



# ENDOTENSION ET CHIRURGIE OPEN



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# Disclosures

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- **Consulting : COOK MEDICAL, GORE, GETINGE**
- **Proctoring : COOK MEDICAL, GORE**



# Problématique



Prise en charge endo des ATA =  
risque d'endofuite / endotension & croissance du sac

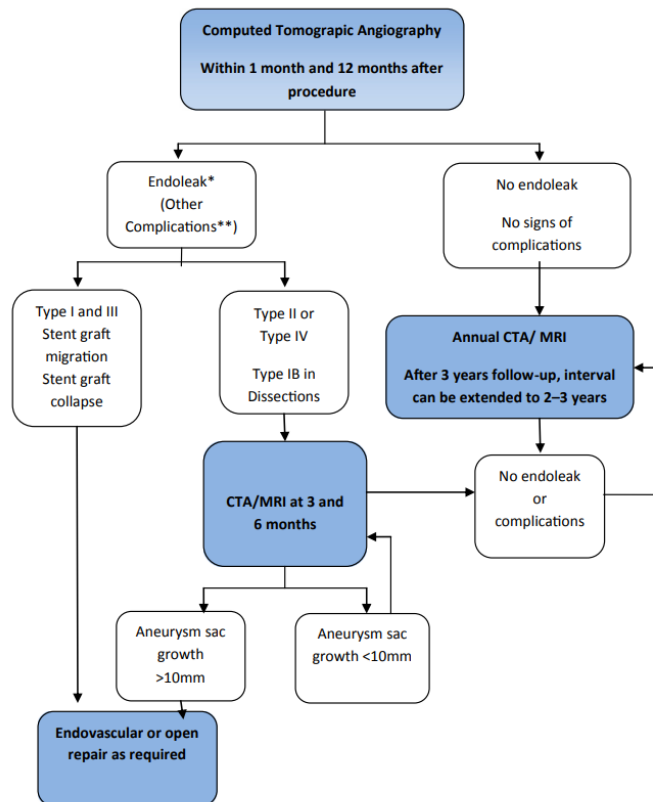


Figure 5. Suggested surveillance algorithm after TEVAR. \*Endoleak types: type I, direct flow between endograft an

## Recommendation 111

Unchanged

Patients with significant aneurysm sac growth ( $\geq 10$  mm compared with baseline or with the smallest diameter during follow up using the same imaging modality and measurement method) after endovascular abdominal aortic aneurysm repair, without visible endoleak after multimodality imaging, should be considered for stent graft relining or conversion to open surgical repair.

Class	Level	References	ToE
Ia	C	Schlösser <i>et al.</i> (2009), <sup>792</sup> Bussmann <i>et al.</i> (2017), <sup>869</sup> Perini <i>et al.</i> (2022) <sup>871</sup>	

# Problématique



## Ré-intervention :

- **First step : embolisation**
- **Persistance de croissance = conversion**
- **Pour réduire l'agressivité = semi-conversion avec préservation de l'endoprothèse**
- **Principalement rapporté après EVAR (*Hinchliffe 2002*)**

## Systematic review and meta-analysis of outcomes after semi-conversion with graft preservation for failed endovascular aneurysm repair

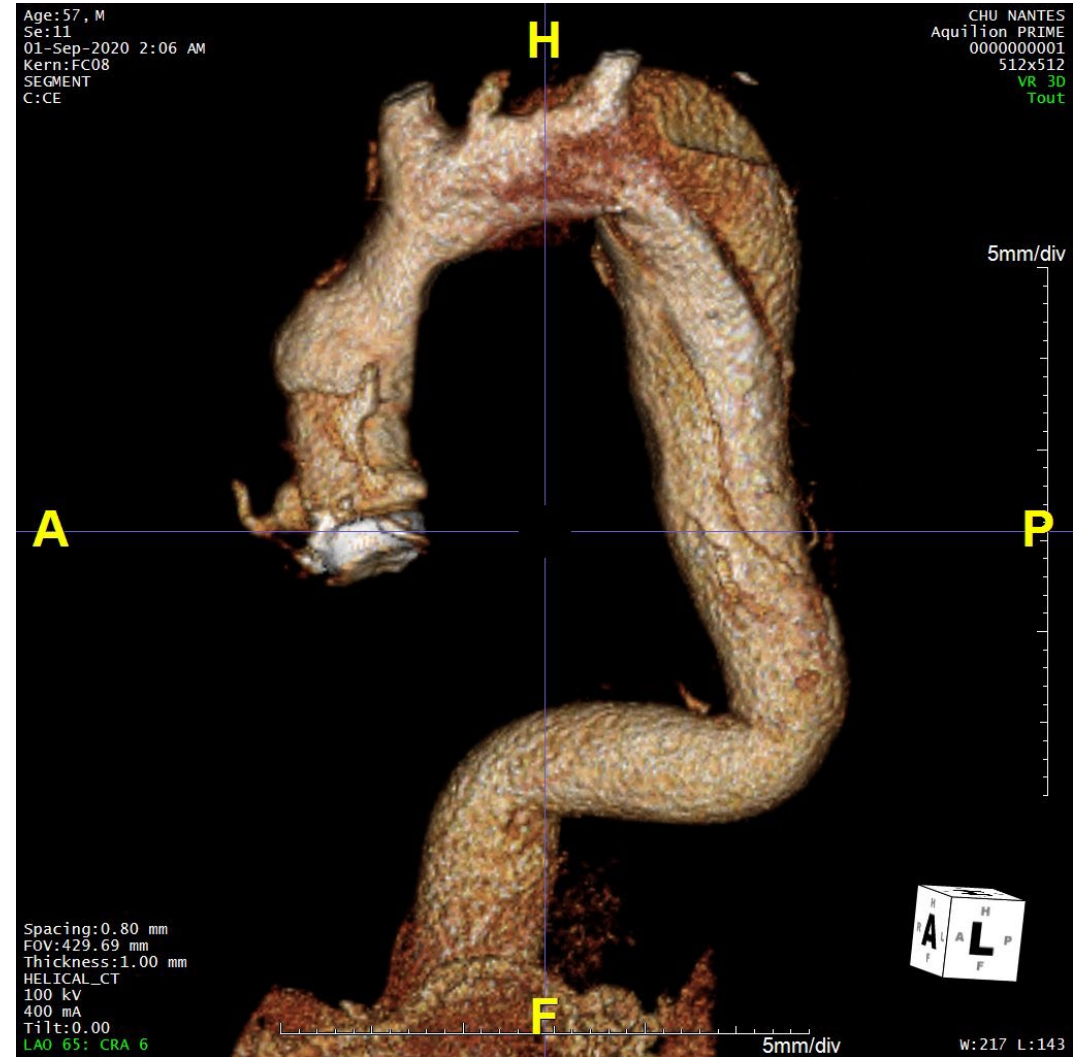
Davide Esposito<sup>1</sup>, Sarah Onida<sup>2</sup>, Benedict Turner<sup>2</sup>, Majd Rawashdeh<sup>2</sup>, Michael P Jenkins<sup>2</sup>, Raffaele Pulli<sup>3</sup>, Alun H Davies<sup>2</sup>

8 études / 196 patients / âge 78 ans / 70% T2EDL à 4 ans de l'EVAR

- Mortalité J30 5.3 %
- Complications à J30 13.4 %
- Récurrence d'endofuite 13 %
- Réintervention 7 %
- Echec de semi-conversion 5.5 %

# Cas : Homme / 57 ans / Syndrome de Marfan

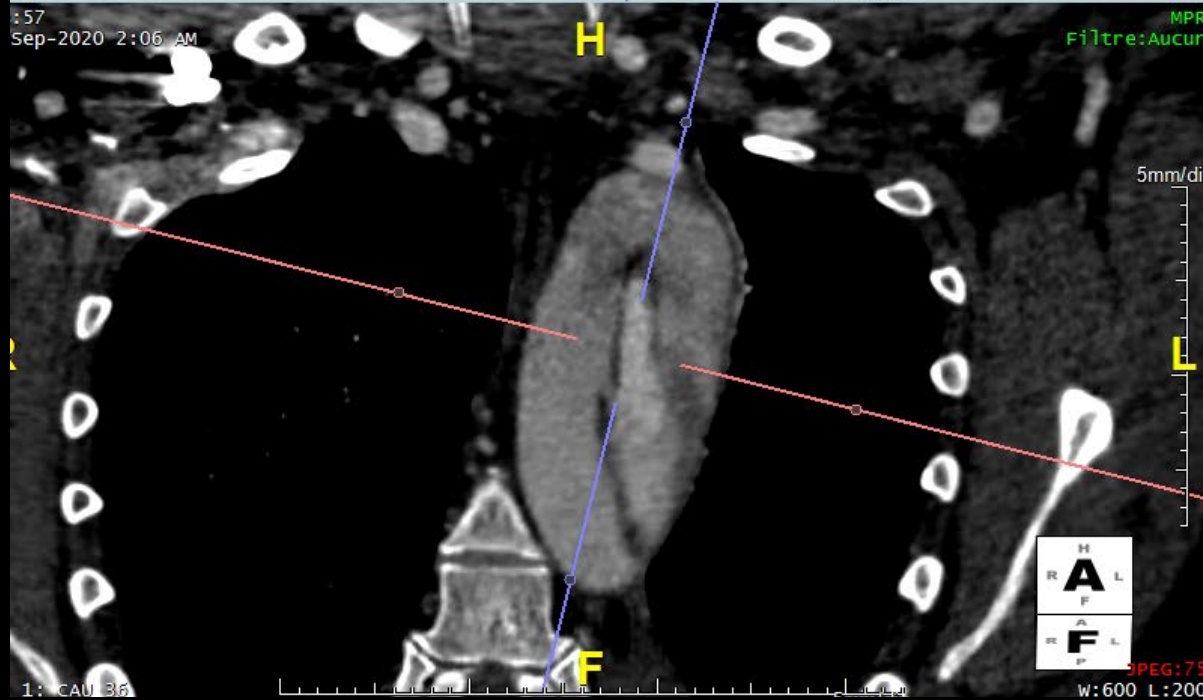
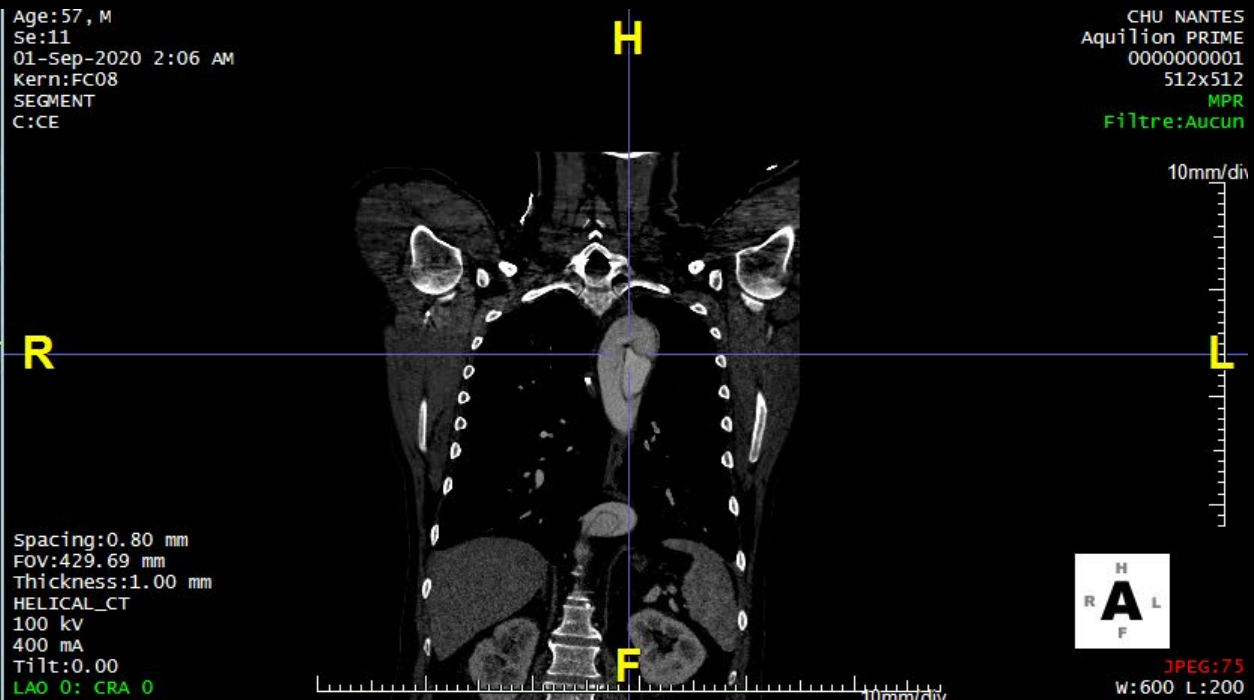
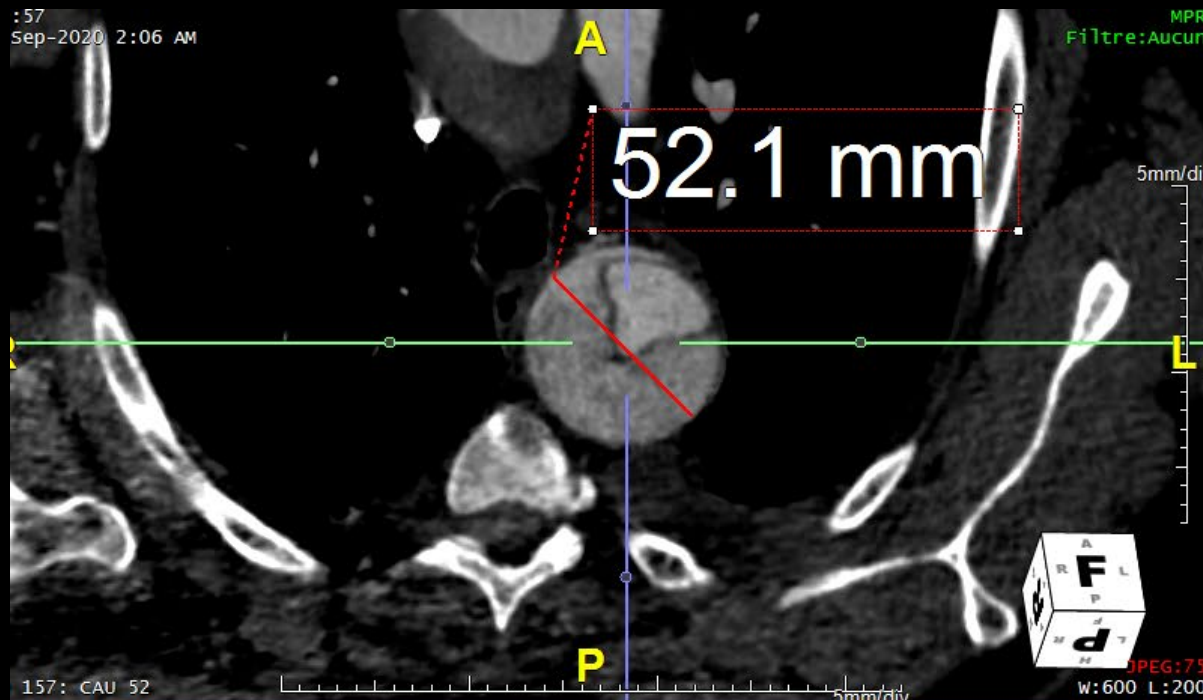
- Sept 2020 : Dissection aortique type A en aval d'un Bentall mécanique
- ATCD :
  - Bentall mécanique (2006, anévrisme)
  - BPCO
  - Marfan
- 102Kg / 182cm / BMI: 30.8







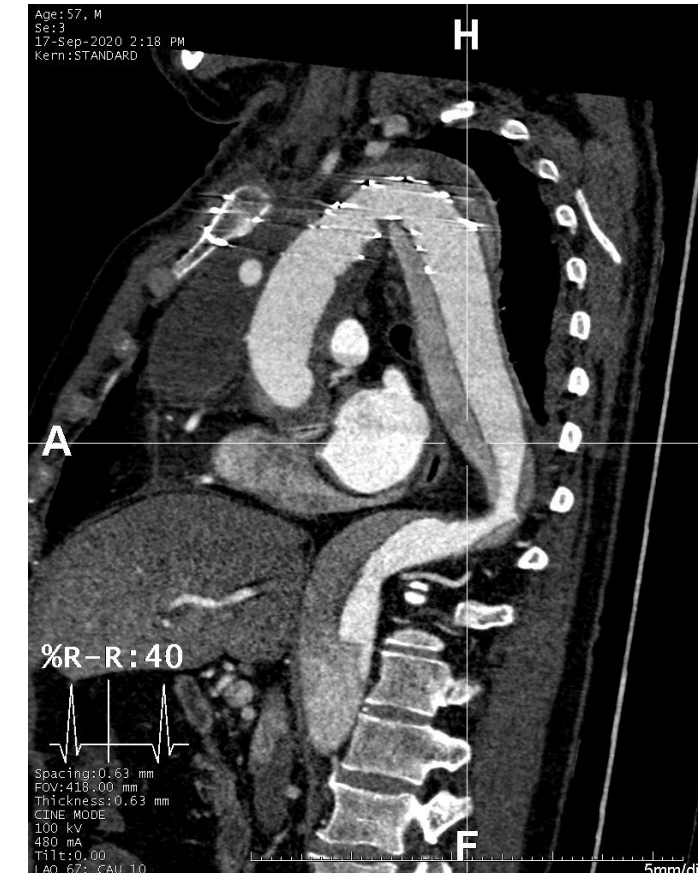
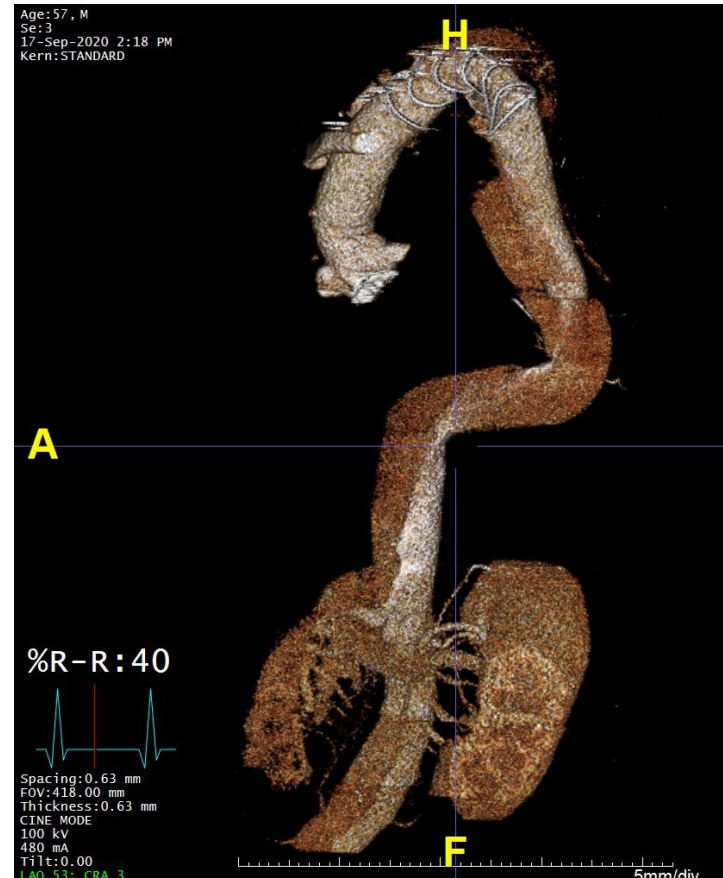
:57  
Sep-2020 2:06 AM



CHU NANTES  
Aquila PRIME  
000000001  
512x512  
MPR  
Filtre:Aucun

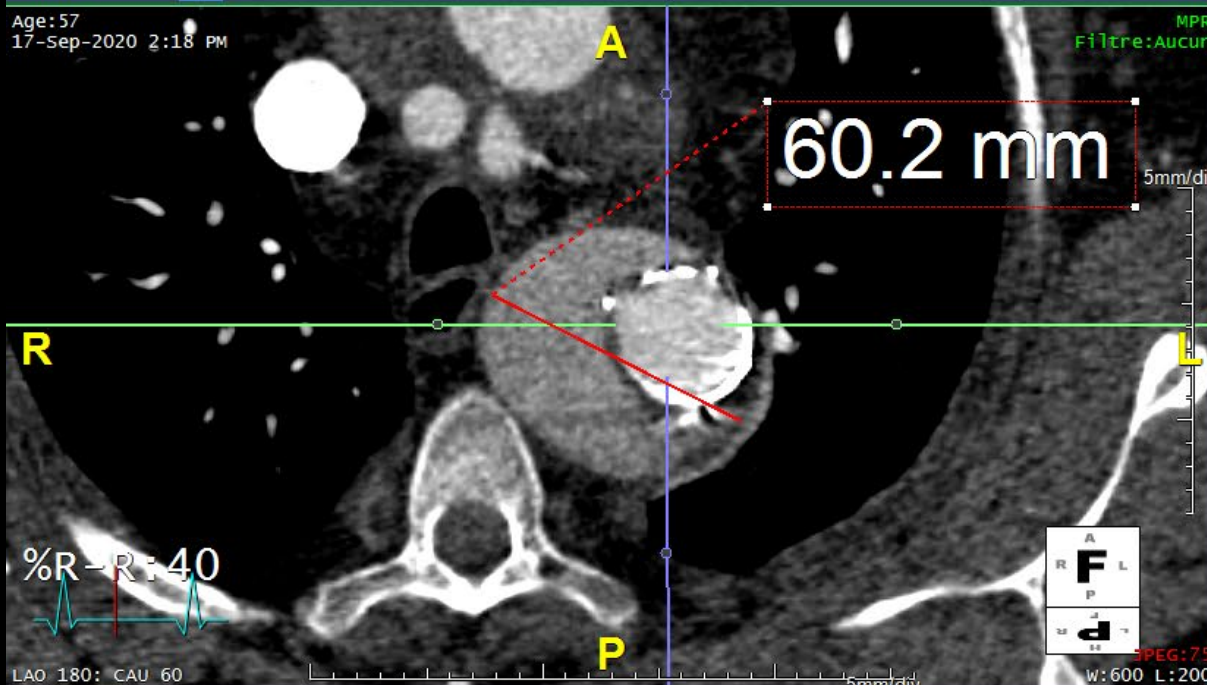
# Chirurgies aortiques

- 1<sup>er</sup> sept 2020 : FET en urgence





Age: 57  
17-Sep-2020 2:18 PM



60.2 mm

MPR  
Filtre:Aucun

Age: 57, M  
Se: 3  
17-Sep-2020 2:18 PM  
Kern: STANDARD

**POST OP + 10 MM**

NORD LAENNEC  
Optima CT660  
SCAN  
512x512  
MPR  
Filtre:Aucun

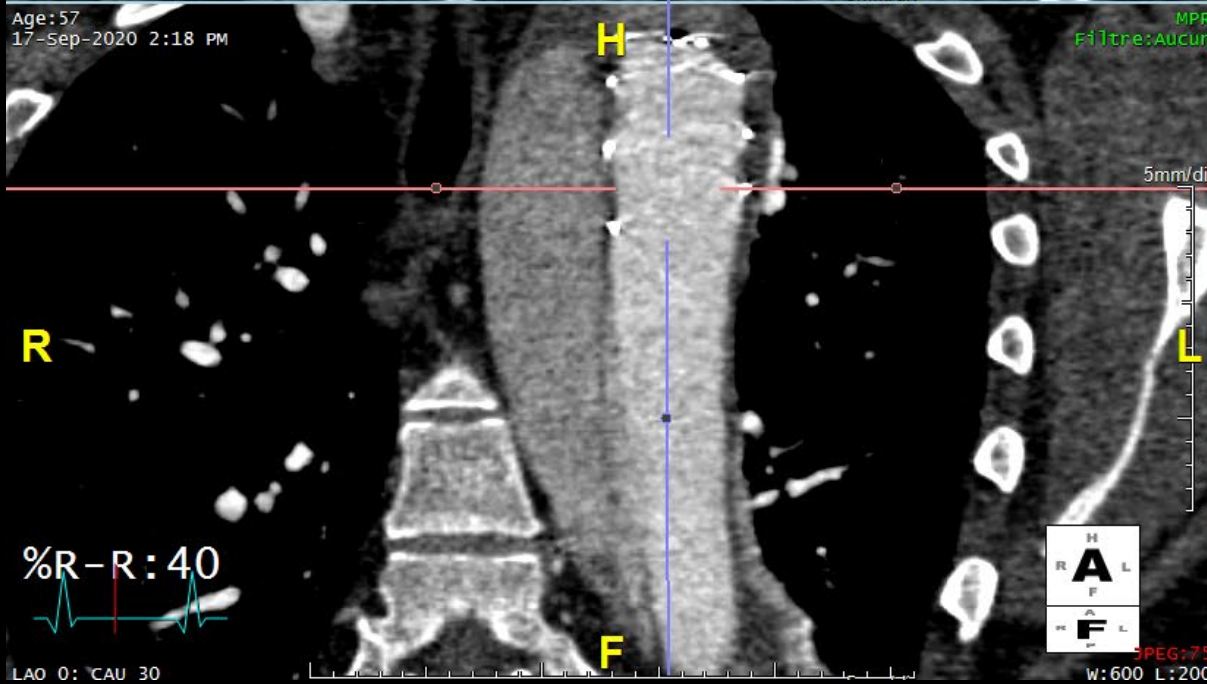


%R-R: 40

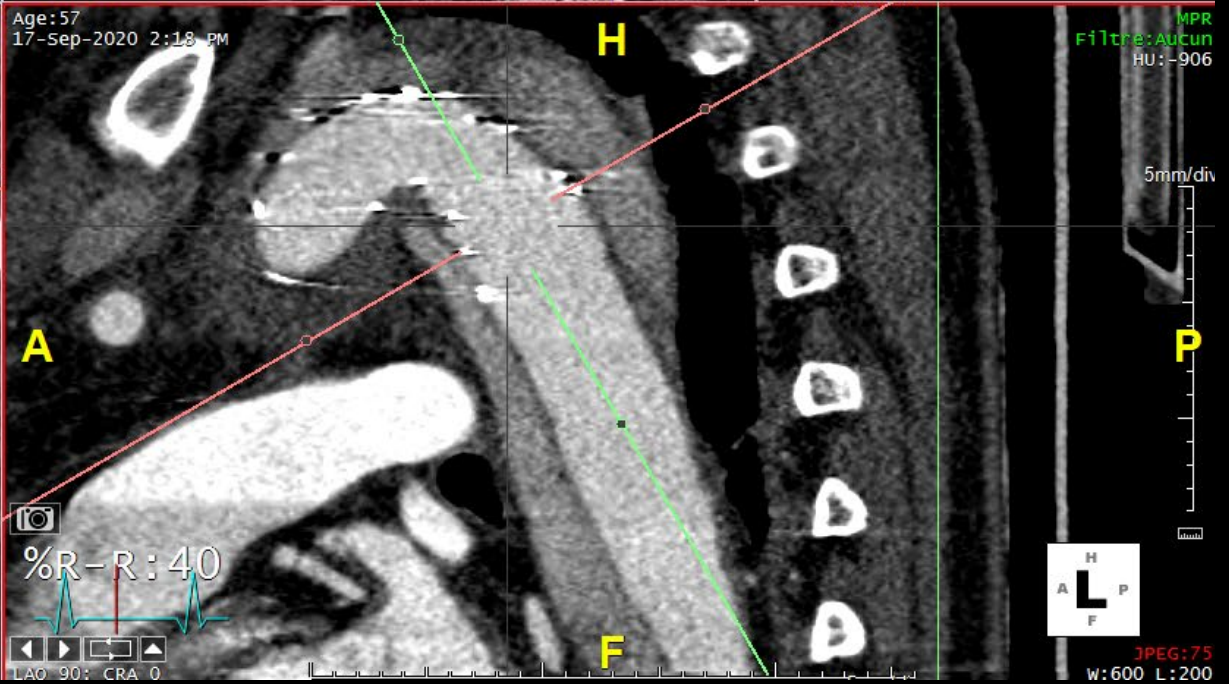


%R-R: 40

Spacing: 0.63 mm  
FOV: 418.00 mm  
Thickness: 0.63 mm  
CINE MODE  
100 kV  
480 mA  
Tilt: 0.00  
LAO 67: CAU 10



%R-R: 40



%R-R: 40

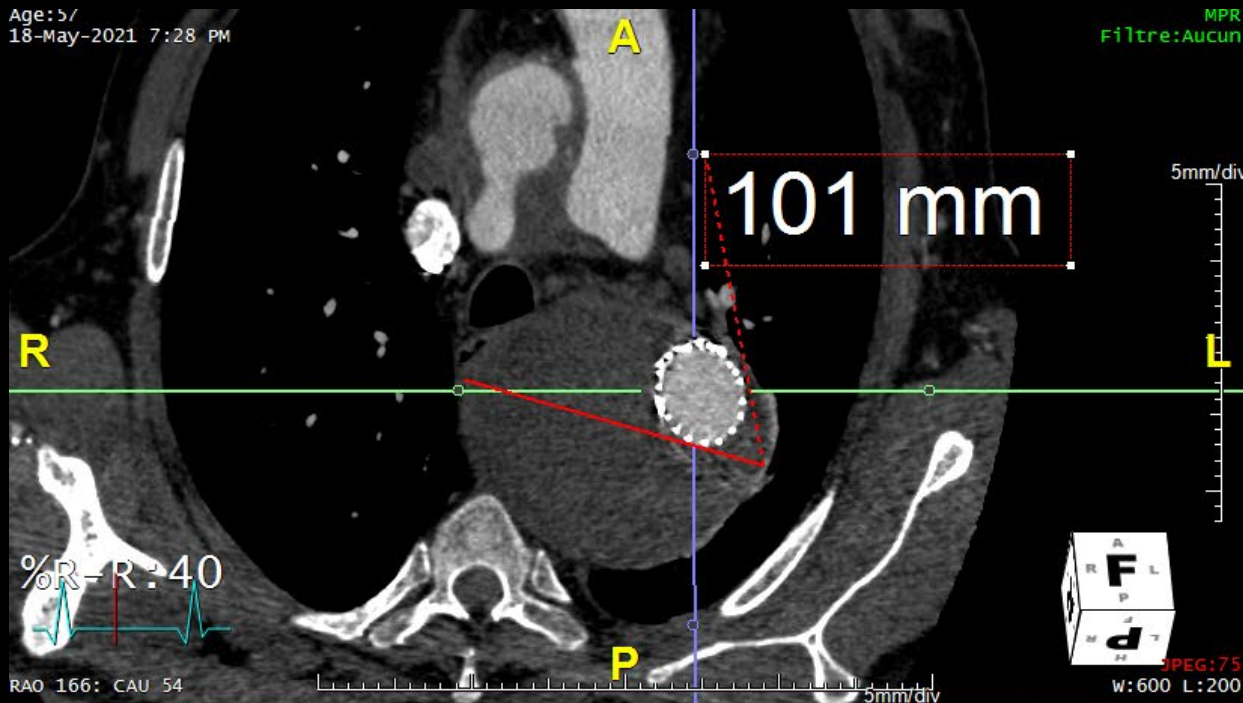
LAO 90: CRA 0



# Chirurgies aortiques

- 1<sup>er</sup> Sept 2020 : FET repair
- 30 Sept 2020 : TEVAR + Candy plug





MPR  
Filtre:Aucun

Age: 57, M  
Se: 3  
18-May-2021 7:28 PM  
Kern: STANDARD

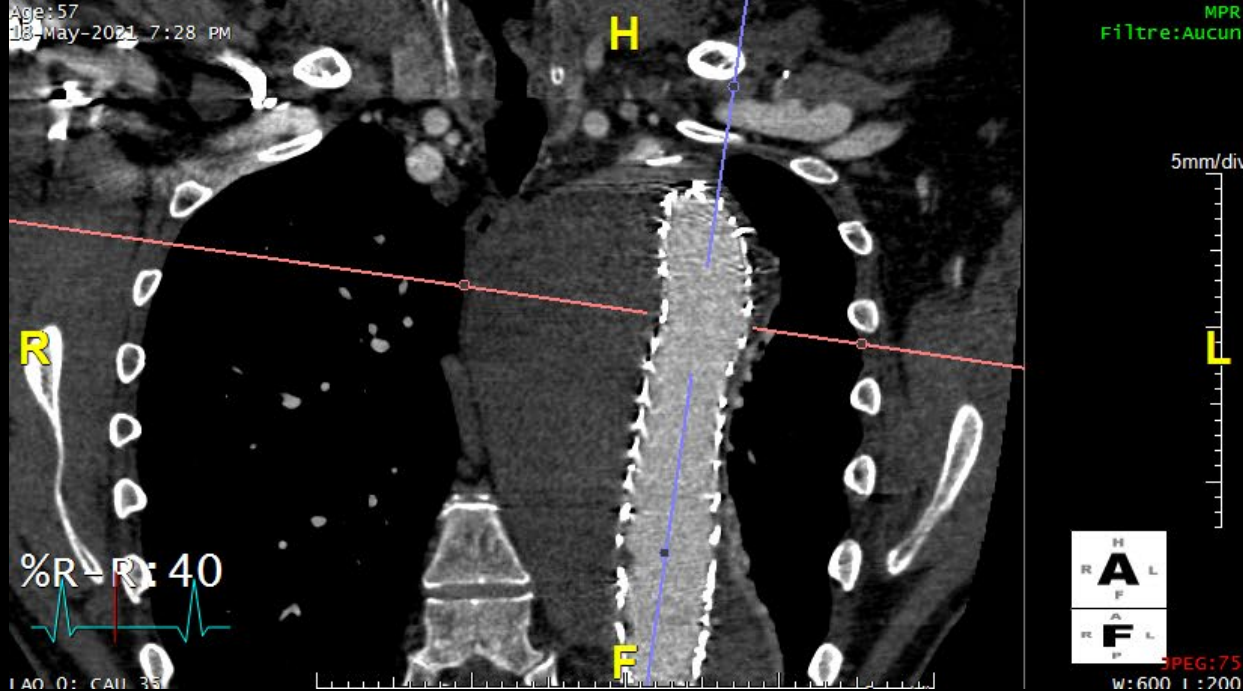
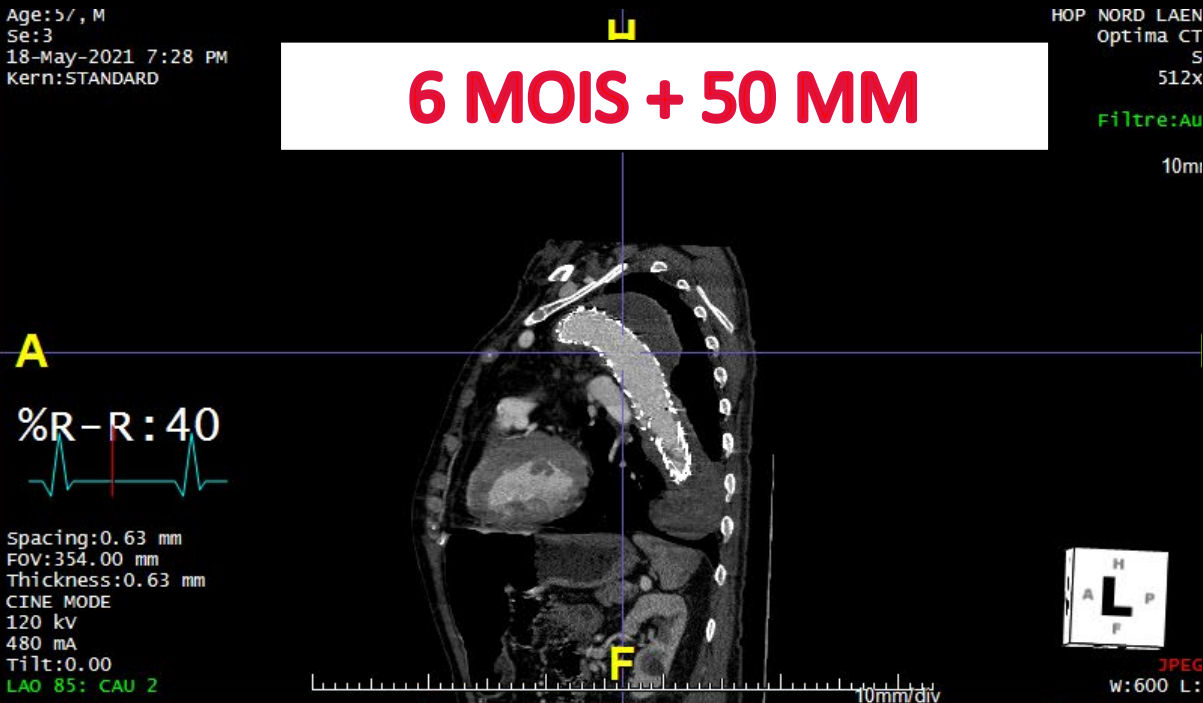
5mm/div

L

RAO 166: CAU 54

W: 600 L: 200

**6 MOIS + 50 MM**



MPR  
Filtre:Aucun

Age: 57  
18-May-2021 7:28 PM

5mm/div

L

RAO 0: CAU 35

W: 600 L: 200

Filtre:AU  
HU: -1

5mm/div

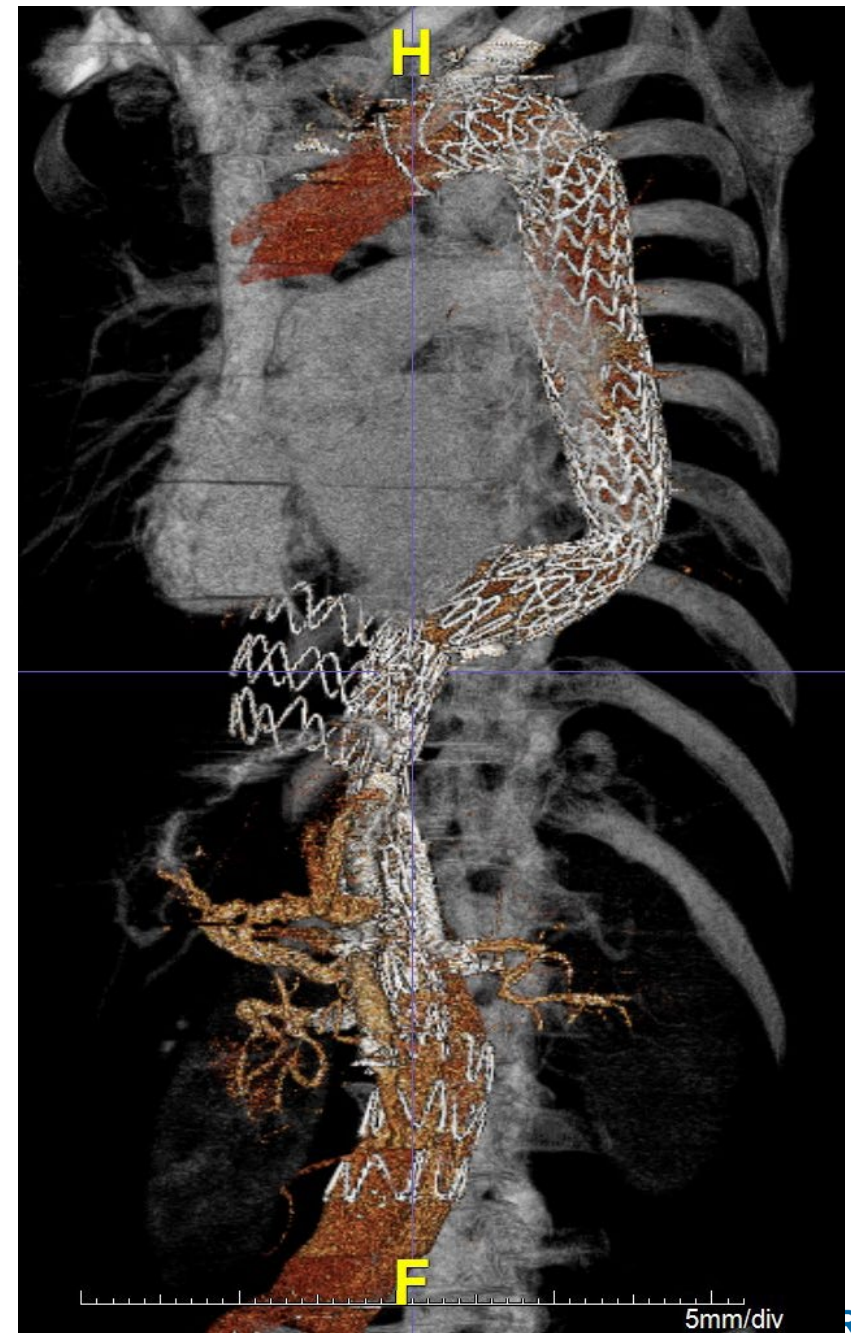
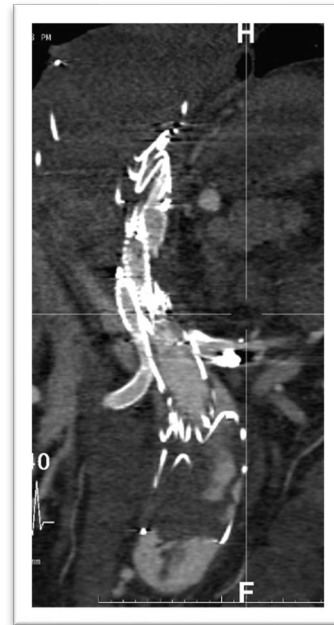
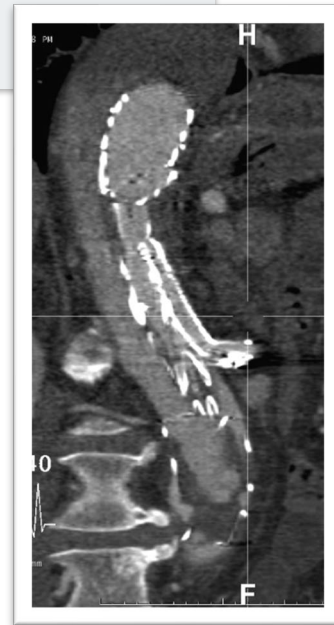
H A L P

W: 600 L: 200



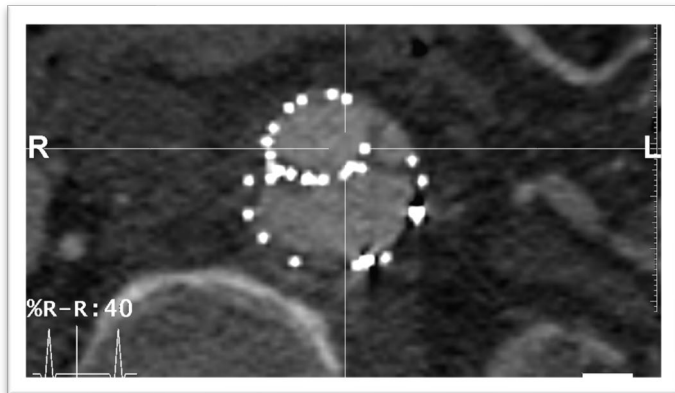
# Chirurgies aortiques

- 1<sup>st</sup> Sept 2020 : FET repair
- 30 Sept 2020 : TEVAR + Candy plug
- 4 Juin 2021 : t-branch + Candy plug abdo + embolisation FL AMS + ARG



# Chirurgies aortiques

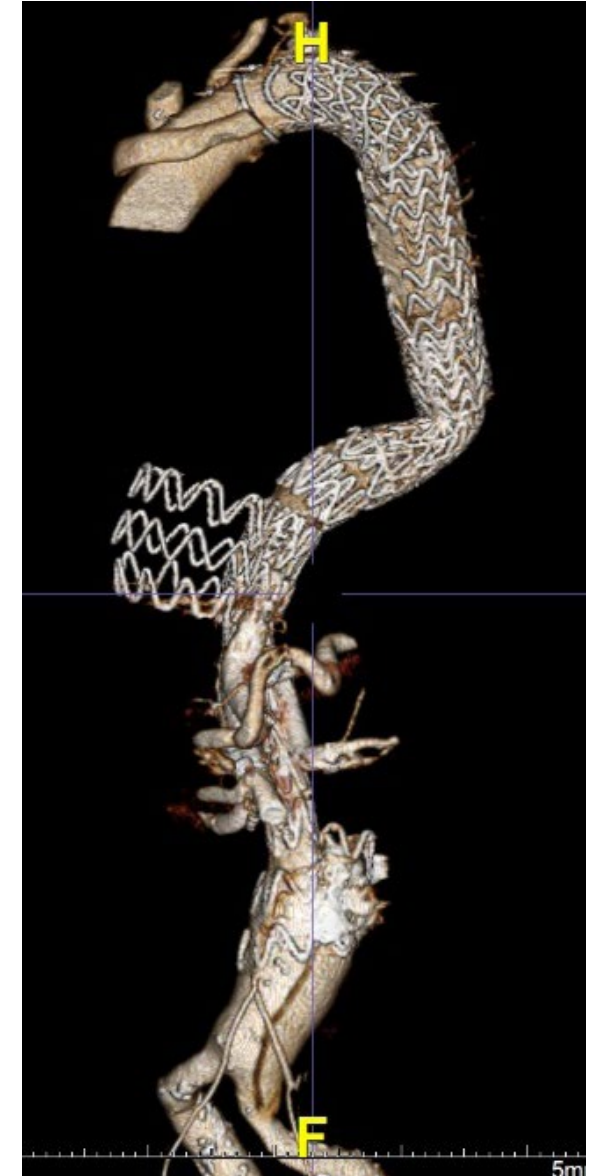
- 1<sup>st</sup> Sept 2020 : FET repair
- 30 Sept 2020 : TEVAR + Candy plug
- 4 Juin 2021 : t-branch + Candy plug
- 7 Juill 2021 : embolisation gouttières



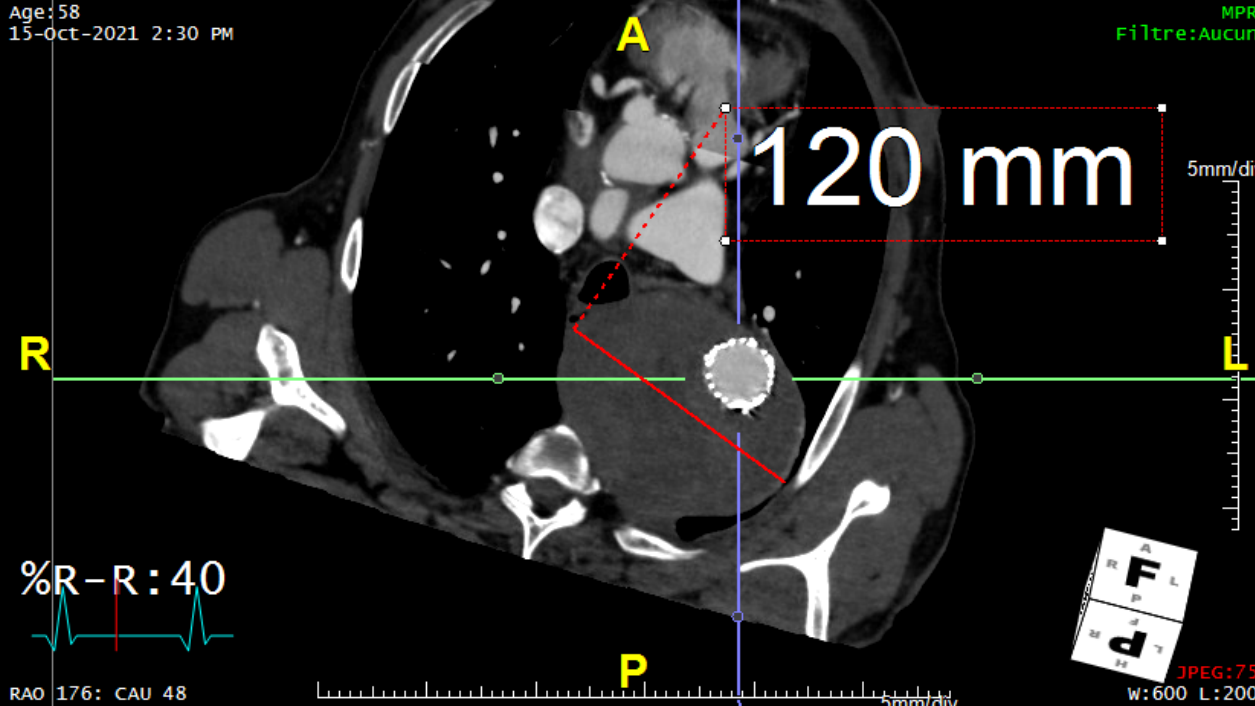
**PRE**



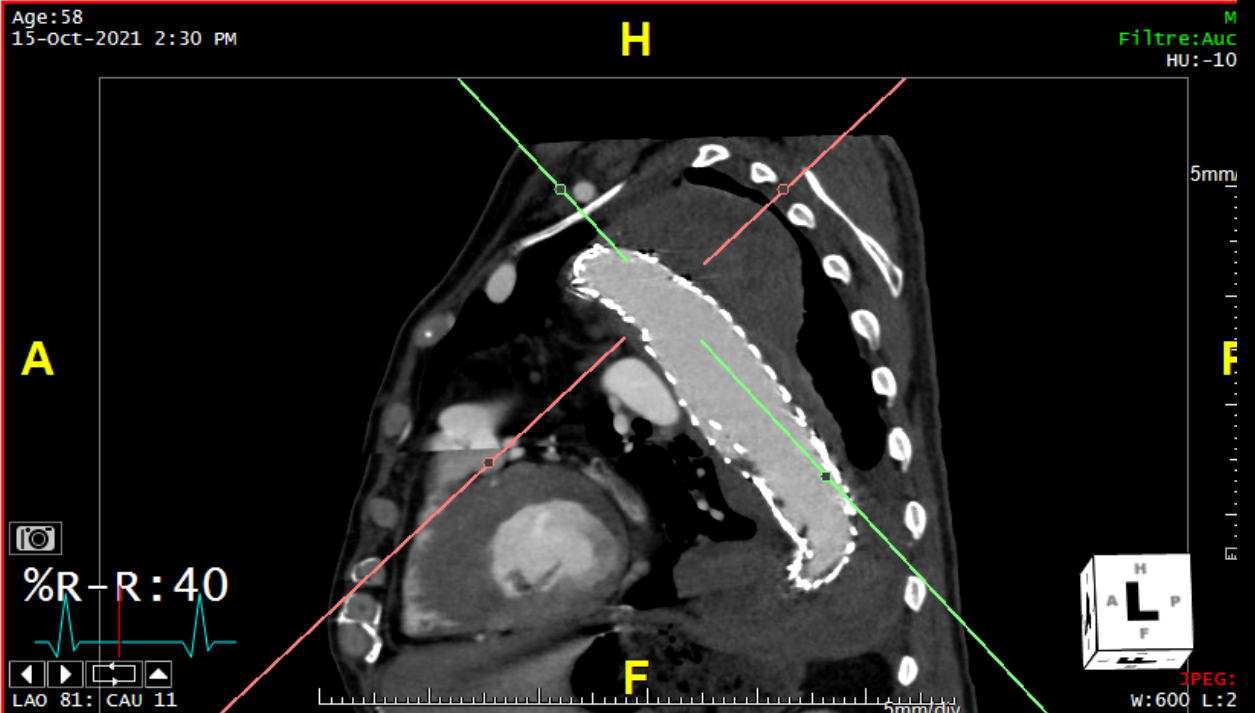
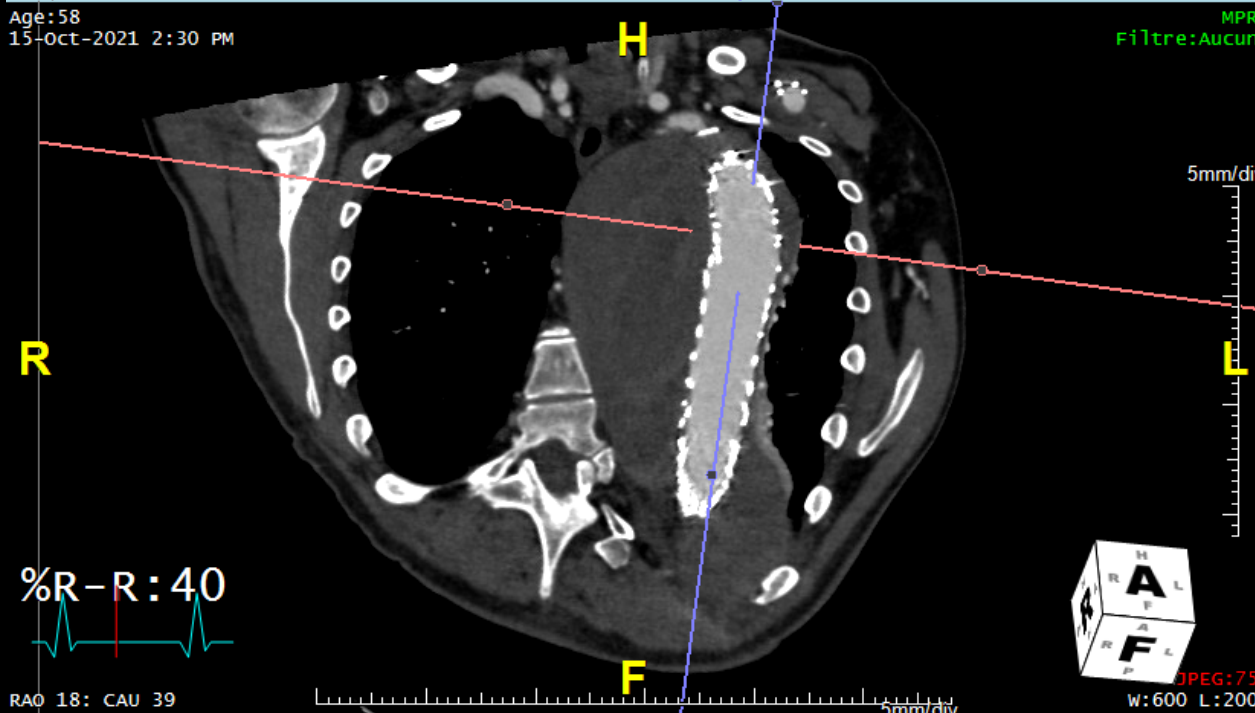
**POST**

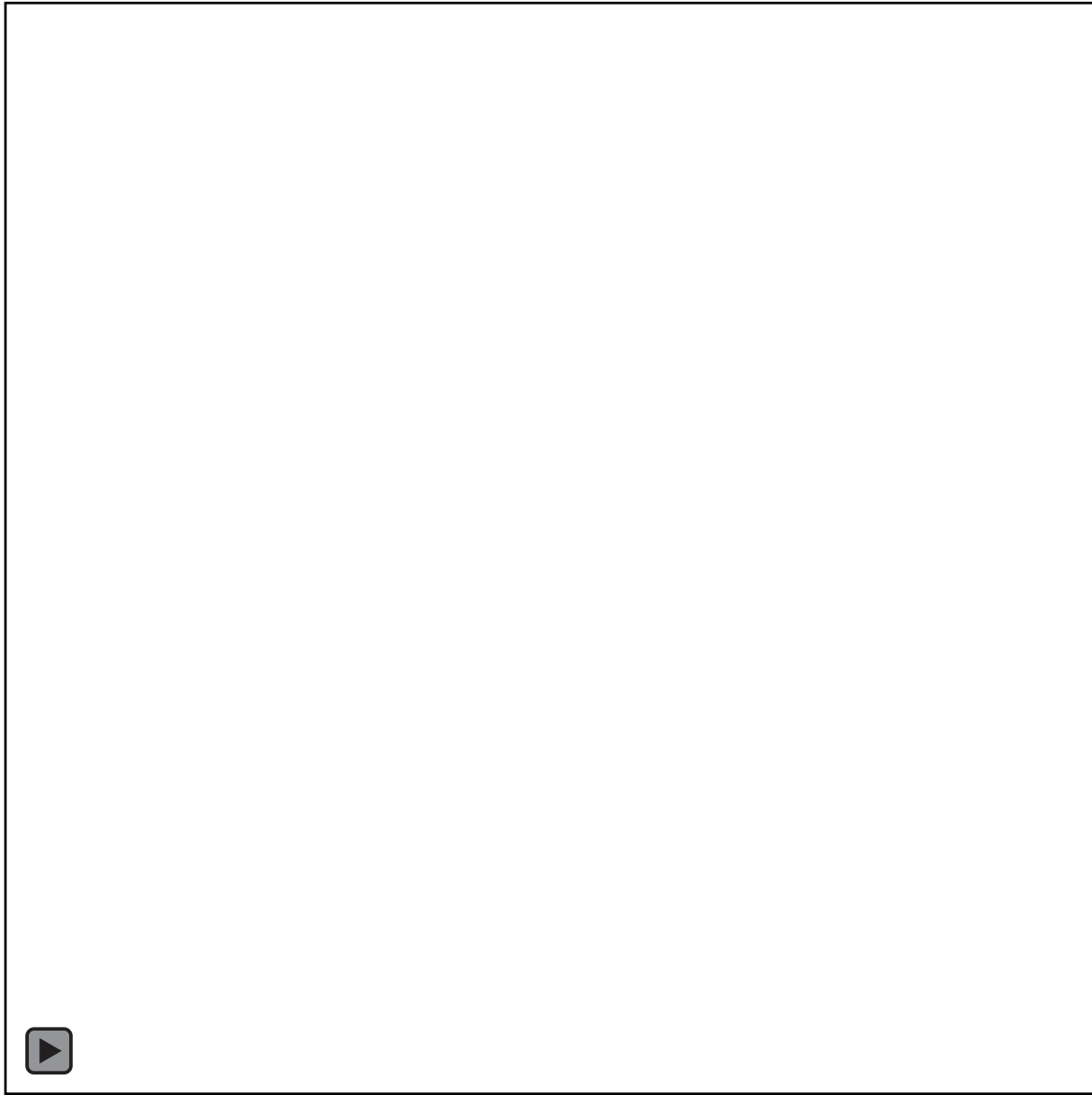






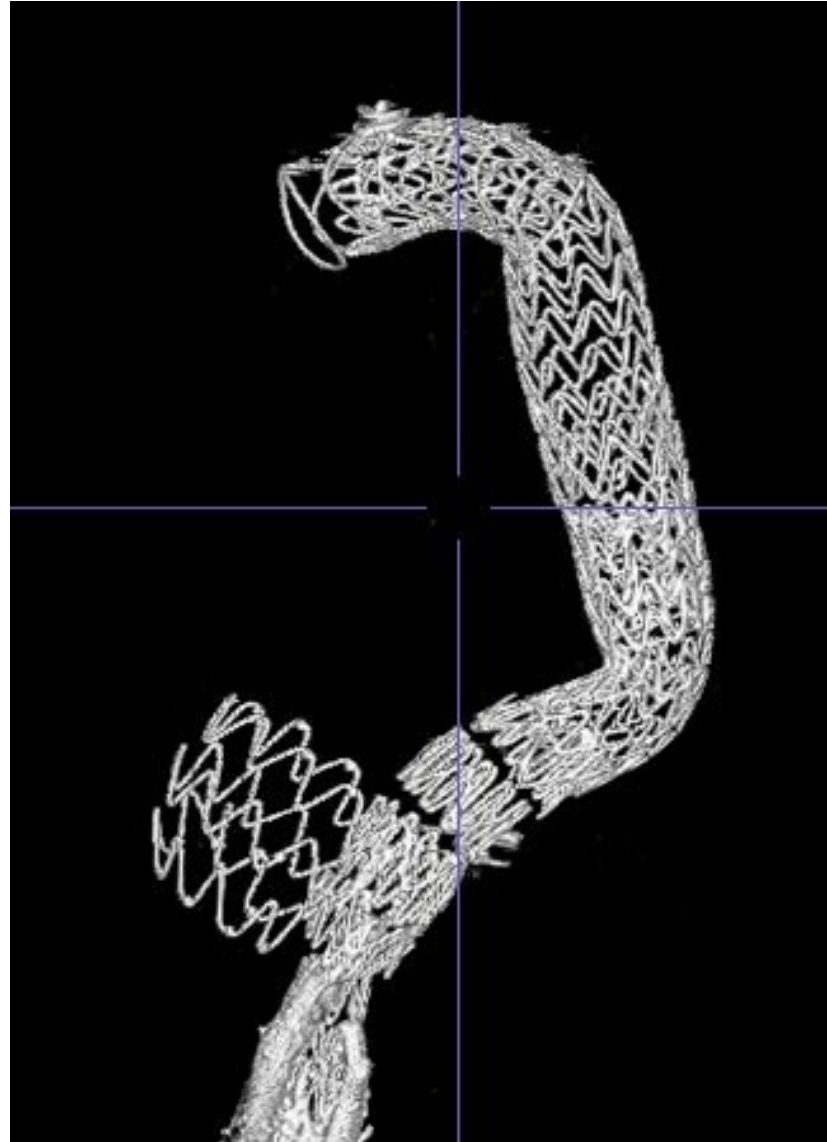
**13 MOIS + 70 MM**





# Stratégie = semi-conversion avec préservation des endoprothèses

- Double couche d'EDP thoraciques

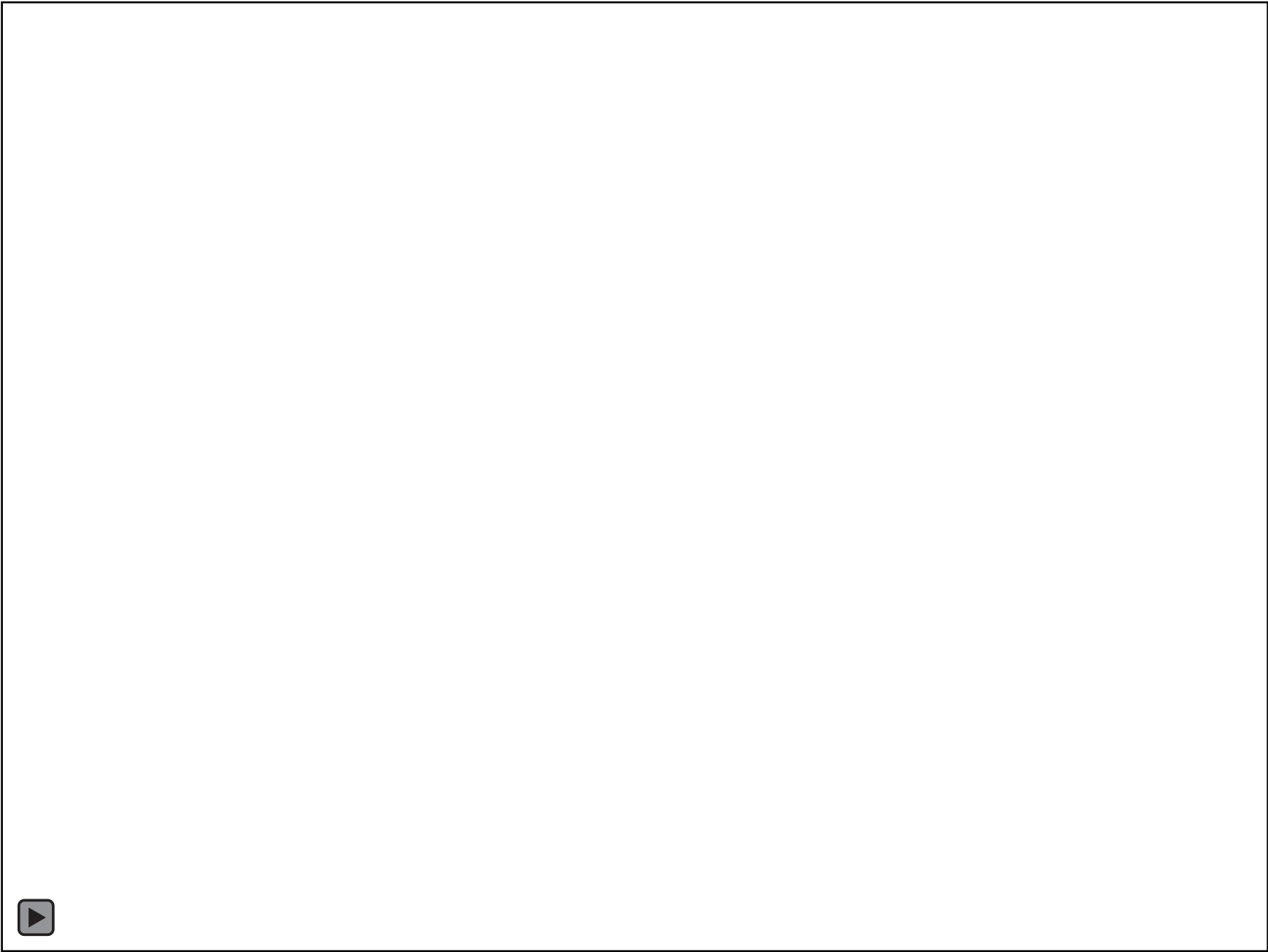


# Thoraco gauche 5<sup>e</sup> espace

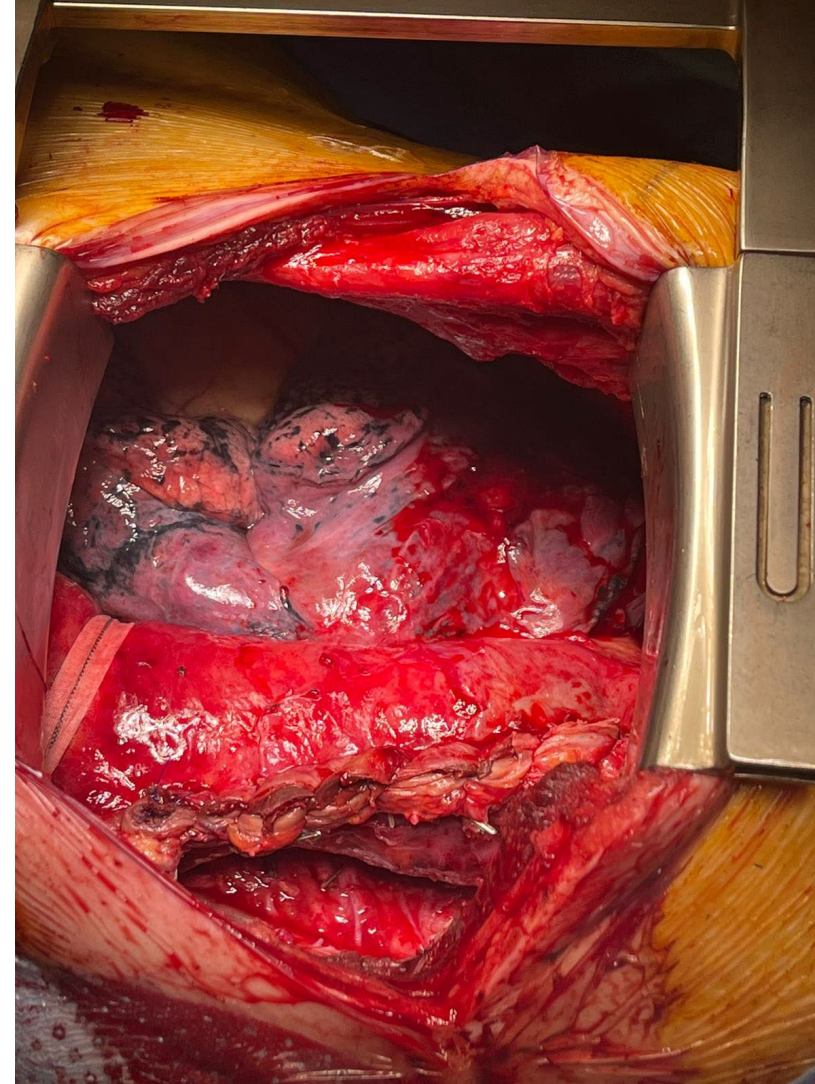
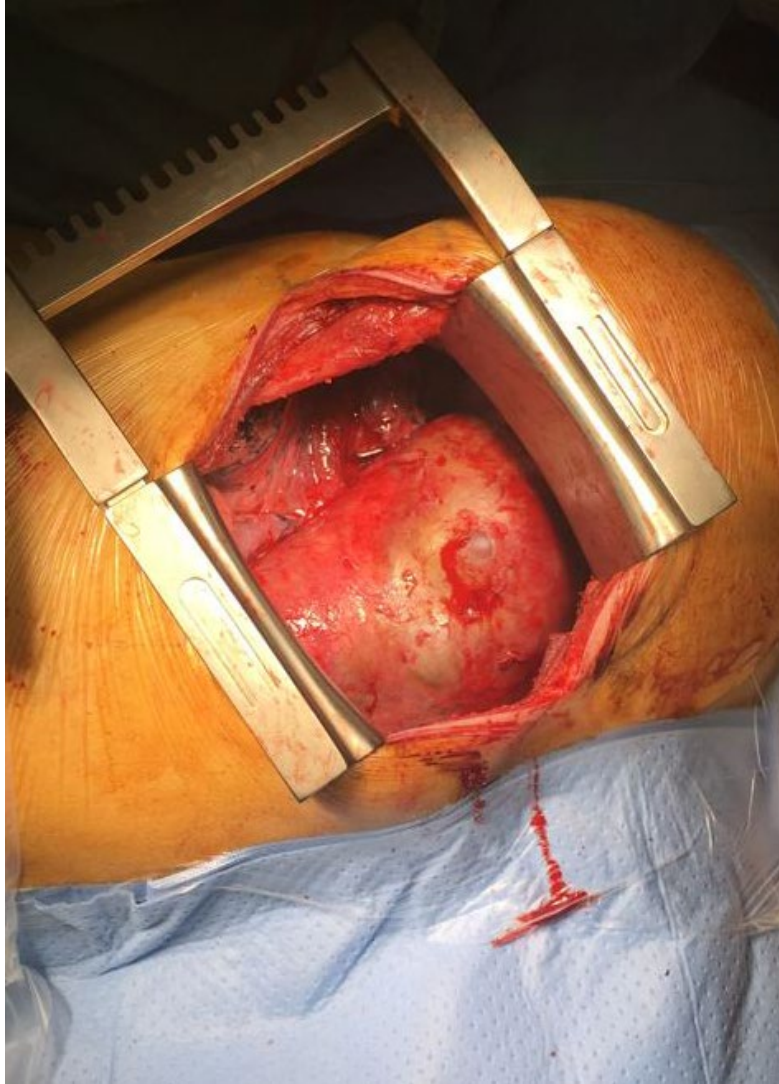
- AG + sélective
- Décubitus latéral droit avec billot
- Incision de 20 cm dans le 5e espace IC
- Equipe chirurgicale vasculaire + cardiothoracique
- Pas de CEC



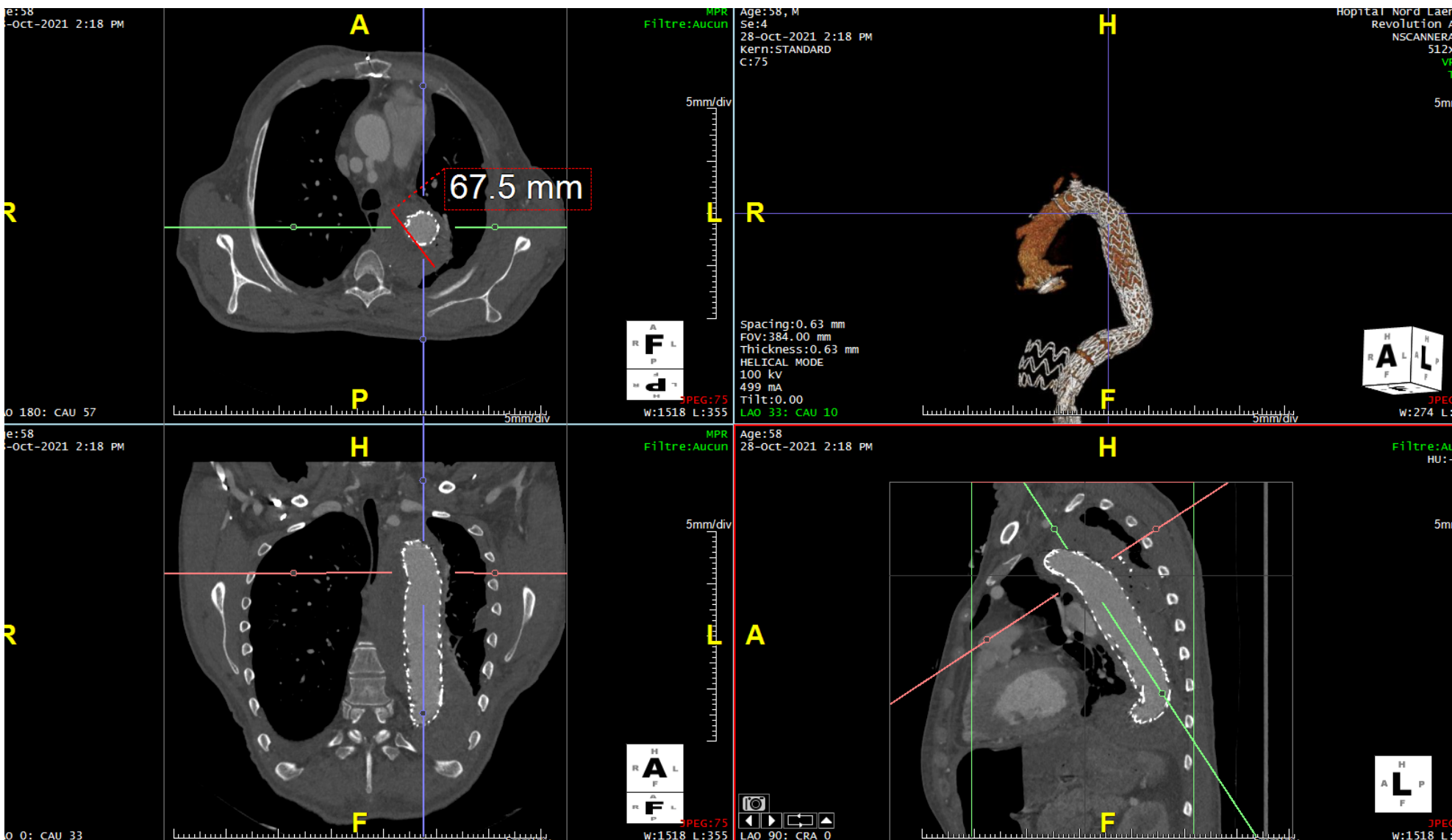




# Banding en amont et en aval de la zone si dissection



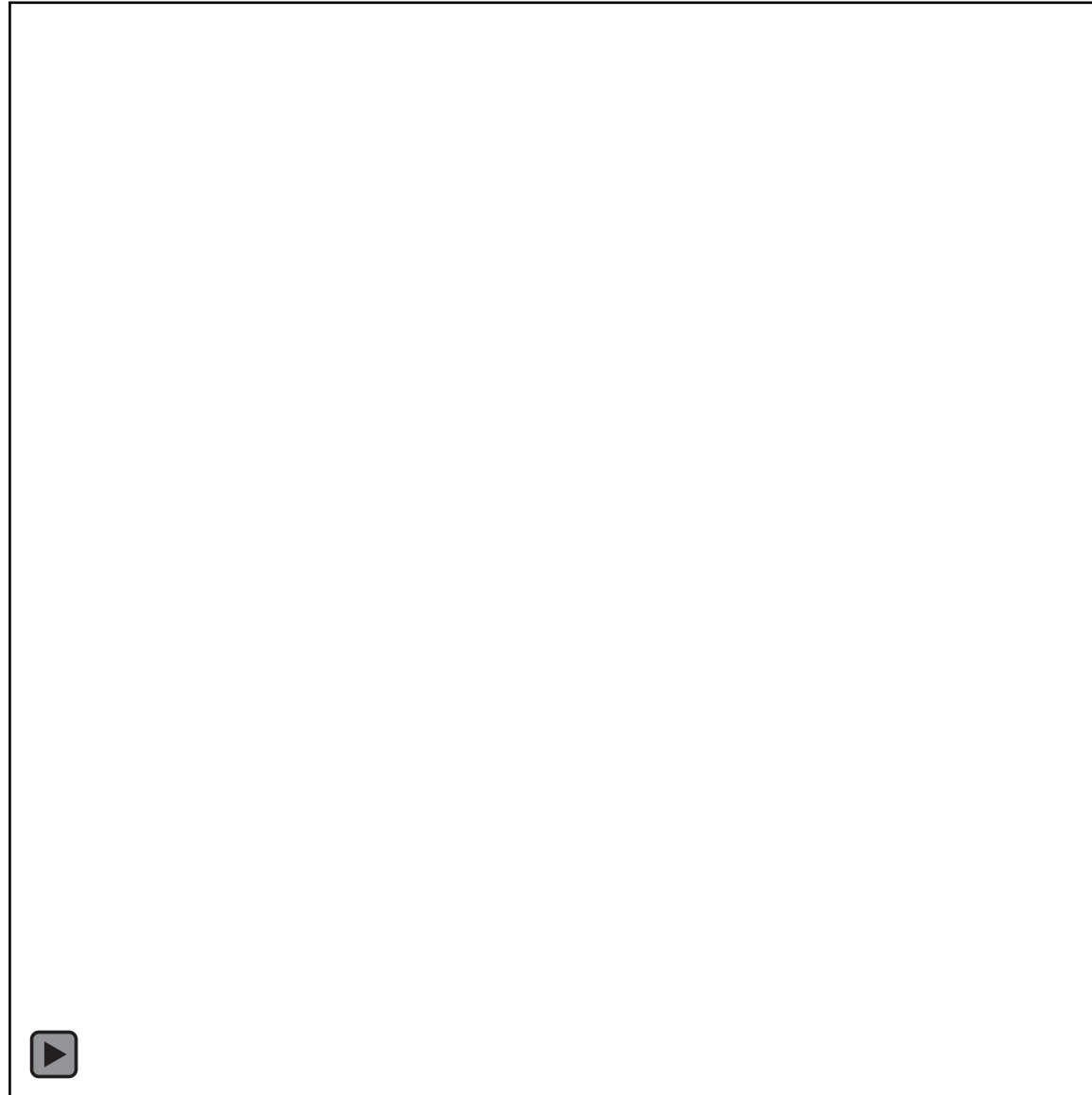
# Angio-TDM post-op après semi-conversion





# Angio-TDM à 2 ans

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## ***Open Aneurysmorrhaphy Following Branched and Fenestrated Endovascular Repair of Complex Thoracic Aneurysms***

***Florent POREZ, Dominique FABRE, Blandine MAUREL, Stéphan HAULON and al***

*This study demonstrates that thoracic aneurysmorrhaphy performed after TEVAR and FBEVAR for complex thoracic aneurysms is a safe and effective technique. This procedure allows the eradication of endoleaks and an immediate sac volume reduction, which prevents aorta-bronchial or esophageal fistulation and secures the endovascular repair; the reduction of the aneurysm mass effect restores normal lung parenchyma expansion. This hybrid management strategy drastically reduces the morbidity associated with standard open surgery performed for thoracic endograft explantation.*

HÔPITAUX Paris  
Saint-Joseph  
Marie-Lannelongue



CHU  
NANTES



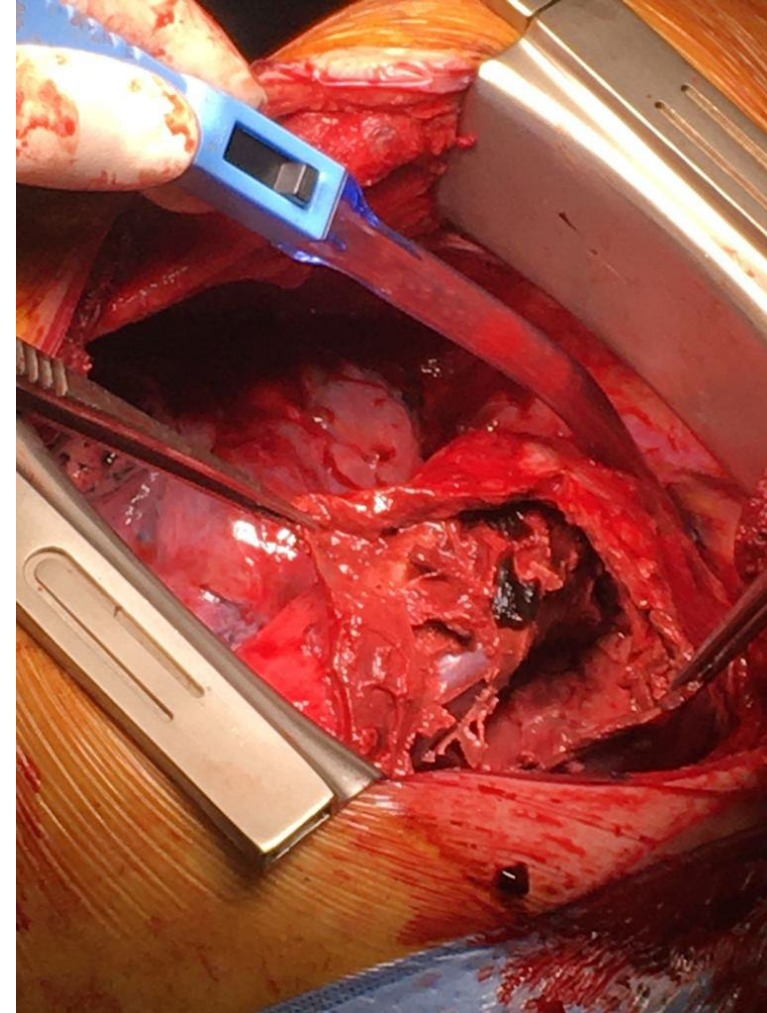
# Résultats de la semi-conversion à l'étage thoracique

- 2017 - 2024
- Bicentrique : 12 patients
- Aneurysmorrhaphy après TEVAR +/- F/BEVAR
  - ❖ 3 pts avec sac > 100 mm (*exp pulm, reduction du risque fistulisation à l'oesophage*)
  - ❖ 9 patients avec endotension ou type II + sac > 80 mm
- Age = 60 ± 12 ans
- 4 Marfan
- 50% sous AVK
- 58% chir crosse



# Résultats de la semi-conversion à l'étage thoracique

- Réa = 3,5 j
- Hospi = 14 j
- Survie à J30 = 100 %
- Suivi moyen 21 mois :
  - 2 DC (COVID + HIC sur AVK)
  - 0 DC lié à l'aorte
- 100% regression de sac
- 1 pt avec évolution distale
- 2 réint précoce (hémostase et embol FL) et 2 tardives (évolution distale)



# Merci



l'institut du thorax  
Nantes, France

