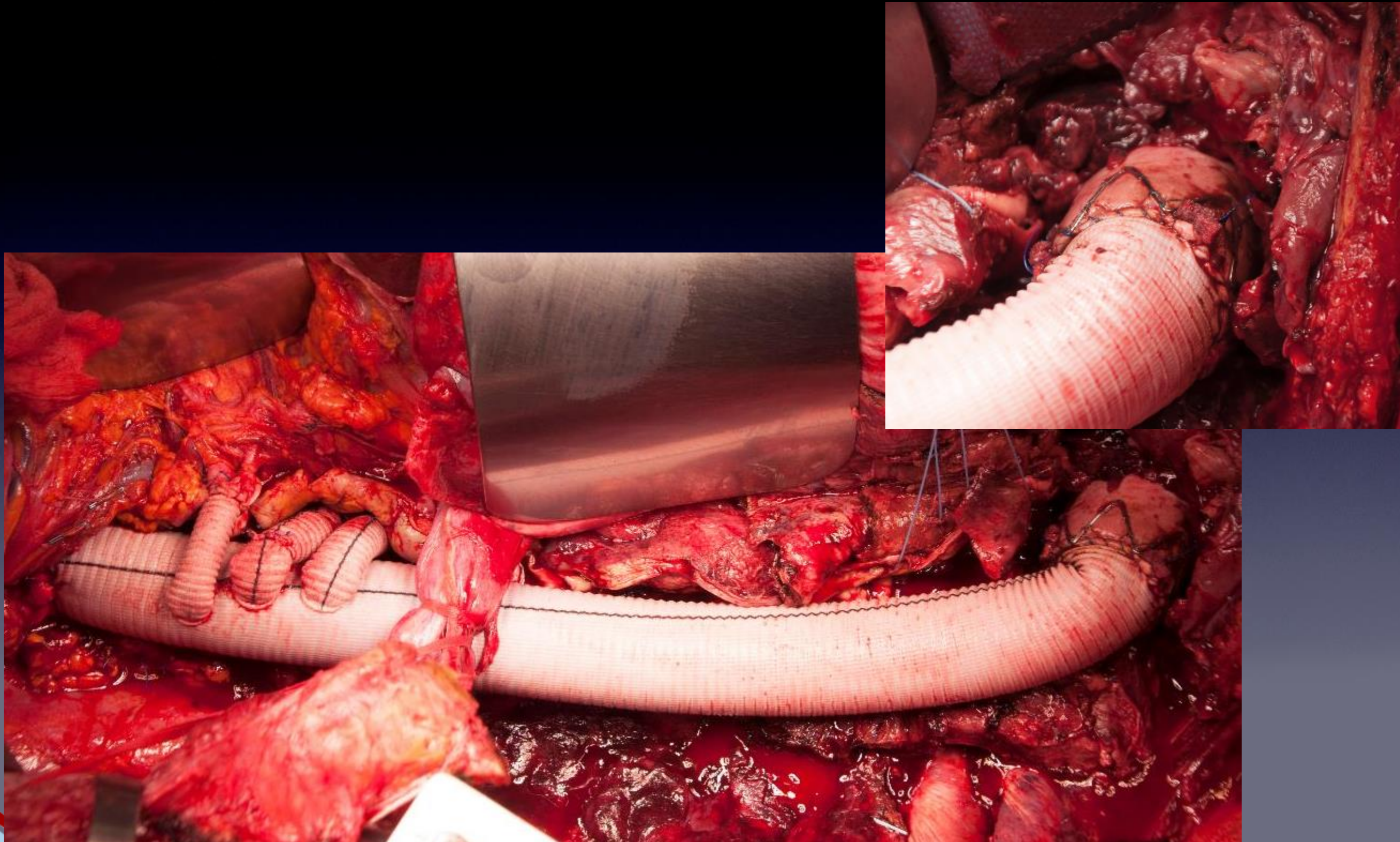


# Graft-to-stent graft anastomosis





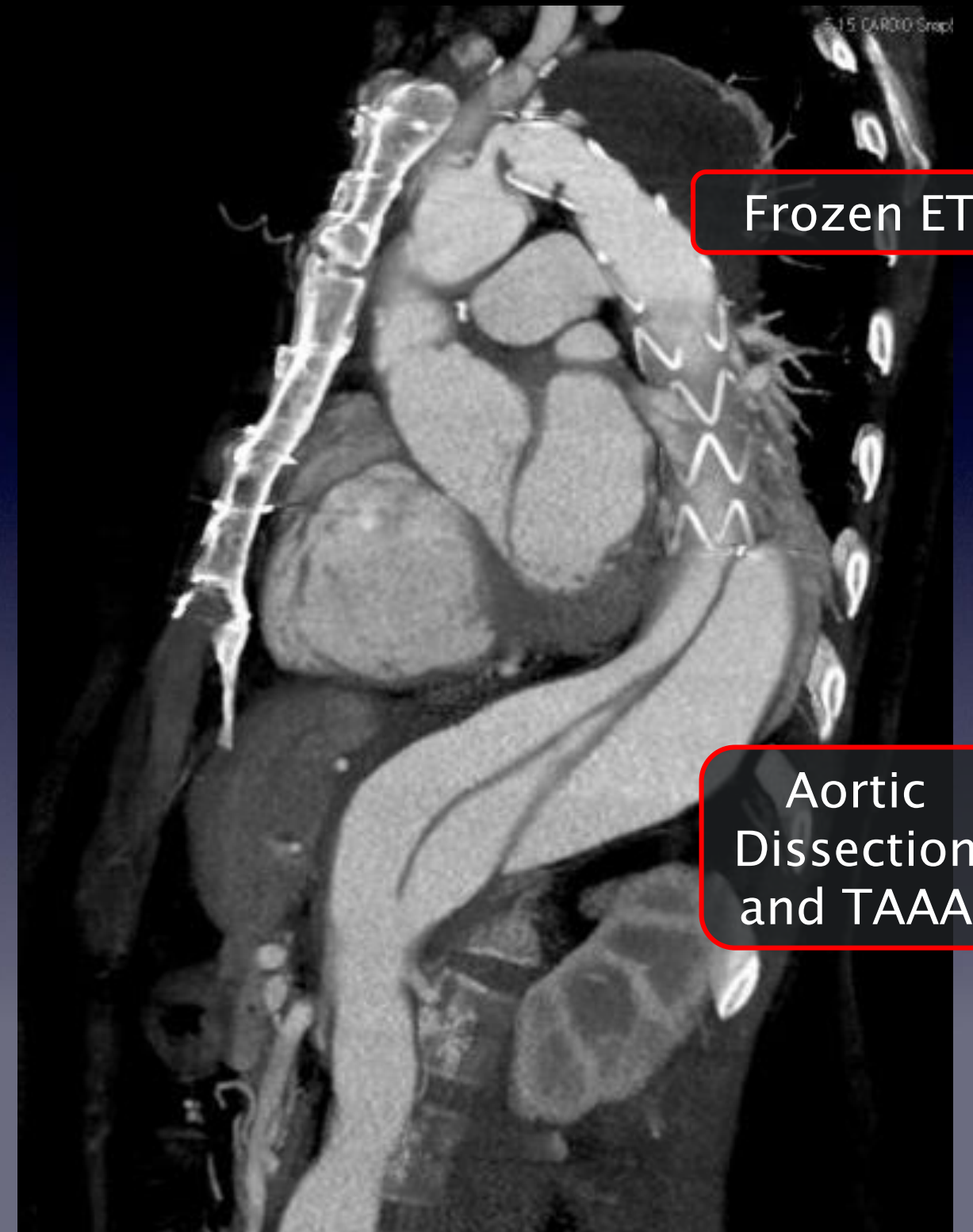
# Final results



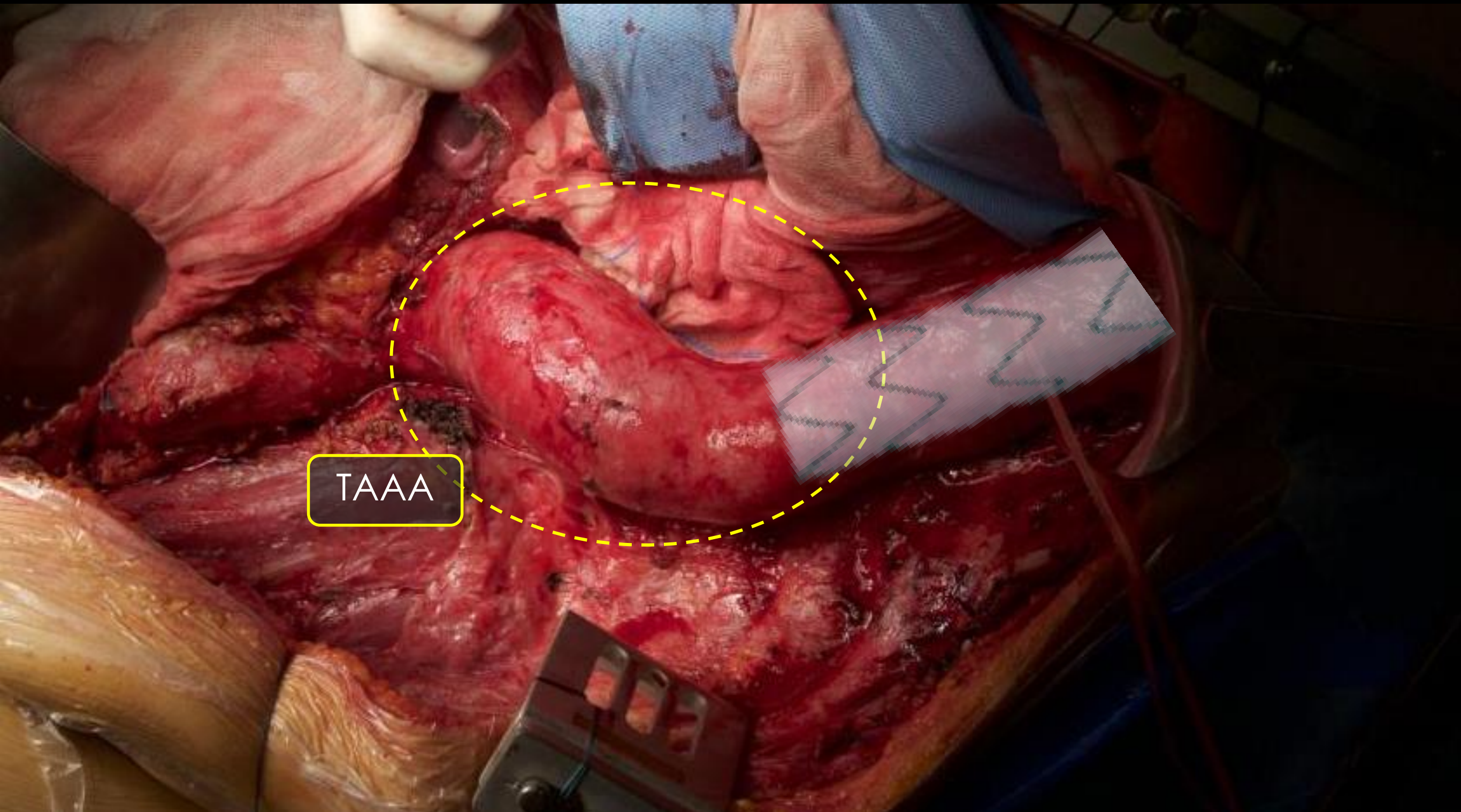


# Case #2

- ♀, 42 years
- Marfan Syndrome
- 2010: Type A aortic dissection → aortic repair
- 2013: Frozen ET for aortic arch aneurysm
- 2016: progression of TAAA (> 6 cm)

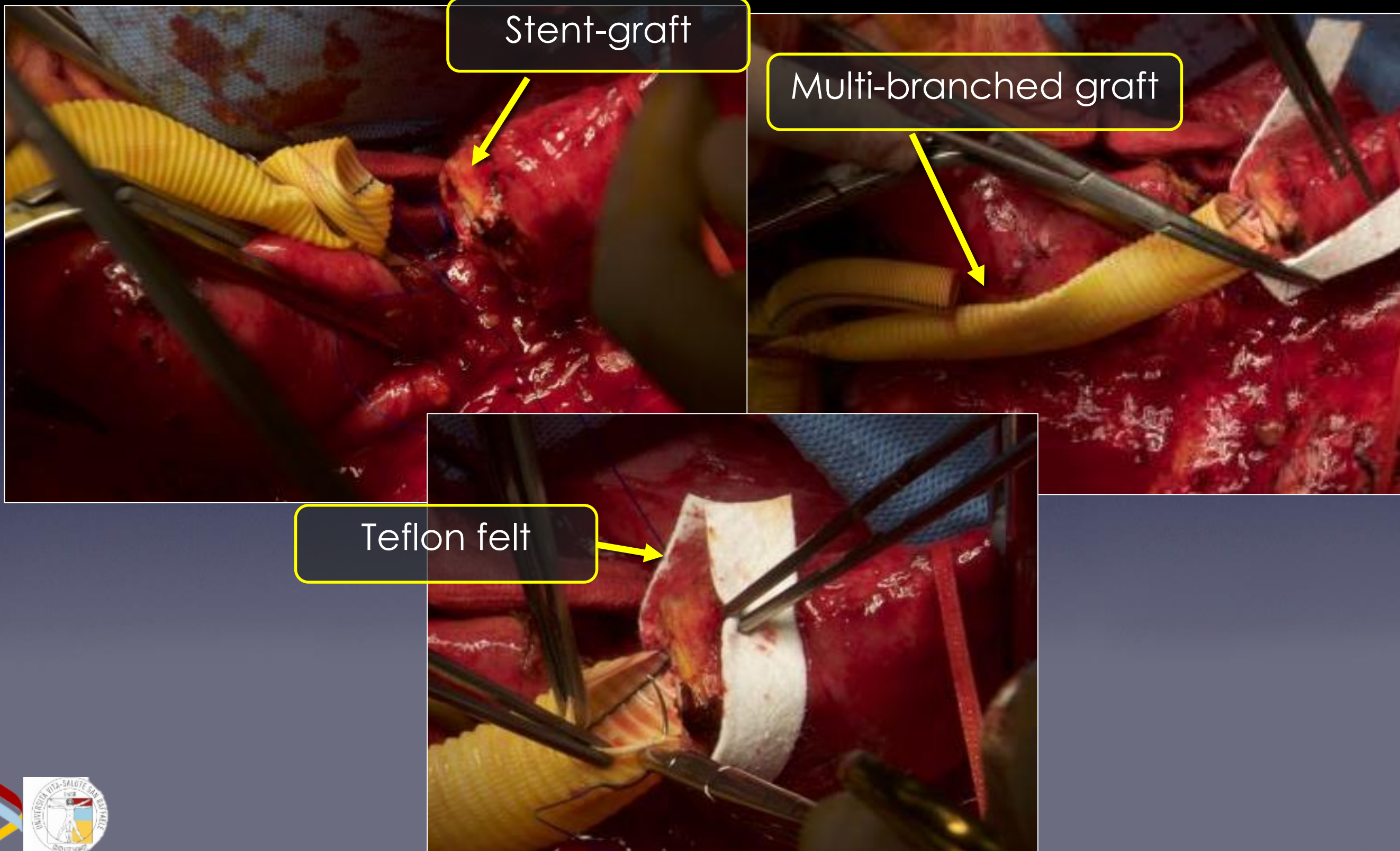


# Distal TAAA progression



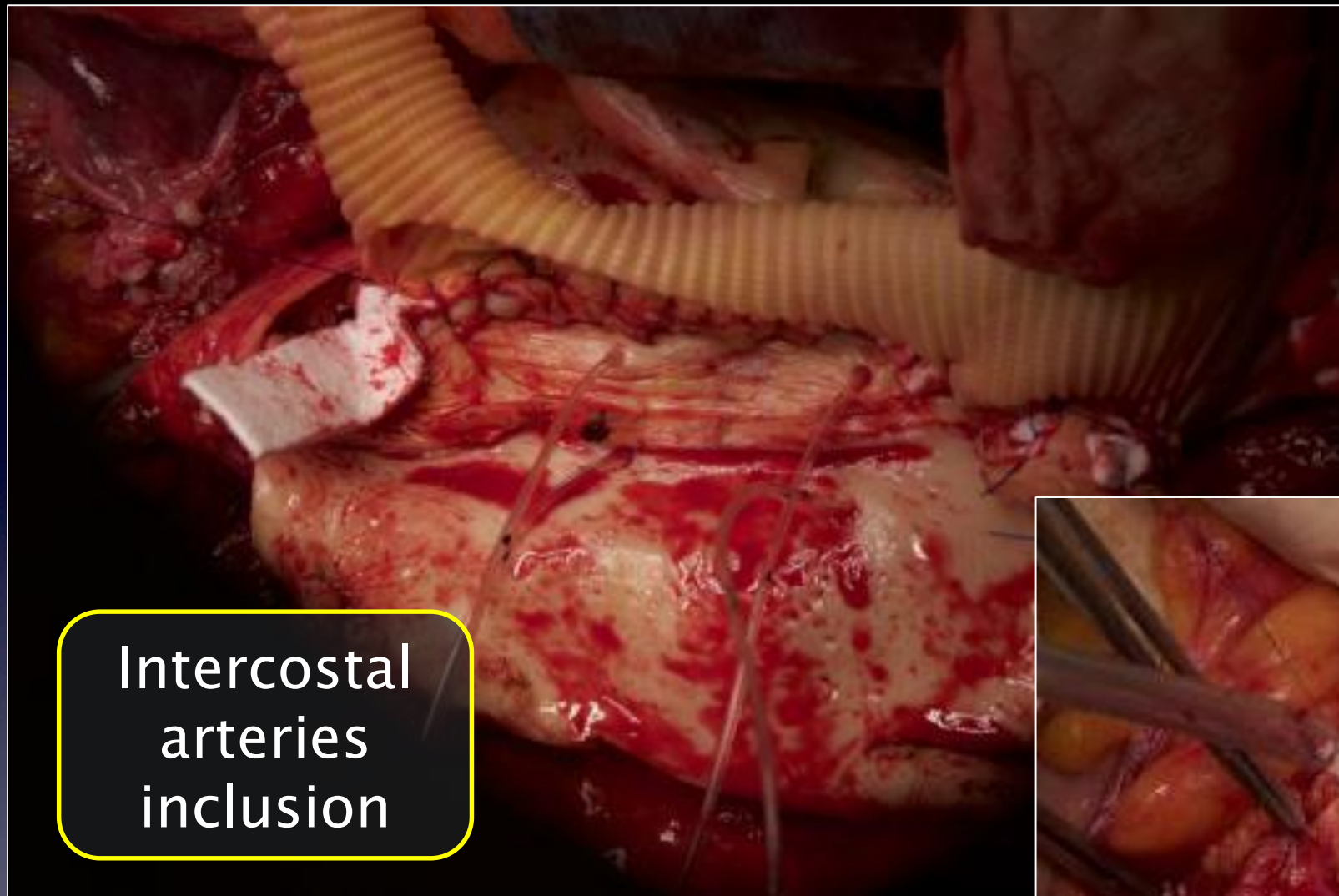


# TAAA open repair

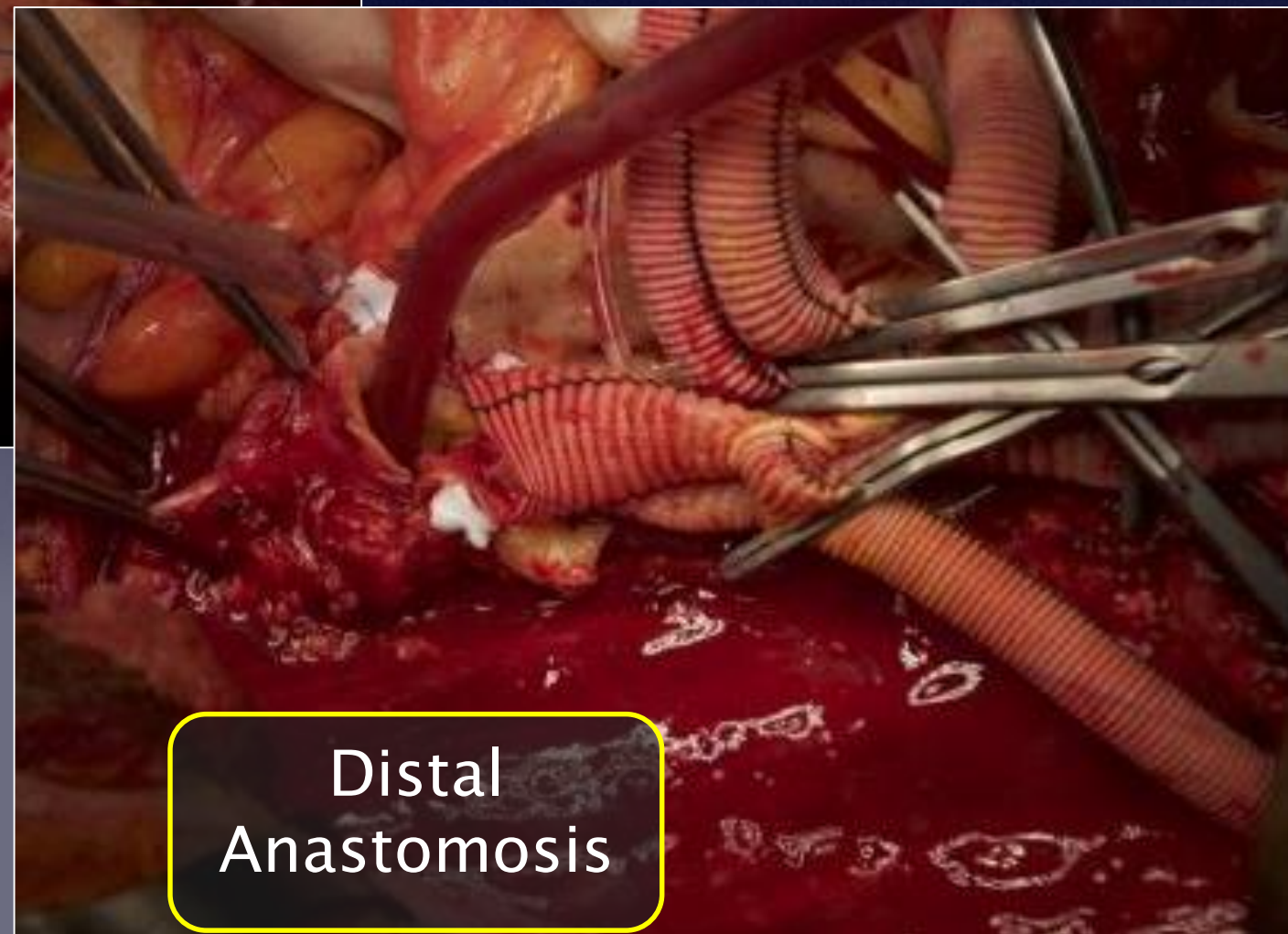




# TAAA open repair



Intercostal  
arteries  
inclusion

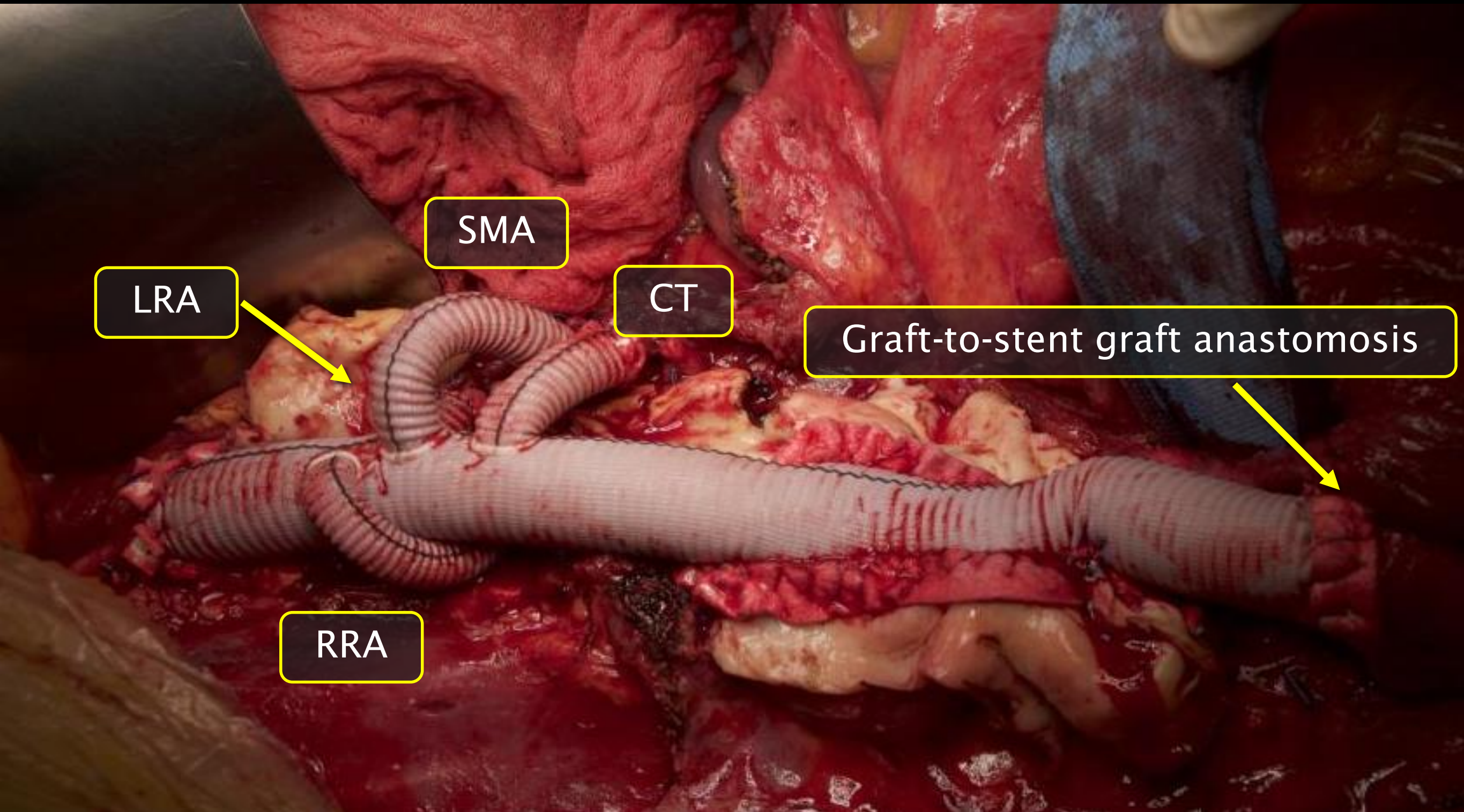


Distal  
Anastomosis



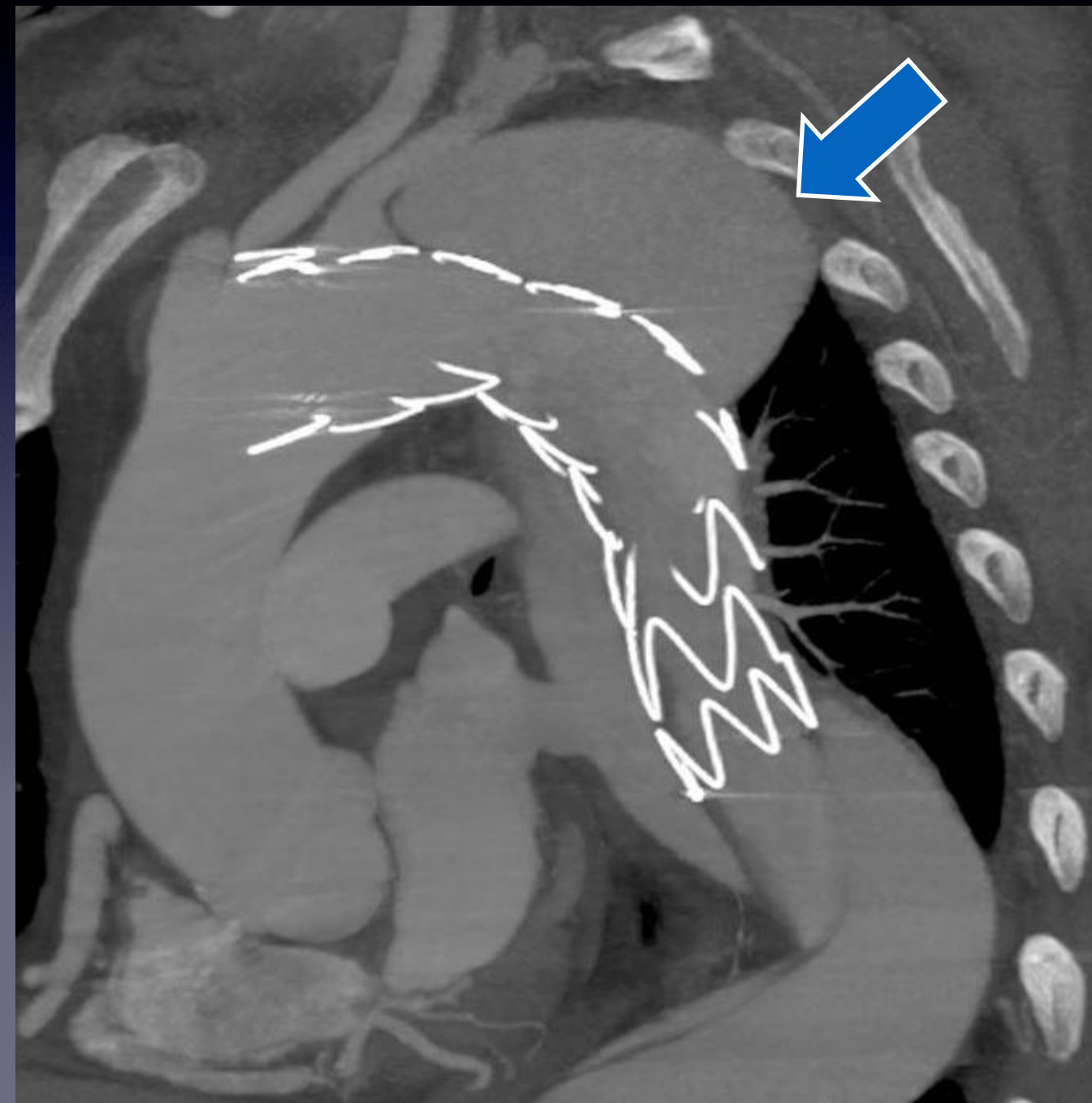
# Final result

Extent II



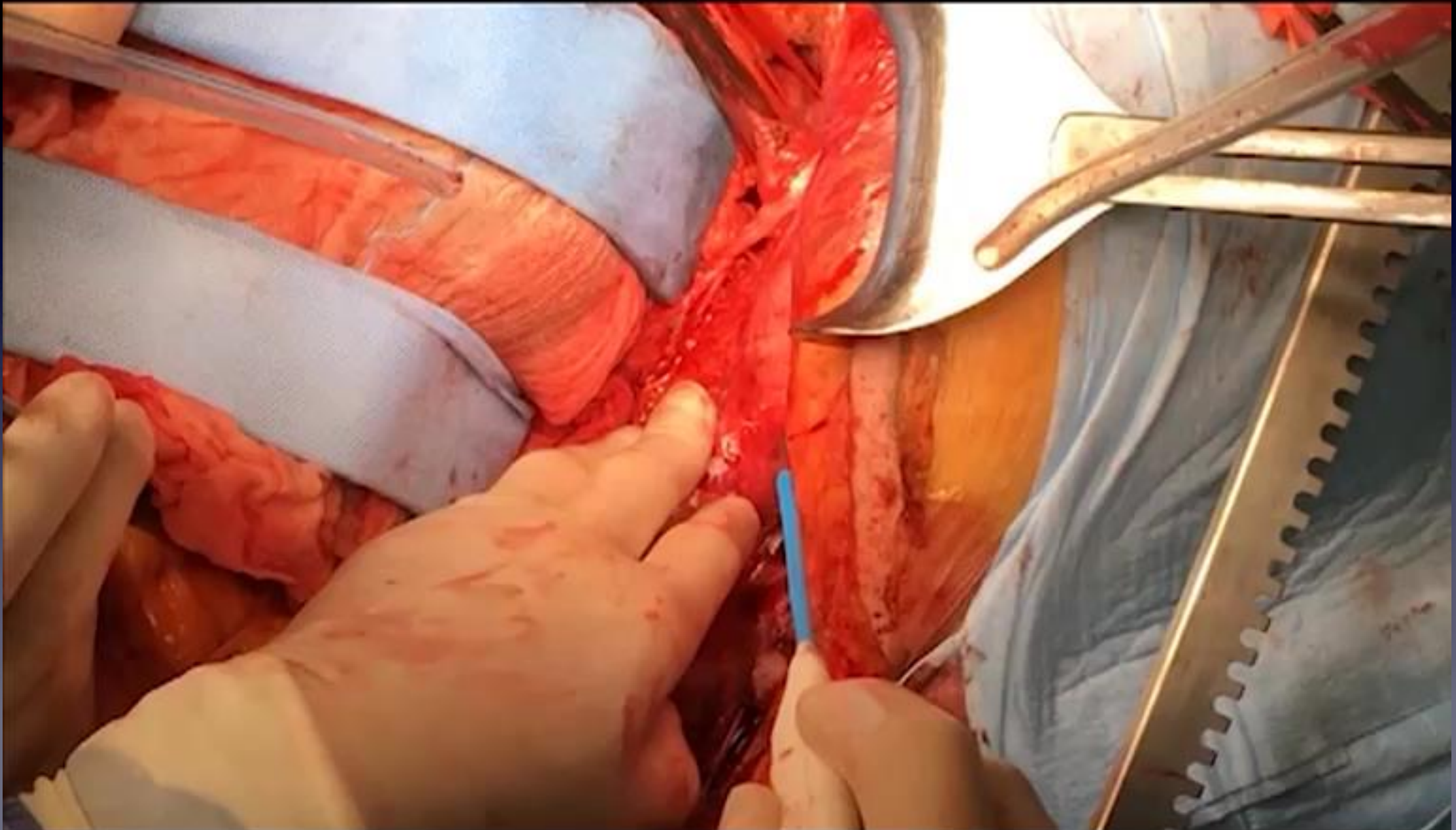
# Case #3

- ♂, 54 yrs
- TEVAR for acute TBD
- Endoleak
- Complete FL reperfusion & dilatation



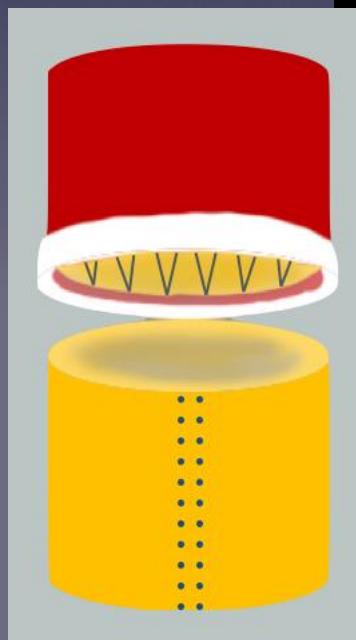


# Stent graft partial removal



# Final result

- Proximal stent graft “in situ”
- “Triple-layer” proximal anastomosis
  - Aortic wall
  - Stent graft
  - Teflon felt





# San Raffaele, Milan

## Thoracic aortic **global** experience

1993 -2016

	Arch	DTA	TAAA
<b>OPEN</b> (1993 – 2016) 1375 pts	85	371	919
<b>TEVAR</b> (1999 – 2016) 636 pts	209	349	78
<b>Total: 2011</b>	<b>294</b>	<b>720</b>	<b>997</b>

# Thoracic aortic secondary procedures after primary endo repair



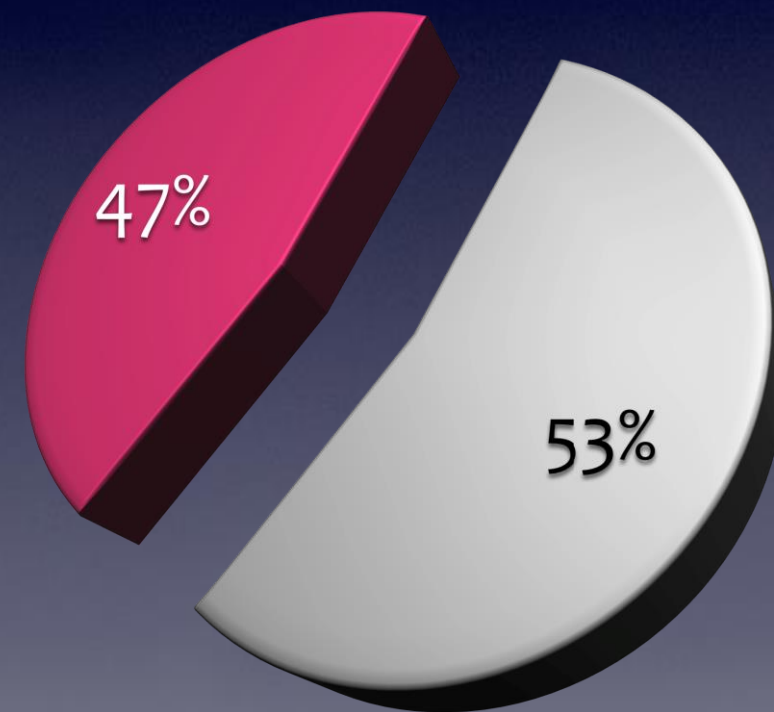
# San Raffaele, Milan

## Thoracic aortic **secondary procedures** after primary endo repair

1993 -2016

Total : 165

- New Endo procedures: 91 pts
- Hybrid approach: 12 pts
- Open conversions: 62 pts



Our series = 79 (47%)  
Other institutions = 86 (53%)

# TAAA Open conversion after primary Endo Repair

Indications in 37 pts

Proximal Endoleak	4
Distal Endoleak / Distal progression	29
Infection / fistulization	4



# TAAA Open conversion after primary Endo Repair

Results in 37 pts

Extent	n	Paraplegia	Renal Failure	Respiratory Failure	30-day mortality
Type I	5	1 (20%)	1 (20%)	2 (40%)	1 (20%)
Type II	12	2 (16.6%)	3 (25%)	4 (33.3%)	2 (16.6%)
Type III	13	1 (7.6%)	2 (15.3%)	4 (30.7%)	1 (7.6%)
Type IV	7	0 (0%)	1 (14.2%)	1 (14.2%)	0 (0%)
Total	37	4 (10.8%)	7 (18.9%)	11 (29.7%)	4 (10.8%)

# Conclusions

- The incidence of Endo failure requiring Open Surgical correction in TAAA is not negligible
- Technically very challenging
- The surgical skills required to address this issue should not be lost



# The future ...



..... needs to be validated

# Save the date

15<sup>th</sup> – 17<sup>th</sup> December 2016  
Milan

7<sup>th</sup> Edition





