Université de Montréal

et du monde.

Aortic Case

The Winnipeg Vascular & Endovascular Symposium

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PGY-2 Vascular Surgery at University of Montreal

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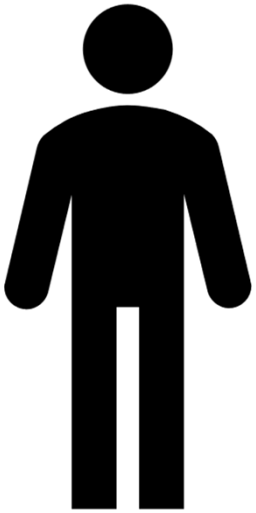
PRESENTER DISCLOSURE

I have no current relationships with commercial entities

Identification & PMHx



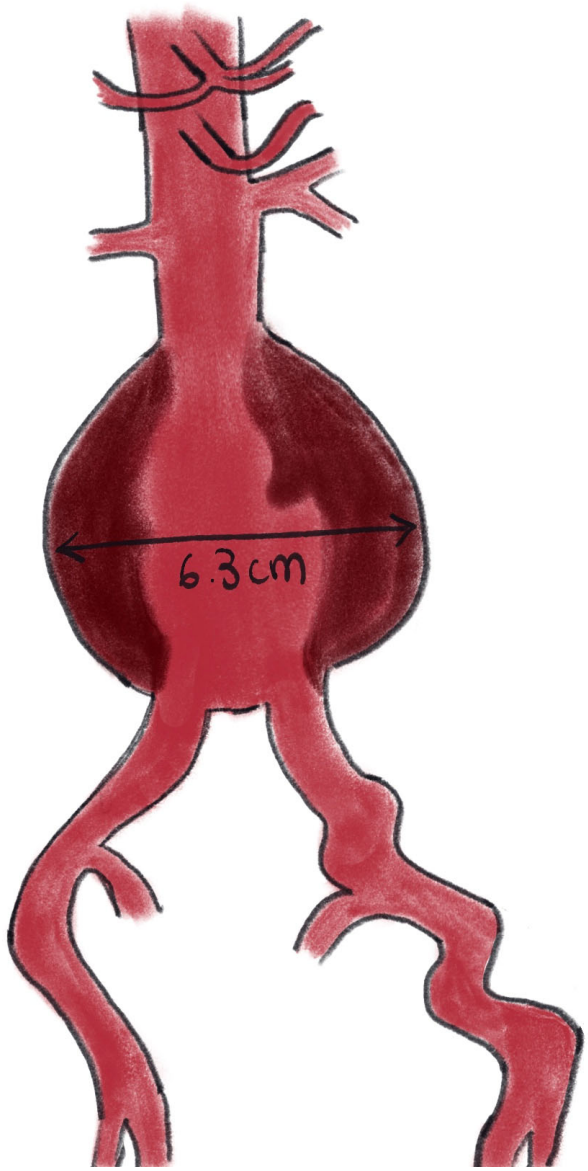
Identification

M 78yo, functionally independant

PMHx

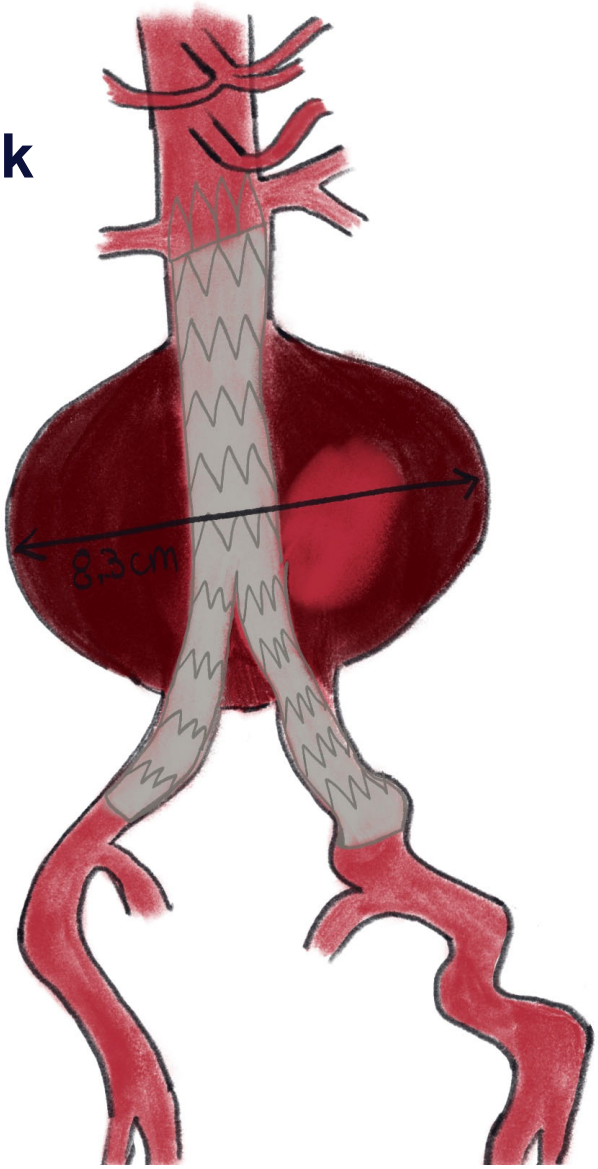
- DMII, DLP, HTN, AF (Apixaban), COPD, past smoker
- CAD: Anterior MI 1990, CABG 2000, NSTEMI I (in recent years)
- Partial gastrectomy Billroth II (1982)
- Choledocholithiasis with cholangitis (2021)

2009: Infrarenal AAA

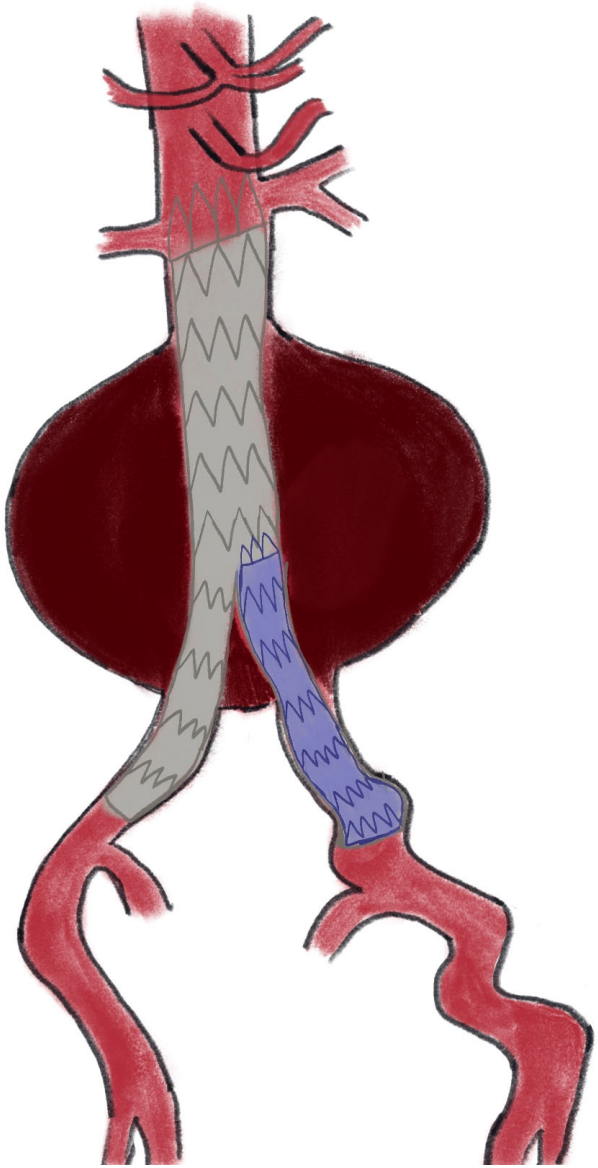


EVAR in Russia

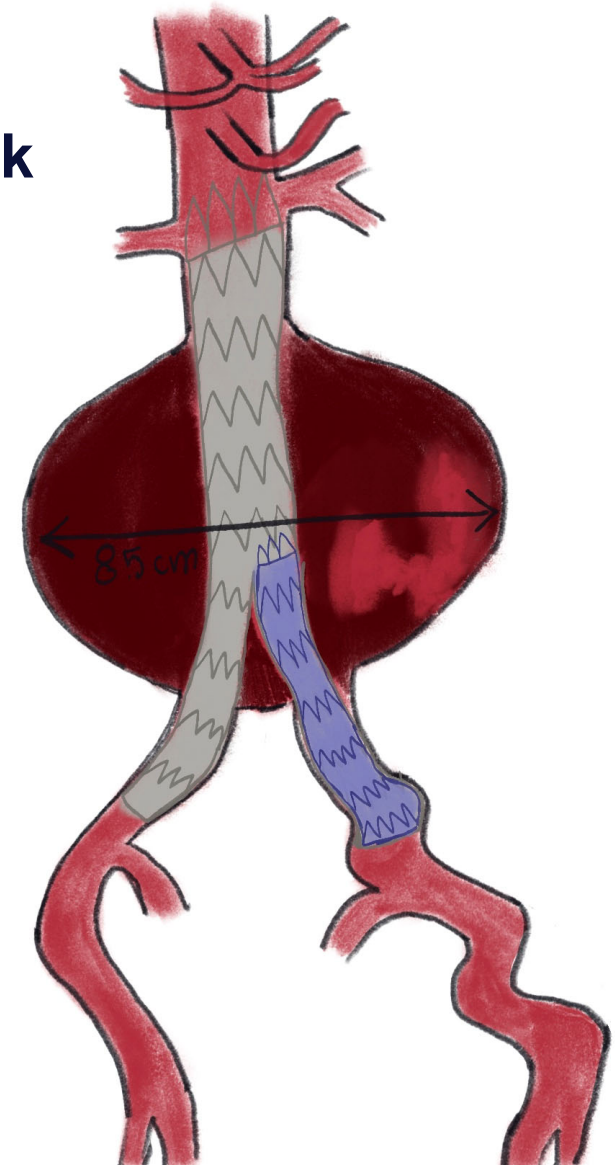
2013: Type III Endoleak



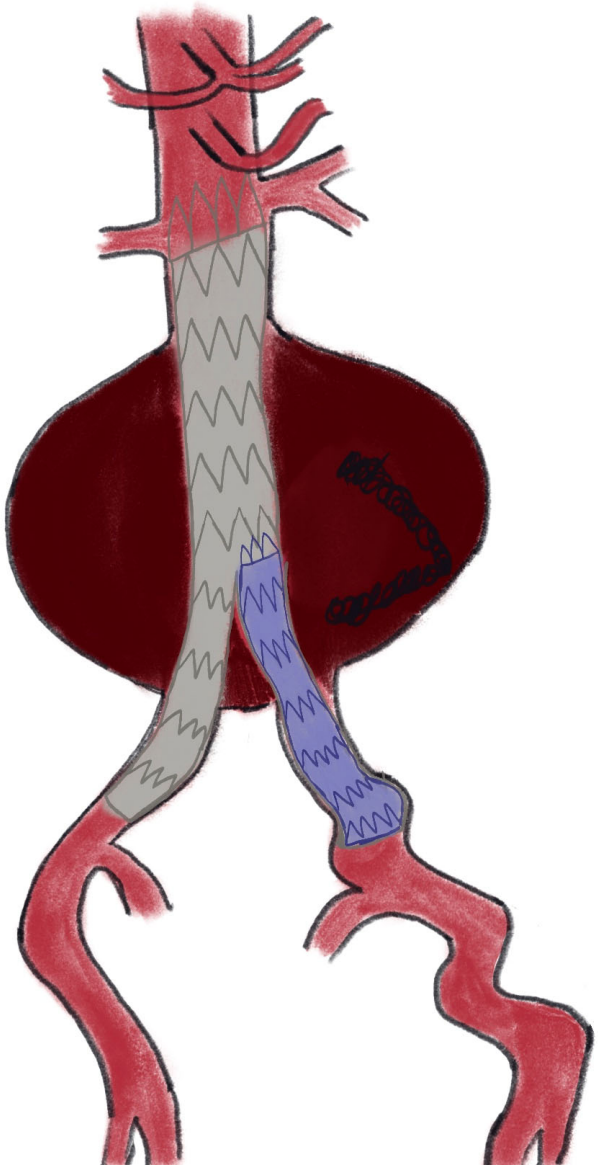
Endograft Religning



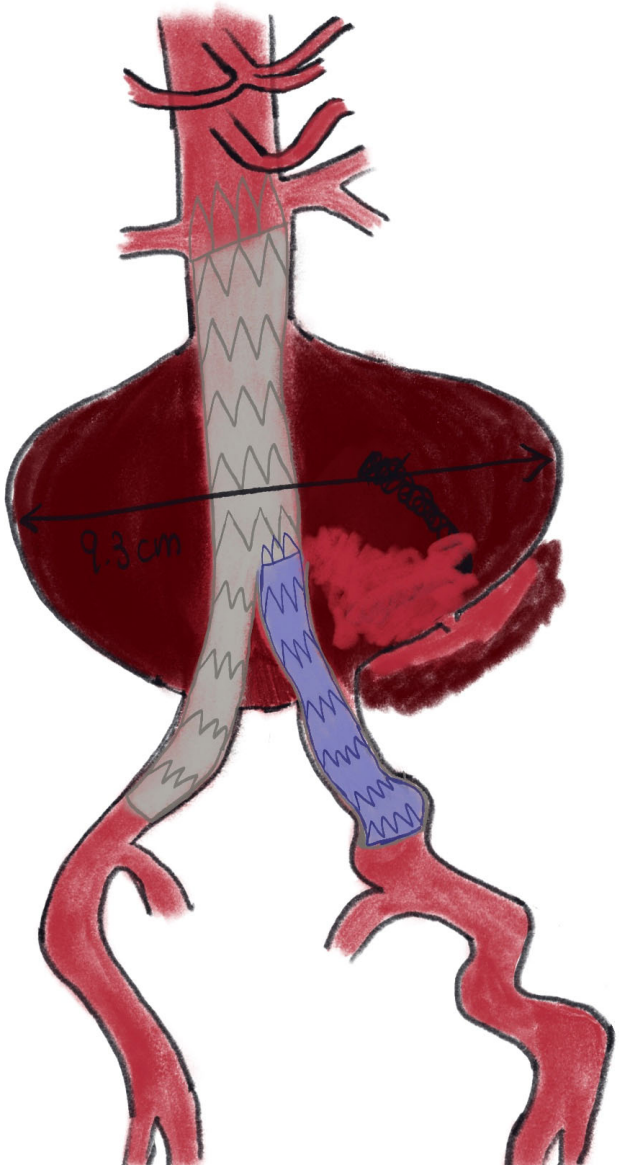
2016: Type II Endoleak (Lumbar)



Coil Embolization

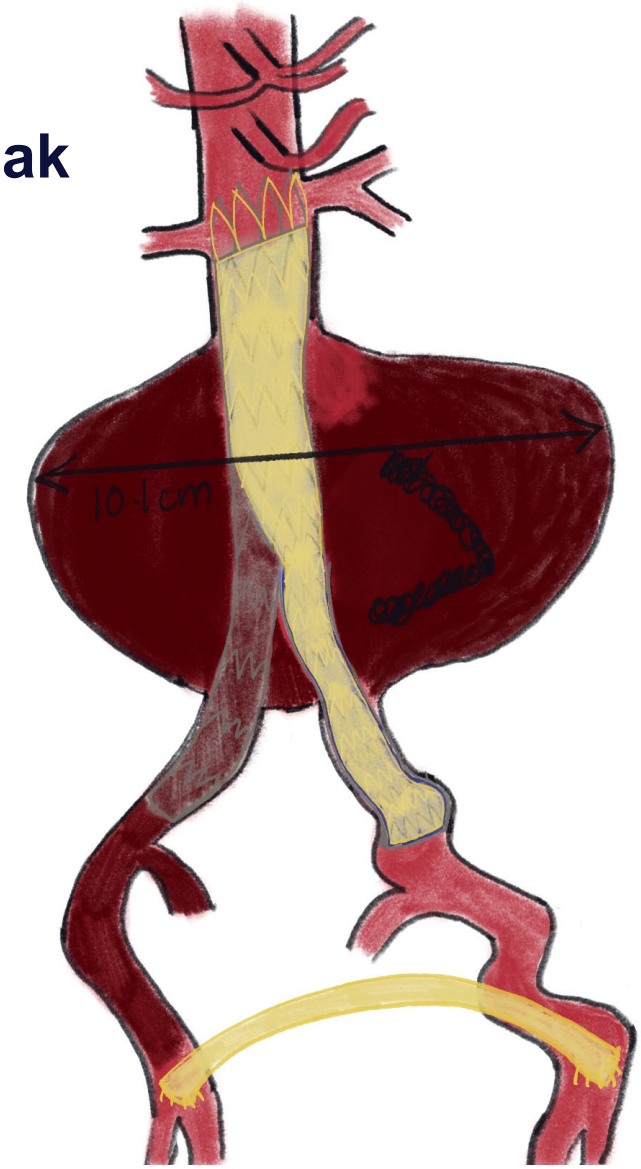


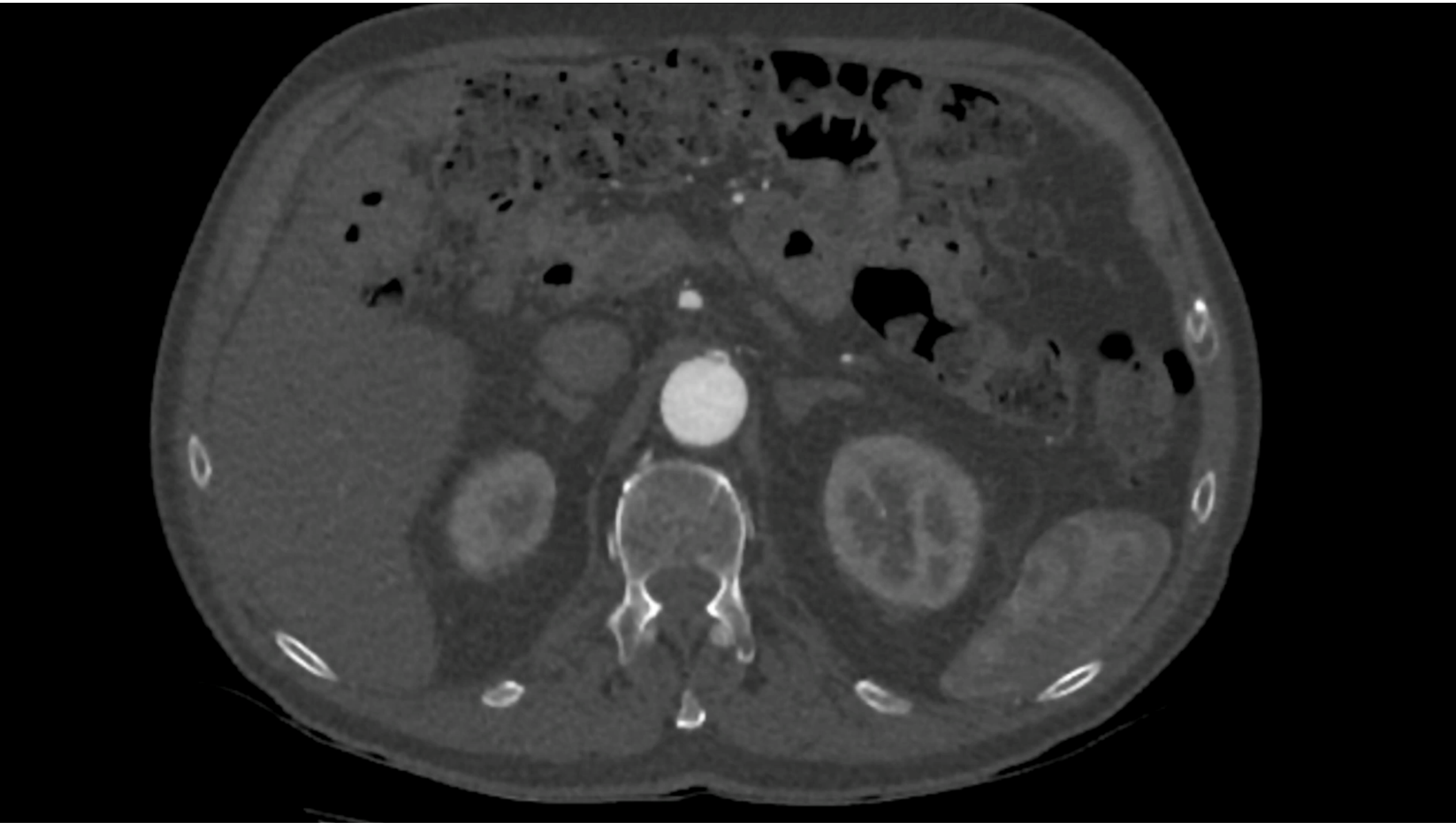
2022: Ruptured AAA

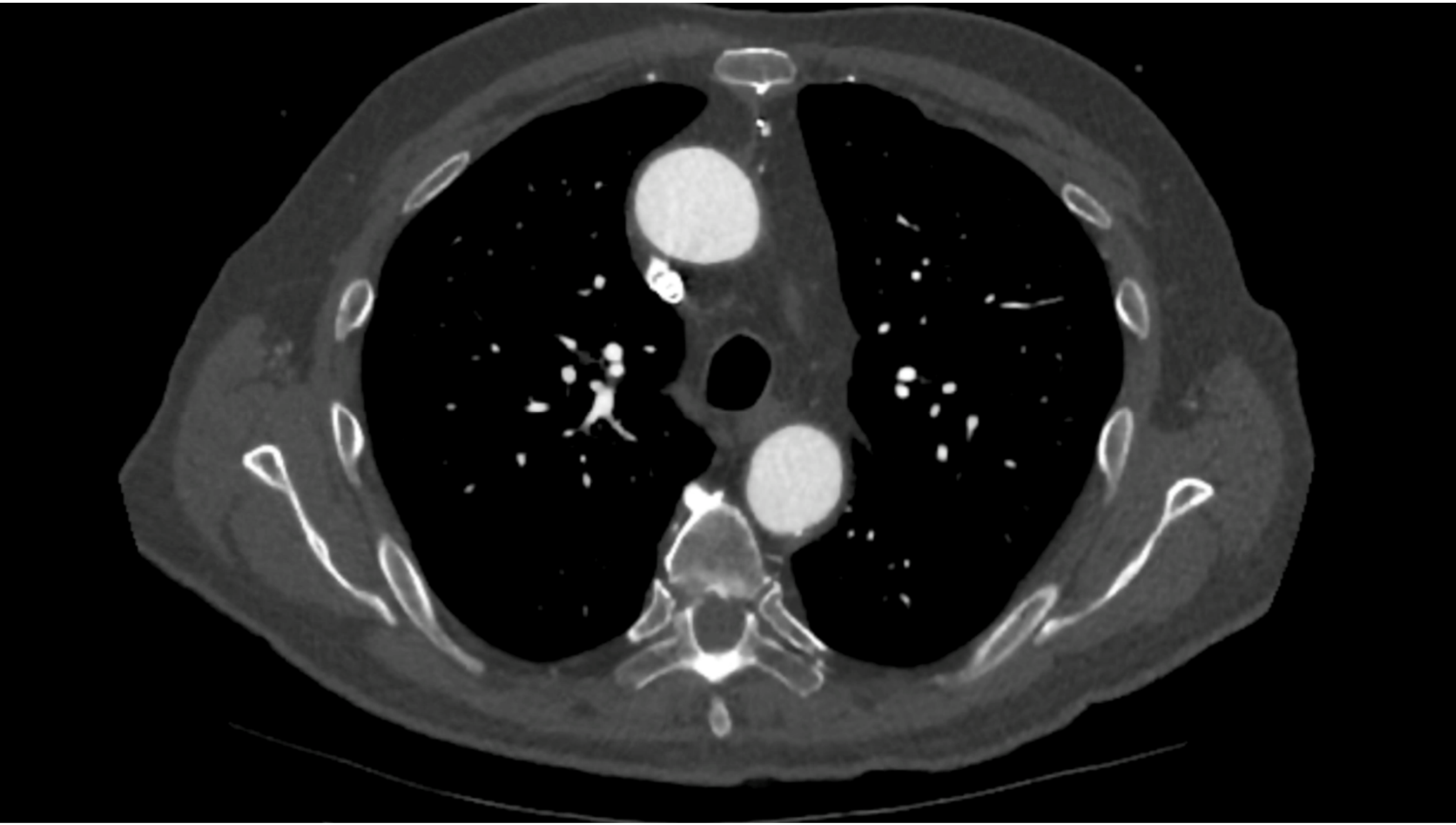


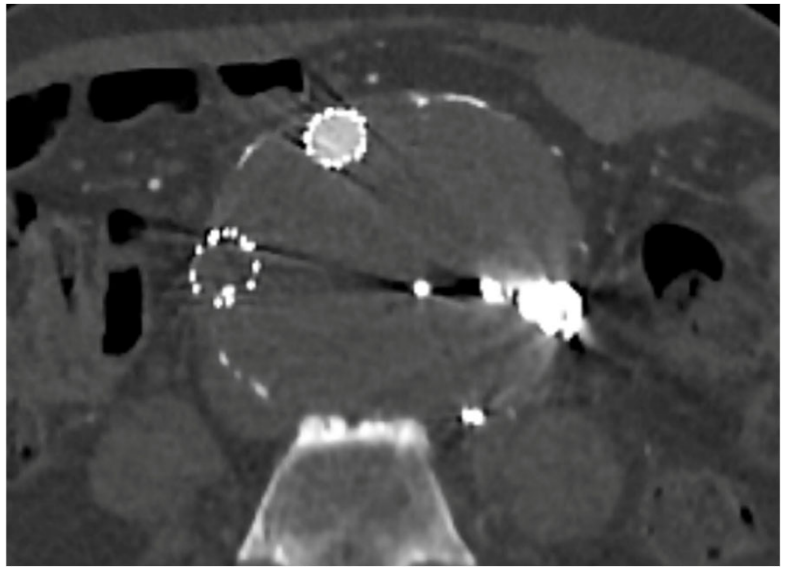
Aorto-uniliac Stent & Fem-fem Bypass

Now: Type Ia Endoleak



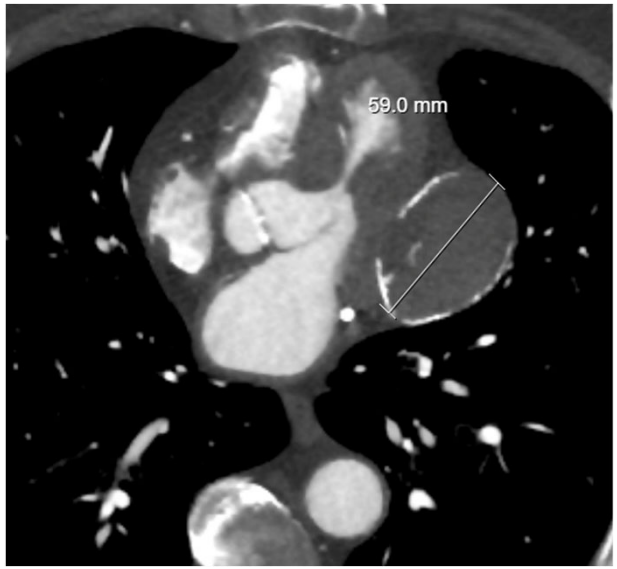






10 cm AAA

VS



6cm CABG

Question 1: Which pathology do you treat first?

1. Aneurysmal Degeneration of Prior CABG (partially thrombosed)
2. Type Ia Endoleak

Answer

Type Ia Endoleak

Preop Cardiology Evaluation:

- MPI: mild to moderate ischemia in lateral wall (stable)
- TTE: normal biventricular function, no valvulopathy

Treatment Options

Open Surgery

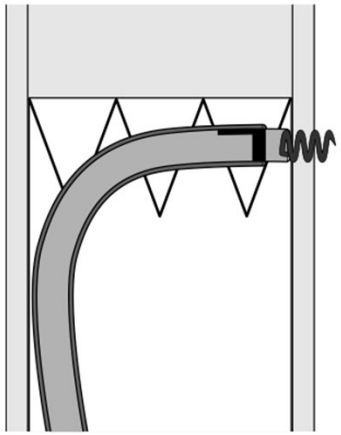
Patient deemed unfit for the following reason

- Multiples comorbidities
- Hostile abdomen

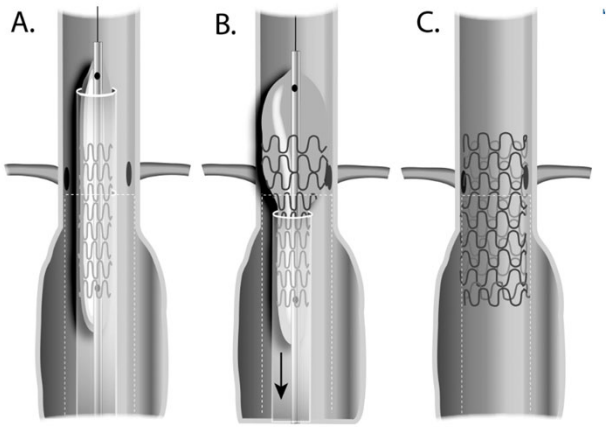
Endovascular

- EndoAnchors (Medtronic)
- Palmaz Stent
- Chimney Stent
- FEVAR
  - Custom-made
  - PMEG
  - In-situ laser
- BEVAR
  - Custom-made
  - Off-the-shelf

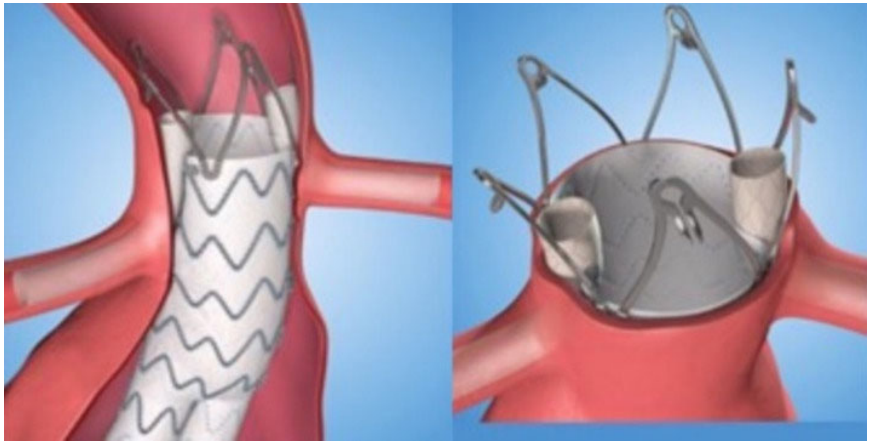
Treatment Options



EndoAnchor



Giant Palmaz



Chimney

Question 2

Which definitive endovascular option would you choose?

1. FEVAR: Custom-made
2. FEVAR: PMEG and/or in-situ laser
3. BEVAR: Custom-made
4. BEVAR: Off-the-shelf

Answer

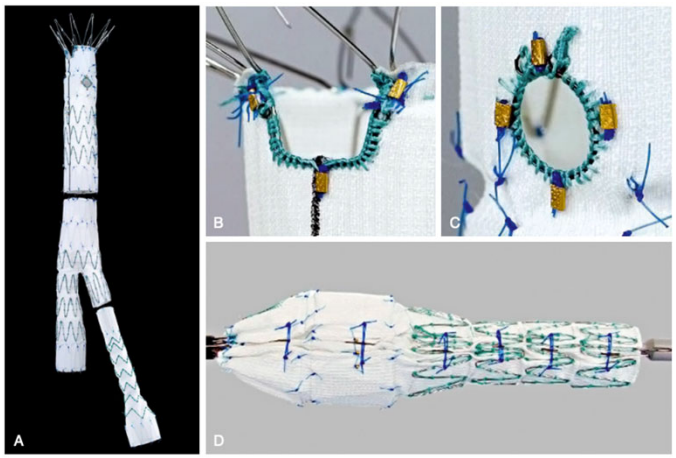
FEVAR PMEG and in-situ laser

Why?

Fenestrated vs Branched Endograft

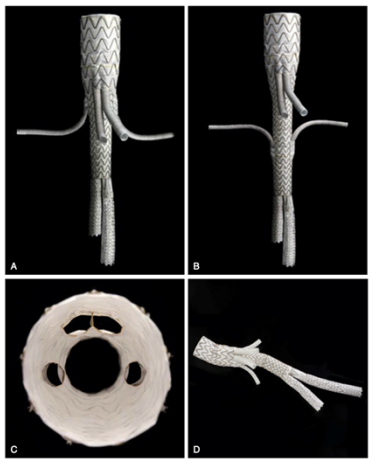
Fenestrations ✔

- Better renal arteries patency (short bridging stents)



Branches ✘

- Longer coverage of the aorta (SCI risk)
- Longer bridging stents (thrombosis risk)



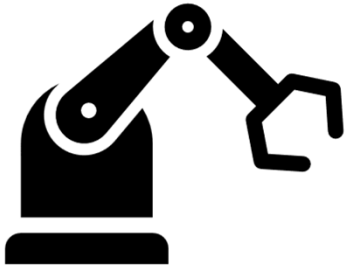
PMEG/In-situ vs Custom-Made

PMEG/In-situ ✔

- No delay of manufacturing

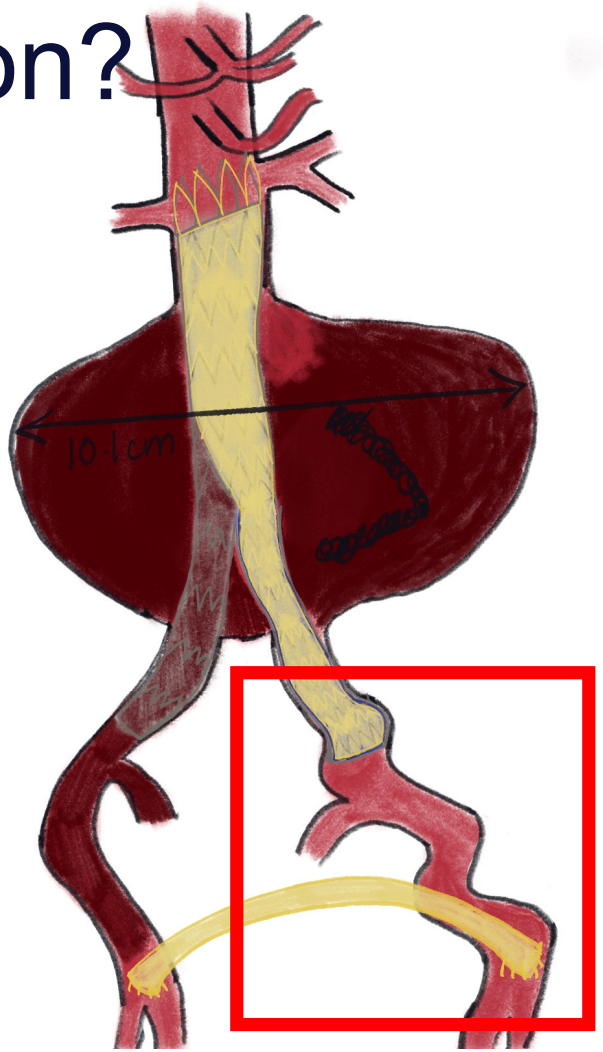
Custom-Made ❌

- Two access sites necessary
- Long delay



Why in-situ laser fenestration?

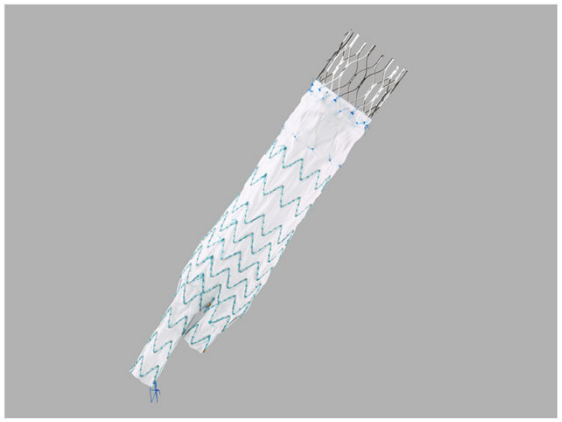
- No need to orient the endograft
- Adapts to complex/hostile anatomy



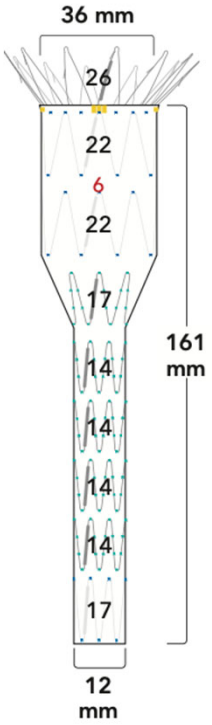
Final Choice: PMEG Cook ZIMB 36-118 with In-Situ Laser

Why Cook ZIMB 36-118?

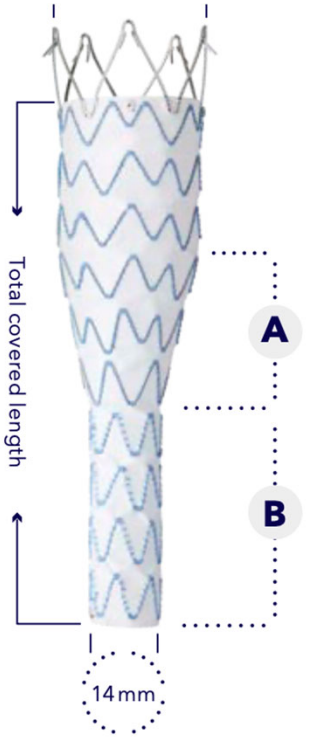
- Longest available proximal body
- AUI alternatives: too short for this anatomy (required length: 74 mm)



Cook ZIMB 36-118

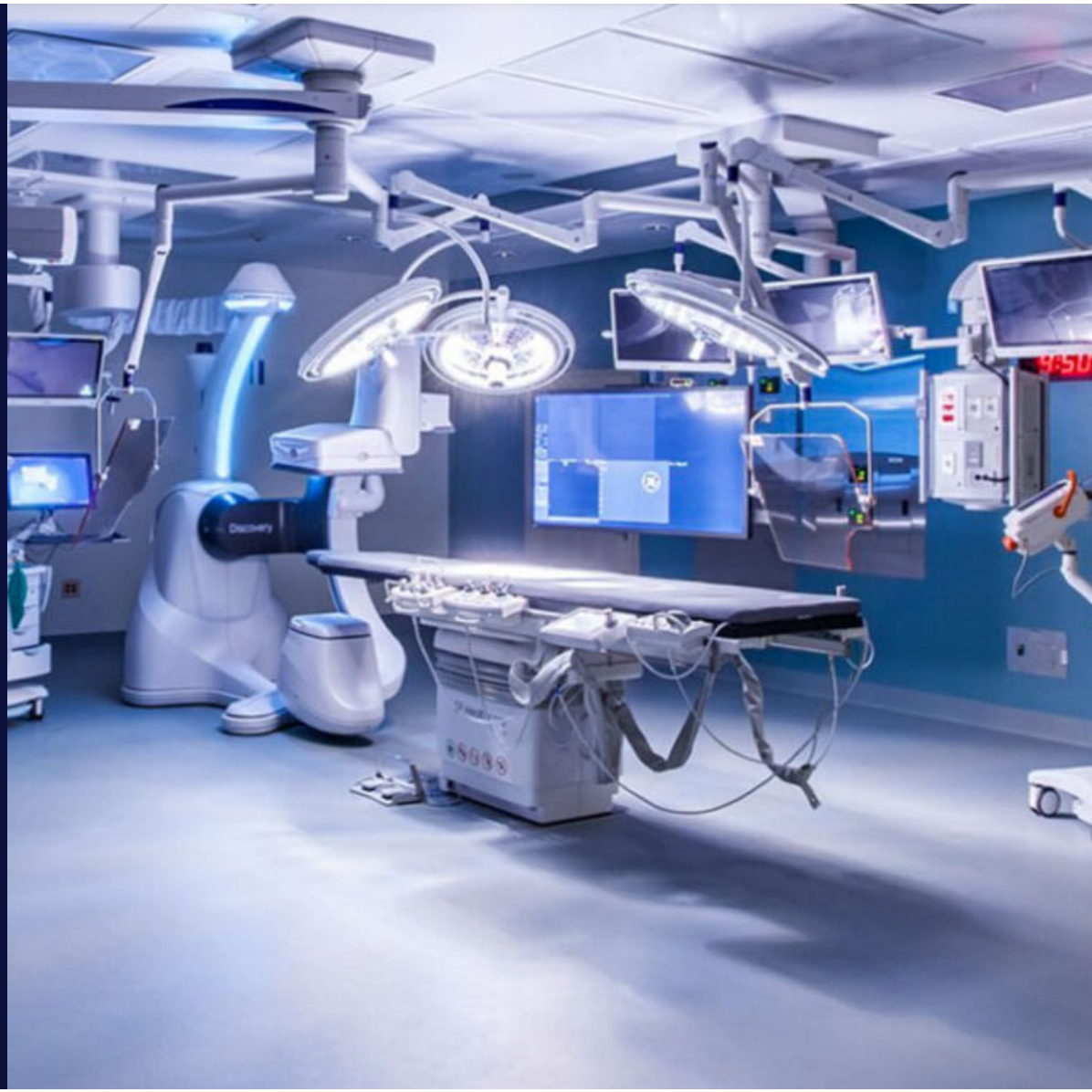


Cook AIU

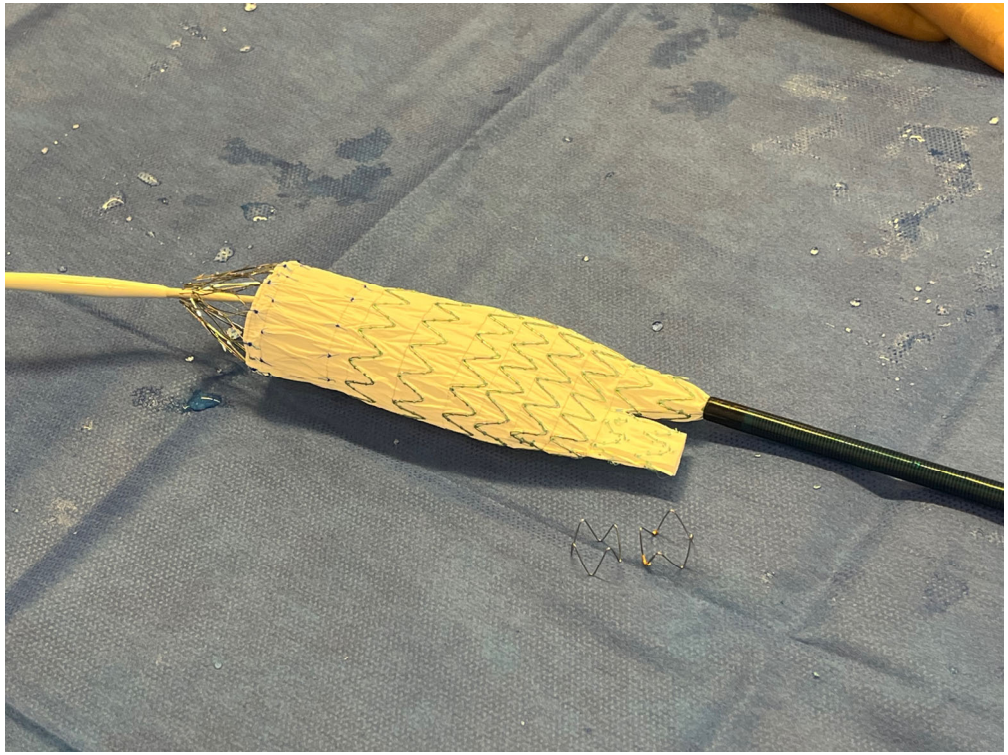


Medtronic AIU

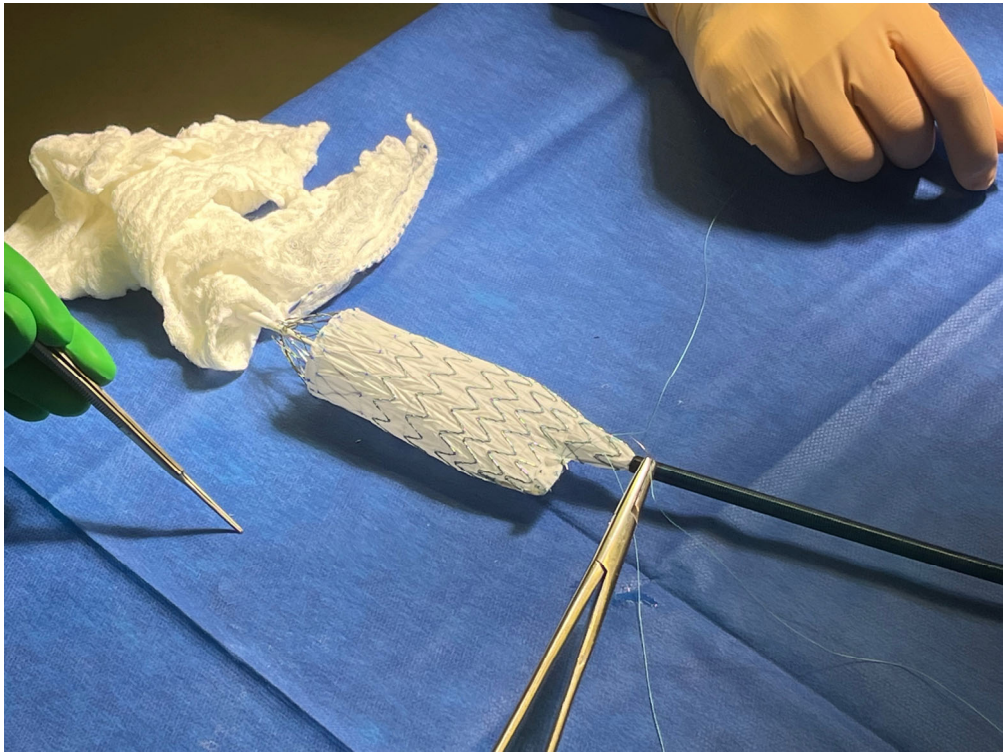
Surgical Steps



Step 1 - PMEG

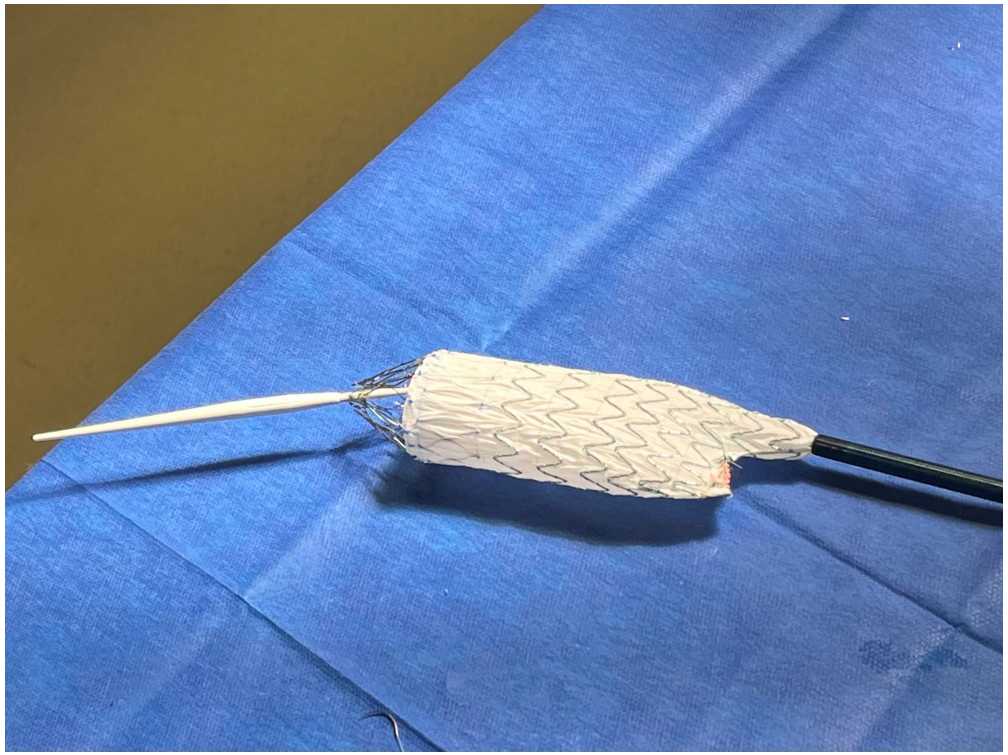


Remove stents of contralateral limb

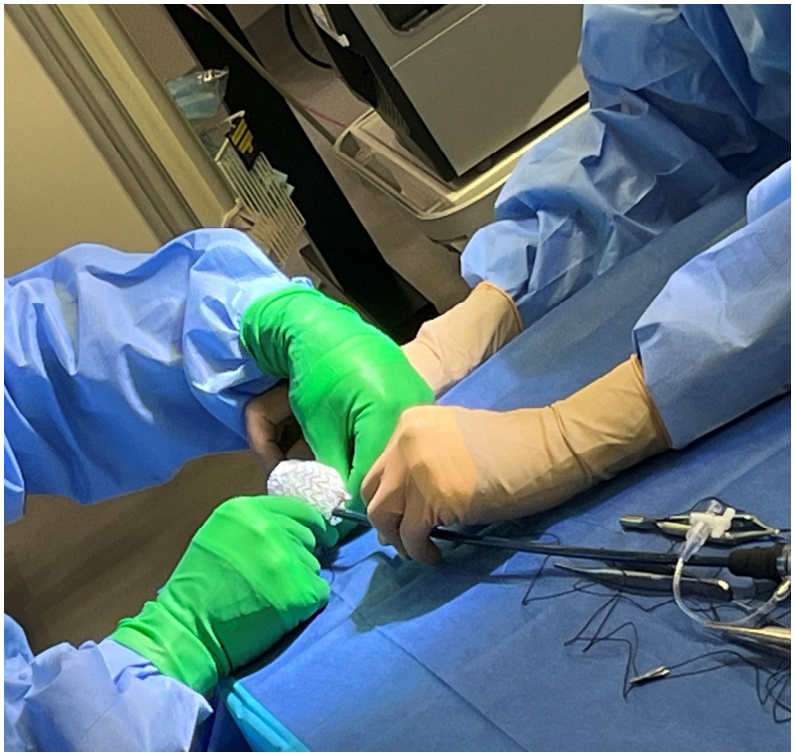


Fold up & suture contralateral limb

Step 1 - PMEG

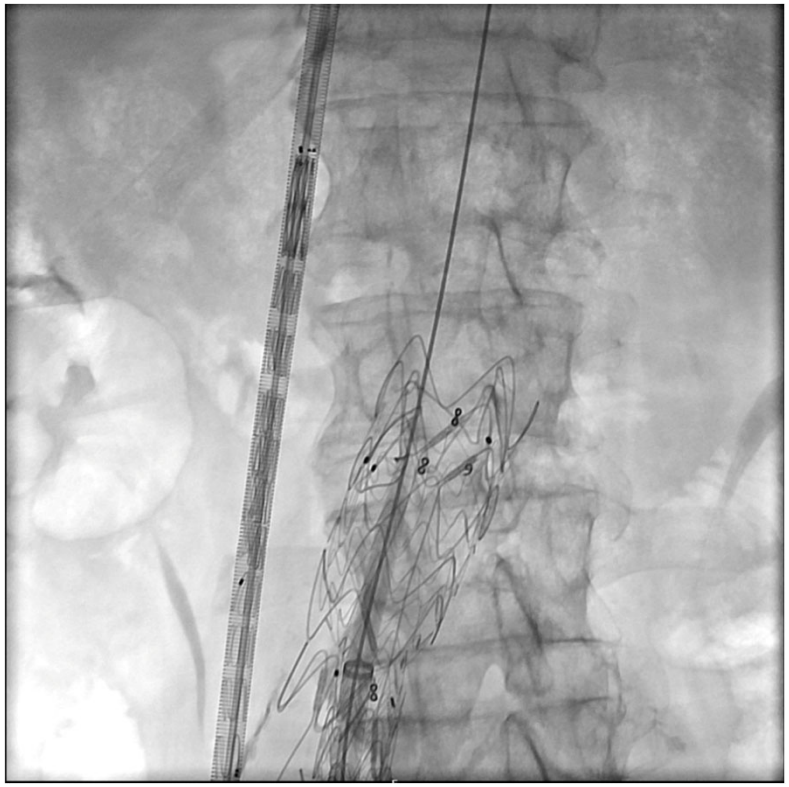


Sutured contralateral limb

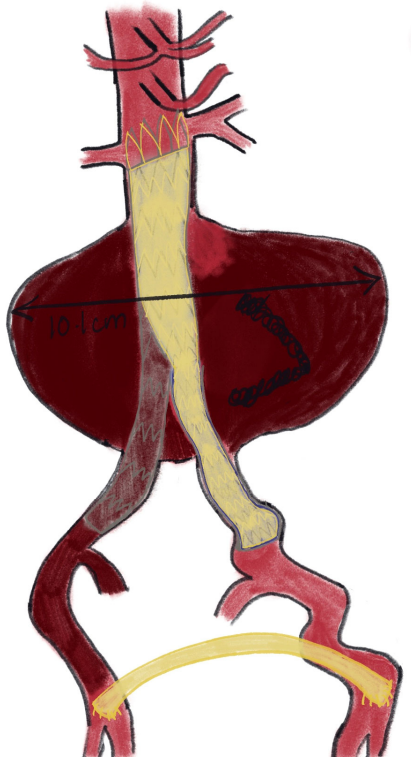


Reloading

Step 2 – Orientation & Access



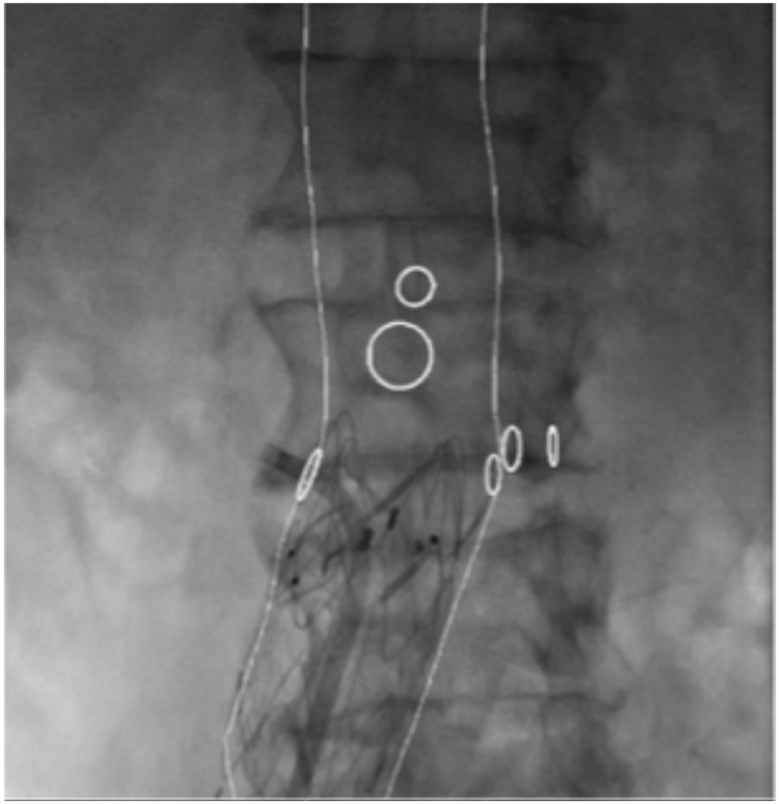
Verify orientation of the endograft



Single open left groin access

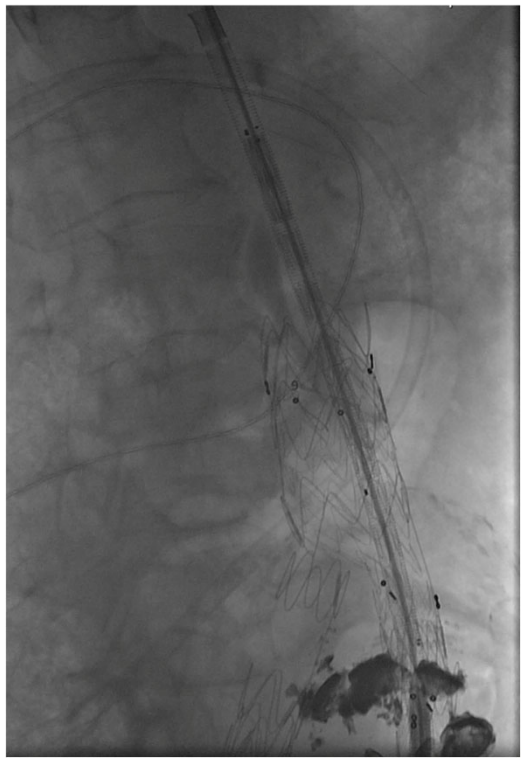
Step 3 – Verify Fusion

Place pigtail inside



Catheterize renal arteries and SMA

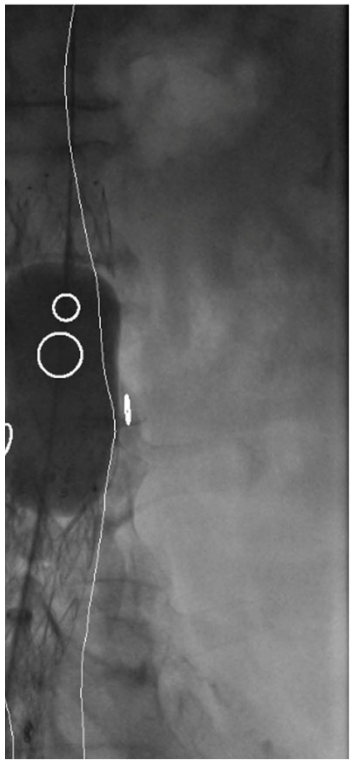
Step 4 – Deployment of the Endograft



Endograft as proximal as possible

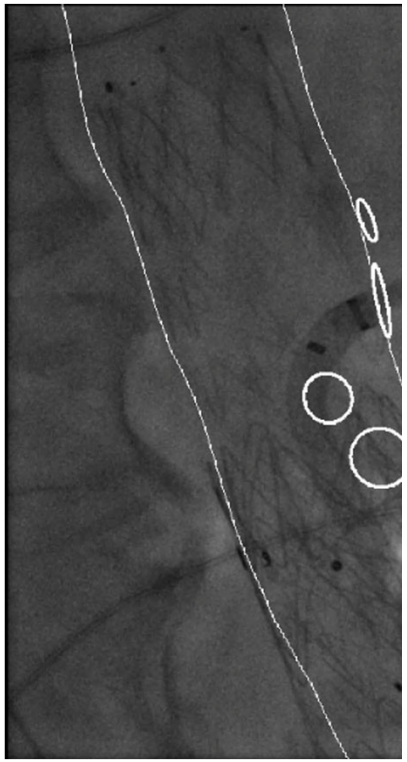
Endograft deployed

St ıg

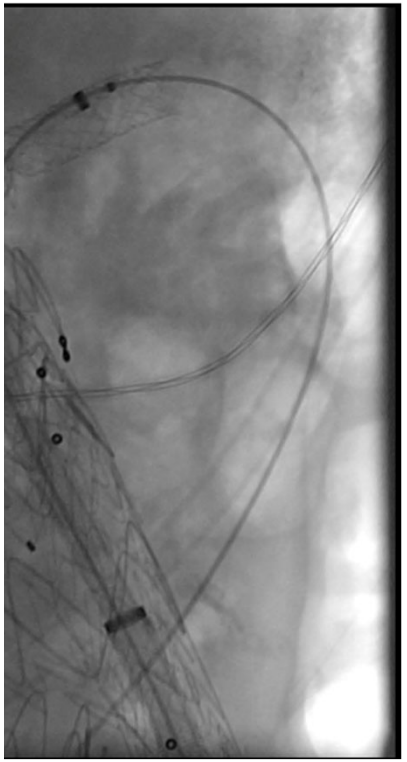


Ballooning of pro eral segments

S ng

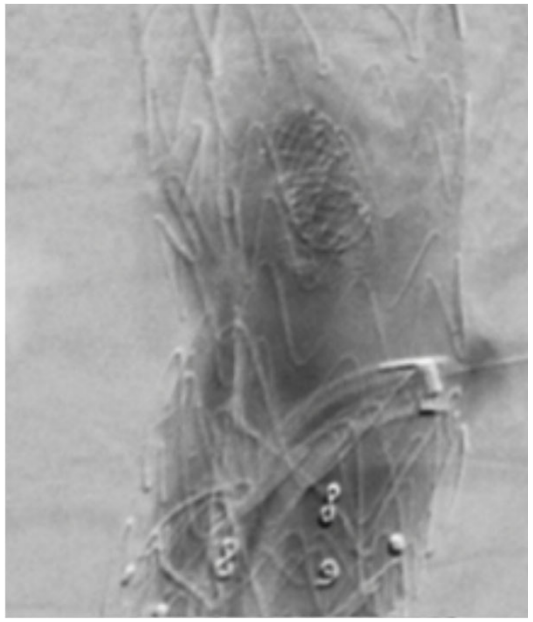


SMA Laser



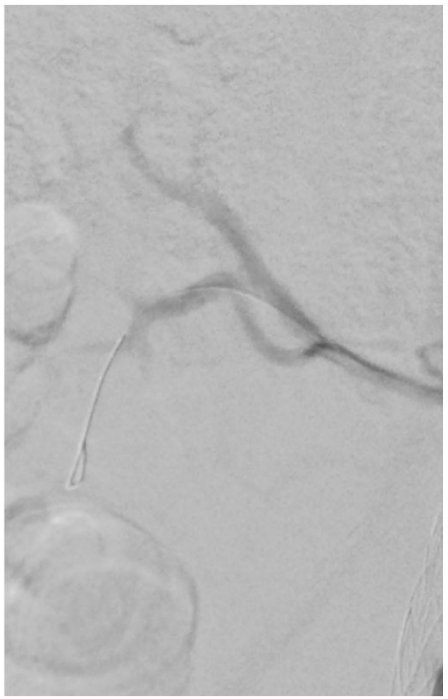
stent in SMA

S g

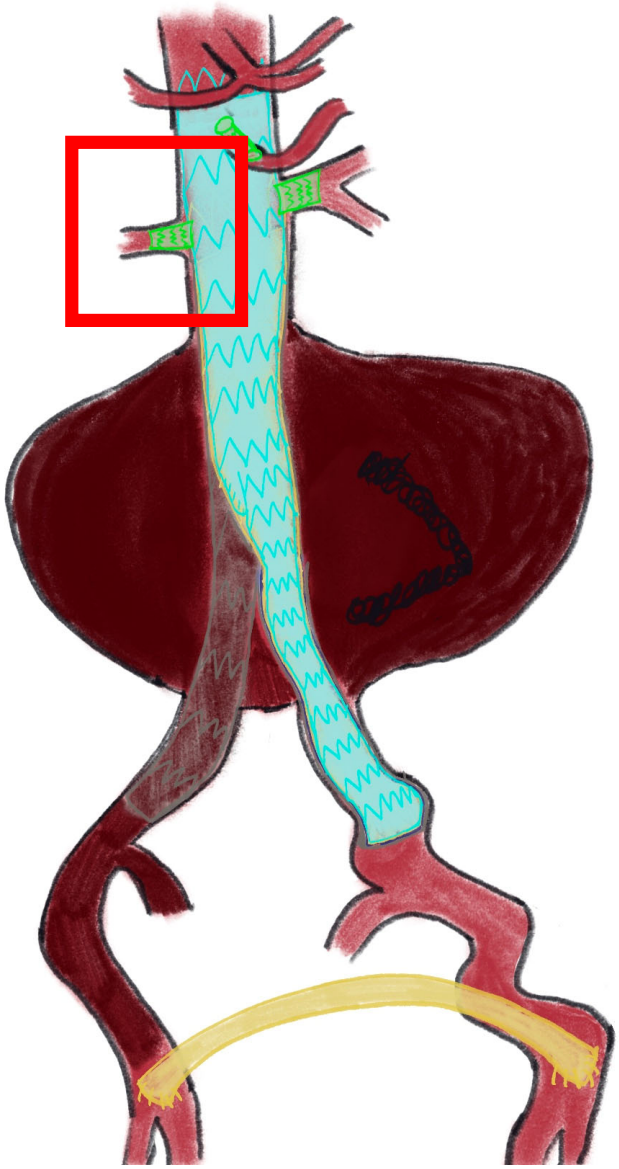


LRA Laser

tent in LRA

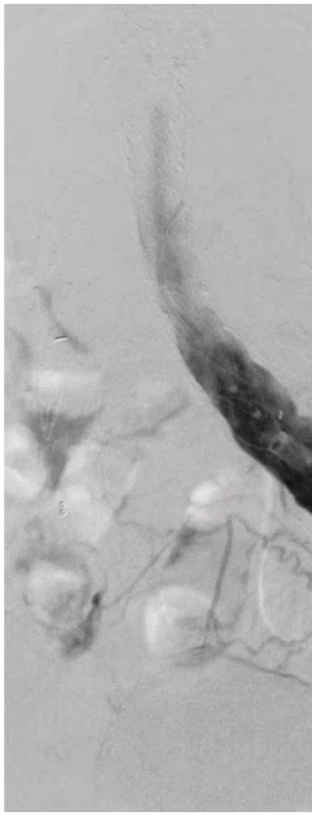


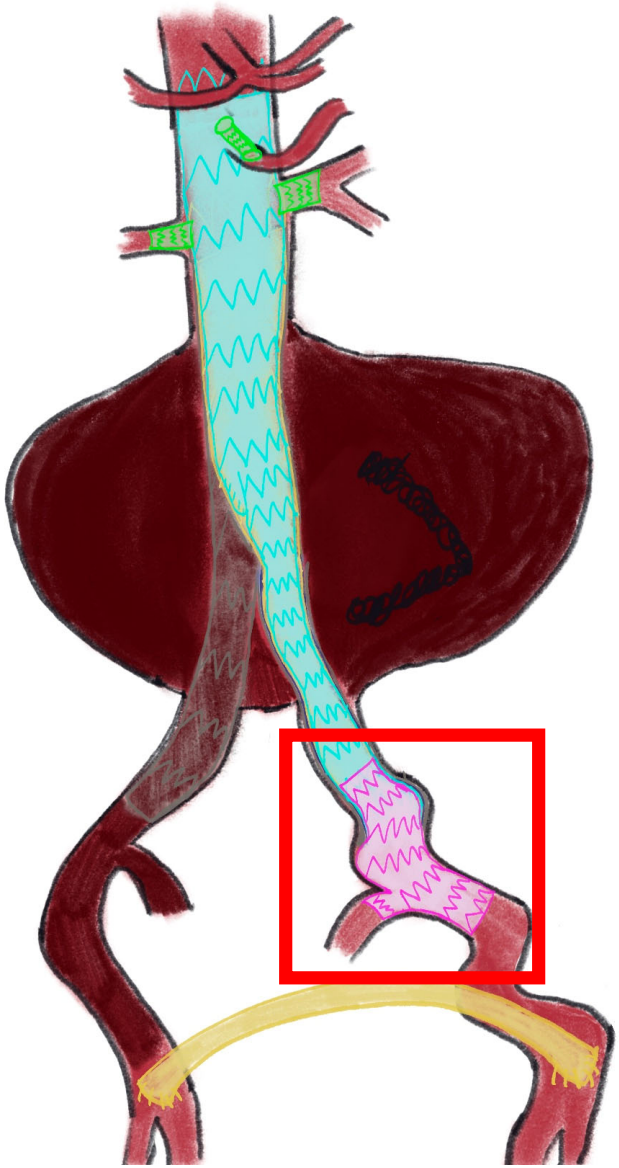
RRA Laser

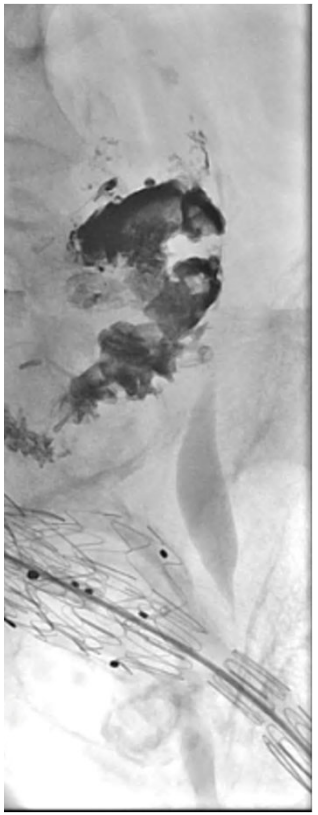


pheral stent in RRA

Step 9 - Angiography







IBG Placement

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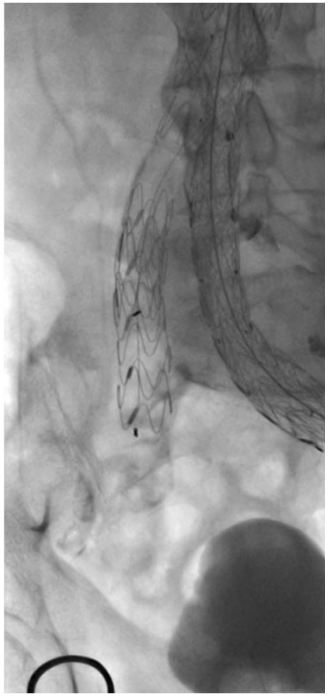
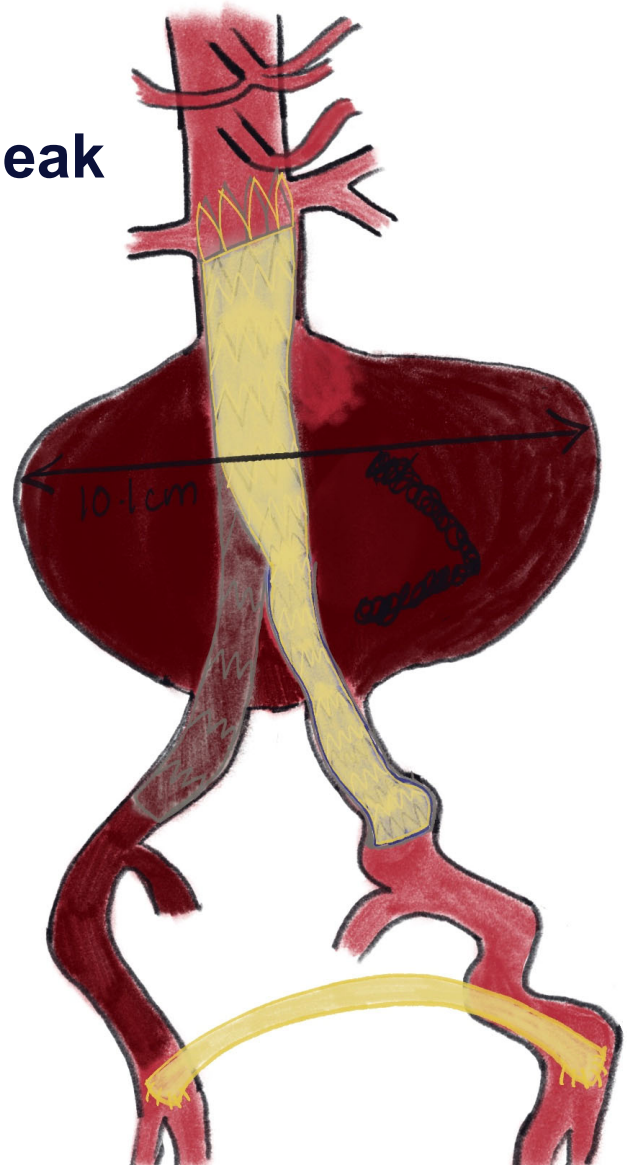
Step ıting

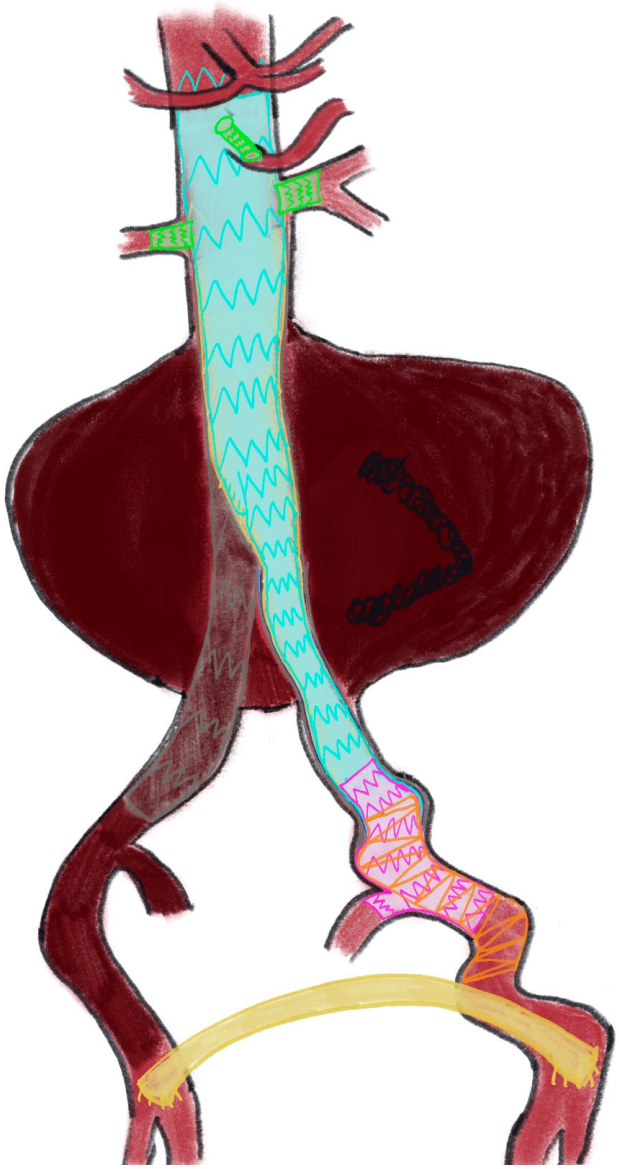


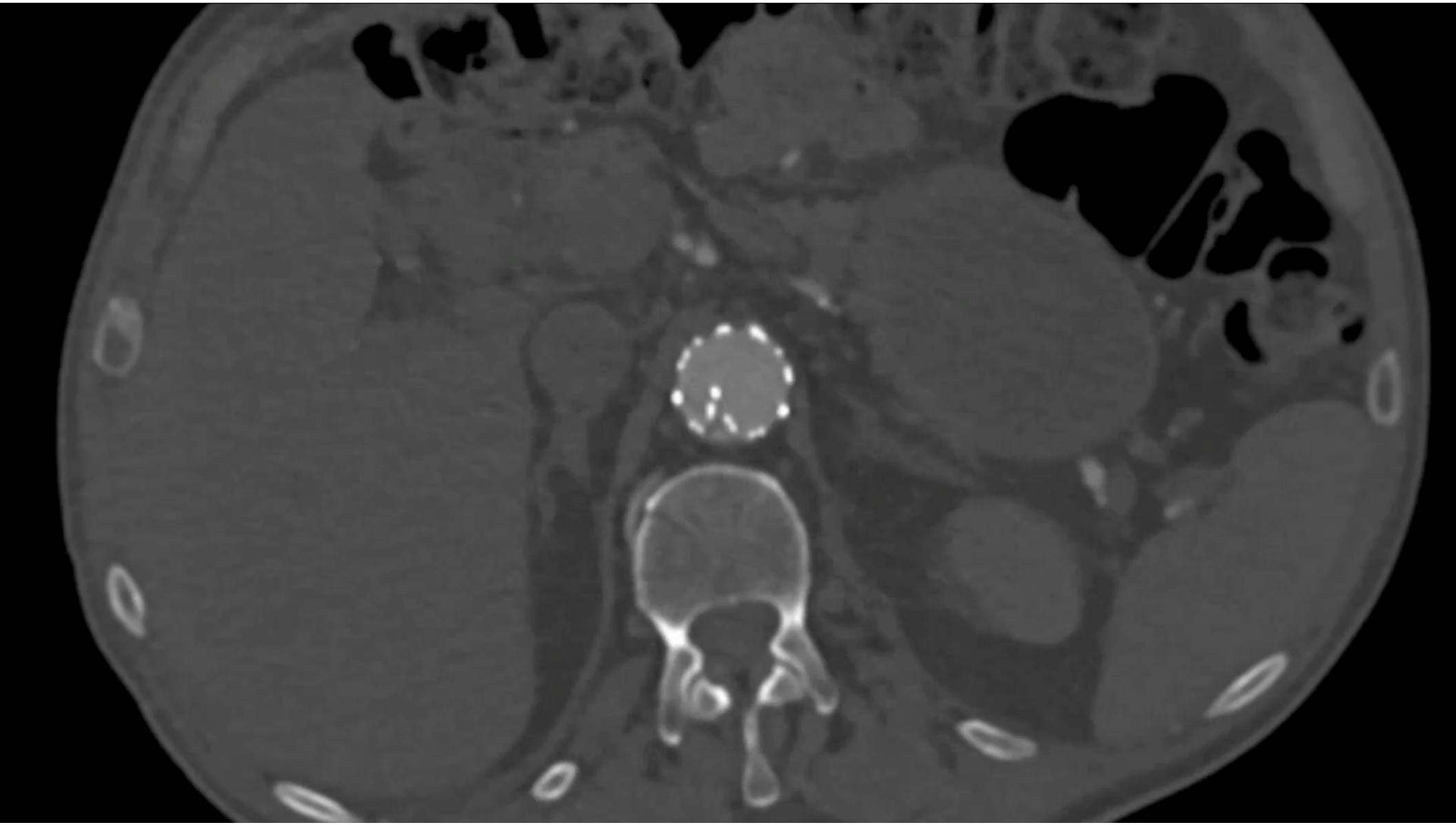
Everflex stent pl ıt deployment

Preop: Type Ia Endoleak



Final Result





Conclusion

- Complexity of managing a redo EVAR with a type Ia endoleak
- PMEG/in-situ laser: timely, adaptable, and effective solution

Questions & Discussion

References:

1. Medtronic, Heli-FX™ EndoAnchor™ System, Indications for Use
2. Kim JK, Noll RE Jr, Tonnessen BH, Sternbergh WC 3rd. A technique for increased accuracy in the placement of the "giant" Palmaz stent for treatment of type IA endoleak after endovascular abdominal aneurysm repair. J Vasc Surg. 2008 Sep;48(3):755-7. doi: 10.1016/j.jvs.2008.05.023. PMID: 18727977.
3. Hayson A, Hallak A, Moon D, Money S, Sternbergh WC 3rd, Brinster C. Successful treatment of a persistent type IA endoleak with endoanchors following chimney endovascular aortic repair. J Vasc Surg Cases Innov Tech. 2022 Nov 3;8(4):854-858. doi: 10.1016/j.jvscit.2022.10.018. PMID: 36545496; PMCID: PMC9761474.
4. Mohebali JH, Eagleton MJ. " Fenestrated and Branched Endograft Treatment of Juxtarenal, Paravisceral, Thoracoabdominal, and Aortic Arch Aneurysms: Device Selection and Technical Considerations " Title: Rutherford's Vascular Surgery and Endovascular Therapy, edited by Sidawy AN et Perler BA, Tenth Edition, Elsevier, 2021, pp.1081-1097e3.
5. Disclaimer | Cook Medical. www.cookmedical.eu. https://www.cookmedical.eu/products/977b51c2-4dbe-4563-a11a-d53bf34feef6/
6. Sputnik's Anniversary – Looking Back at 66 Years of Spaceflight. Museum of Science. Published 2023. https://www.mos.org/article/sputniks-anniversary-looking-back-66-years-spaceflight
7. Magazine OT. Hybrid ORs. OR Today. Published March 2024. Accessed April 23, 2026. https://ortoday.com/hybrid-ors/

Département de chirurgie
Faculté de médecine

Université de Montréal et du monde.

Left iliac landing zone strategy = IBG

- Patient was at high risk of type Ib endoleak (LDZ 9 mm)
- 5 redos already and we didn't want to reopen this groin in the future