23RD INTERNATIONAL EXPERTS SYMPOSIUM
CRITICAL ISSUES in aortic endografting 2019
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Endovascular treatment of Type A dissection: lessons from TAVI

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Disclosure

Speaker name:

...Dr Suneil Aggarwal.....

☐ I have the following potential conflicts of interest to report:

☐ Consulting

☐ Employment in industry

☐ Shareholder in a healthcare company

☐ Owner of a healthcare company

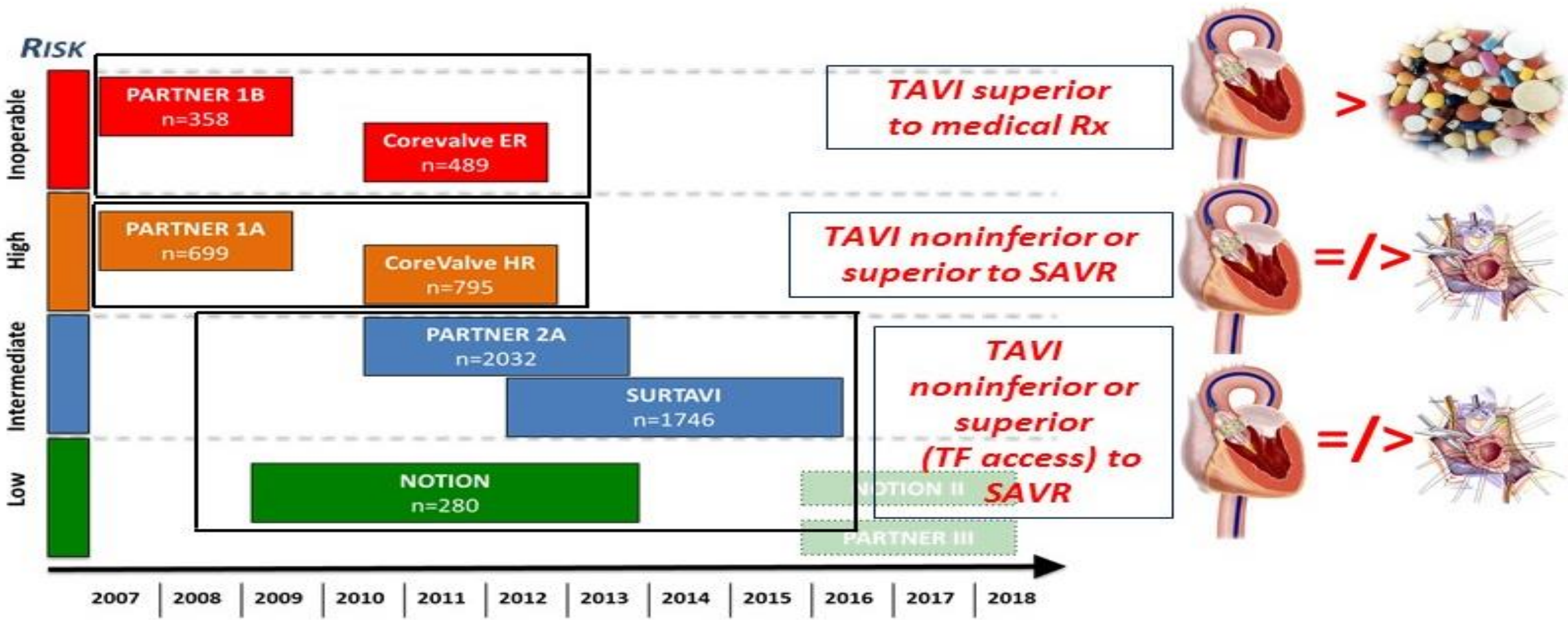
☐ Other(s)

☑ I do not have any potential conflict of interest

Issues to consider

- Patient selection
- Access
- Stabilising the guidewire and rapid pacing
- Stent deployment
- Securing the aortic valve and coronaries

Evolution of evidence



Patient selection

- Co-morbidities
  - Frailty
  - COPD/lung function – especially for Trans-apical access
  - Associated coronary disease
  - Known malignancy/other condition impacting life expectancy

- Technical aspects
  - Coronary height
  - LV apical tissues (for trans-apical access)

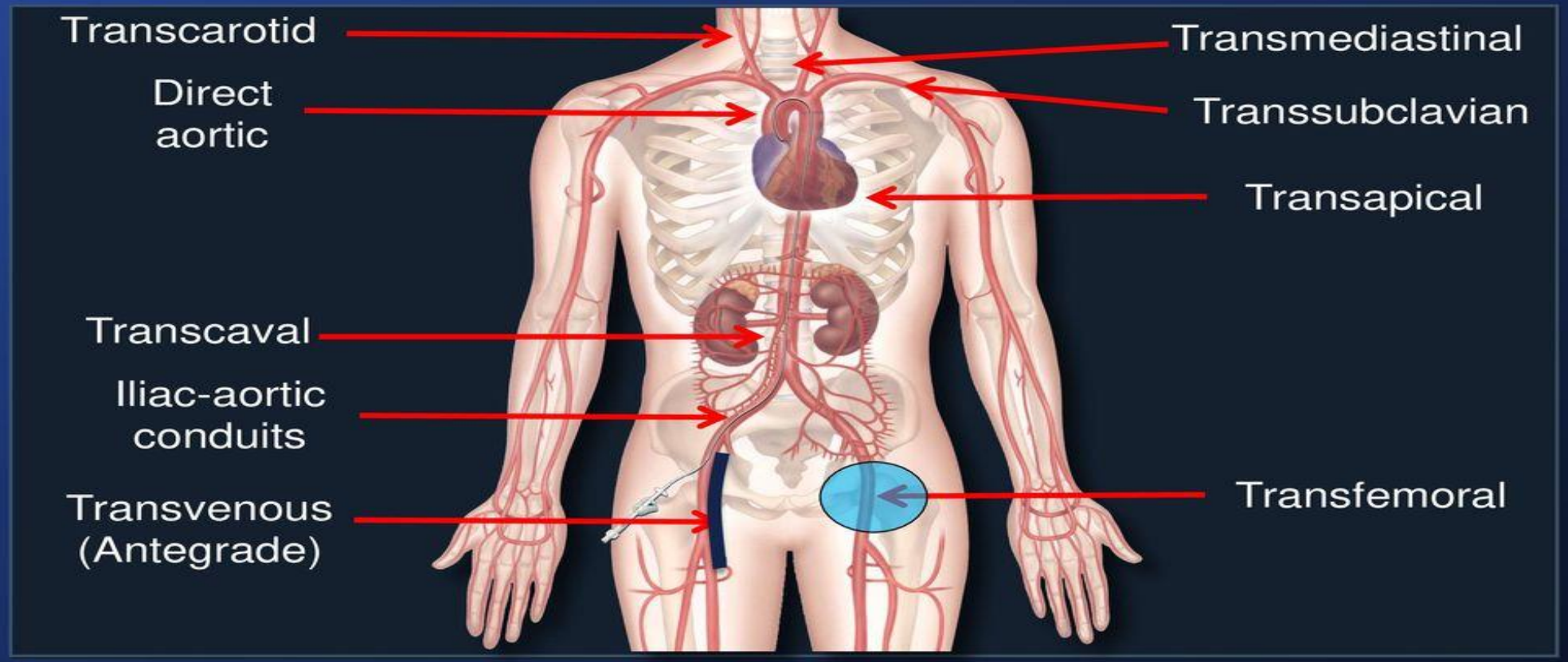
Thoracic endovascular repair for acute type A aortic dissection: operative technique

Aamir Shah, Ali Khoynezhad

Table 1 Anatomical requirements for ascending aortic TEVAR
Proximal and distal landing zones
Length >10 mm
Diameter >16 and <42 mm
No significant difference between proximal and distal landing zone (<10%)
Absence of calcification or thrombotic material
Aortic dissection
Intimal tear >10 mm above the sinotubular junction
Intimal tear >5 mm proximal to the innominate artery
No aortic regurgitation
Access vessels
Diameter of the common and external iliac artery >7 mm

Ann Cardiothorac Surg 2016;5(4):389-396

TAVI 2019 – potential access routes



Transapical access

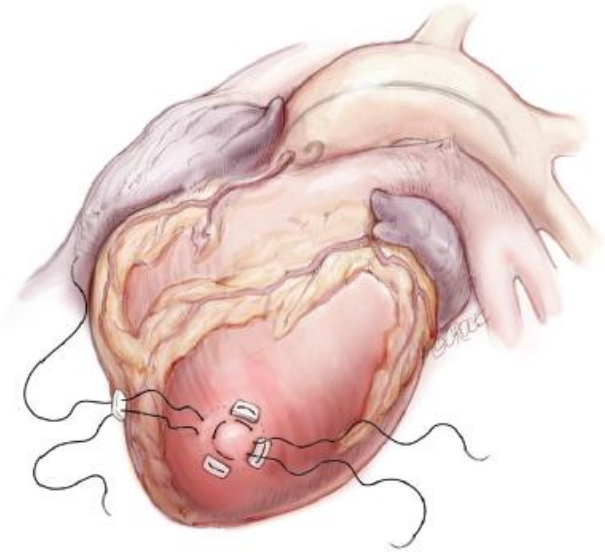


Figure 4 Two concentric purse-string sutures with 2-0 polypropylene on a MH needle are placed into the myocardium of the left ventricular (LV) apex.

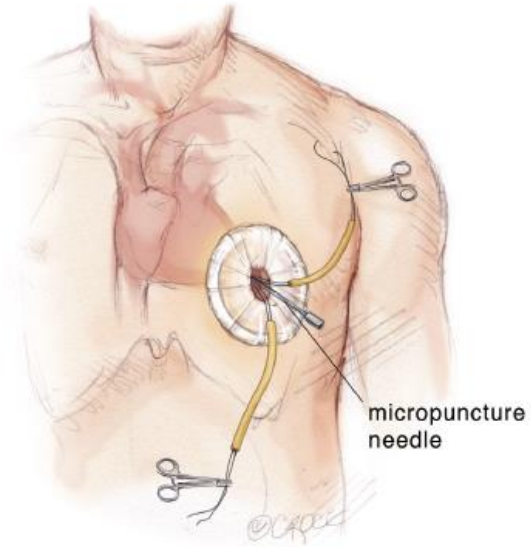


Figure 5 A micropuncture needle is used to gain entry into the left ventricular (LV) cavity with the needle directed toward the right shoulder. Transesophageal echocardiography (TEE) is used to confirm positioning of the needle in the LV apex.

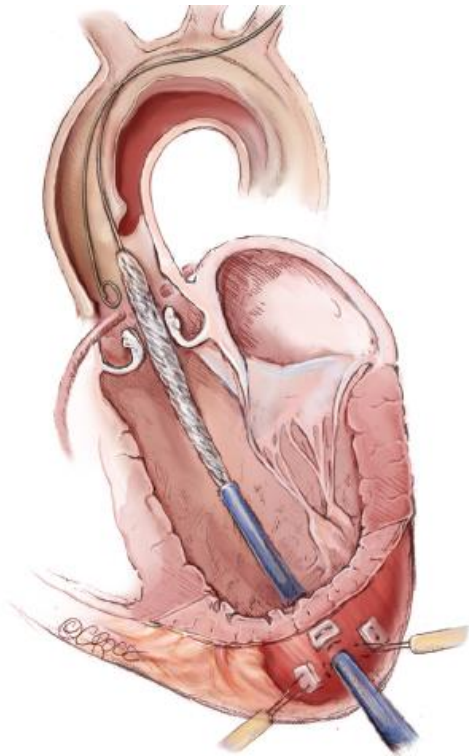


Figure 7 The ascending stent graft is advanced over the stiff guidewire through the valve into the true lumen of the dissection. A pigtail catheter is positioned in the aortic root to perform an aortogram immediately prior to stent graft deployment.

Ann Cardiothorac Surg 2016;5(4):389-396

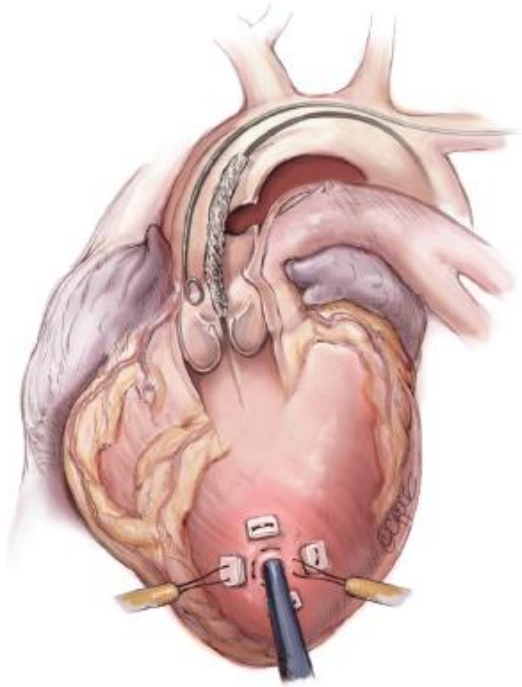


Figure 8 Stent graft delivery system being advanced into the aortic root in preparation for deployment.

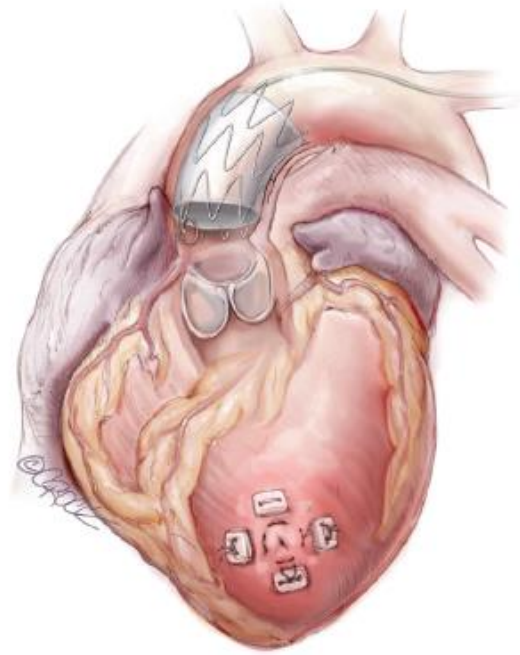


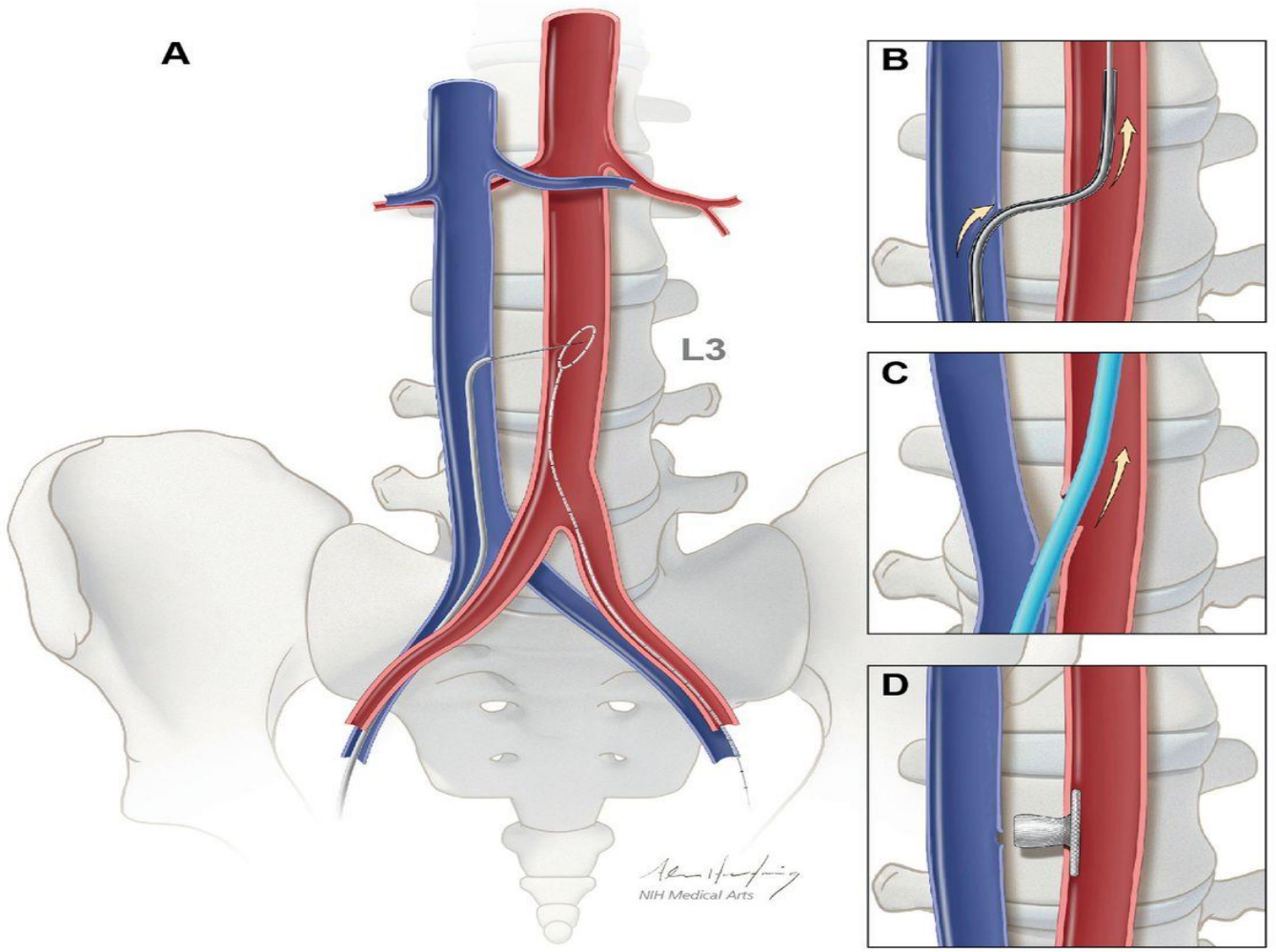
Figure 9 Completed transapical ascending stent graft deployment.

Conclusions

The current endovascular stent graft technology offers an alternative treatment option in selected high-risk patients with acute type A dissection who are unfit for surgical repair. It is built upon current TEVAR and TAVR technology. Since there are still many technical issues that need to be resolved, future innovations will provide more disease-specific devices and solutions to support physicians in expanding the indications for TEVAR.

Transcaval Access

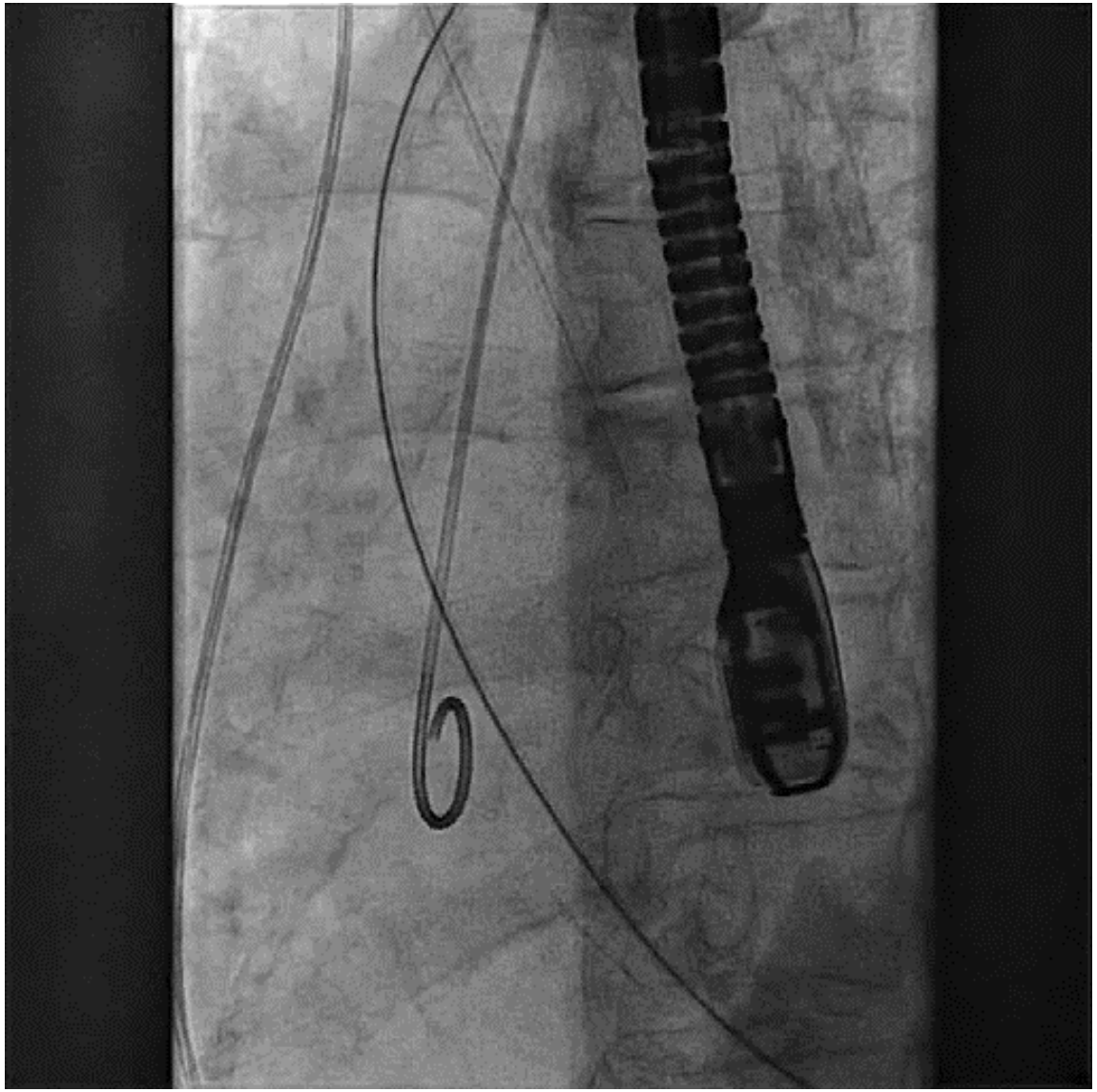
CENTRAL ILLUSTRATION: Transcaval Access Technique for TAVR

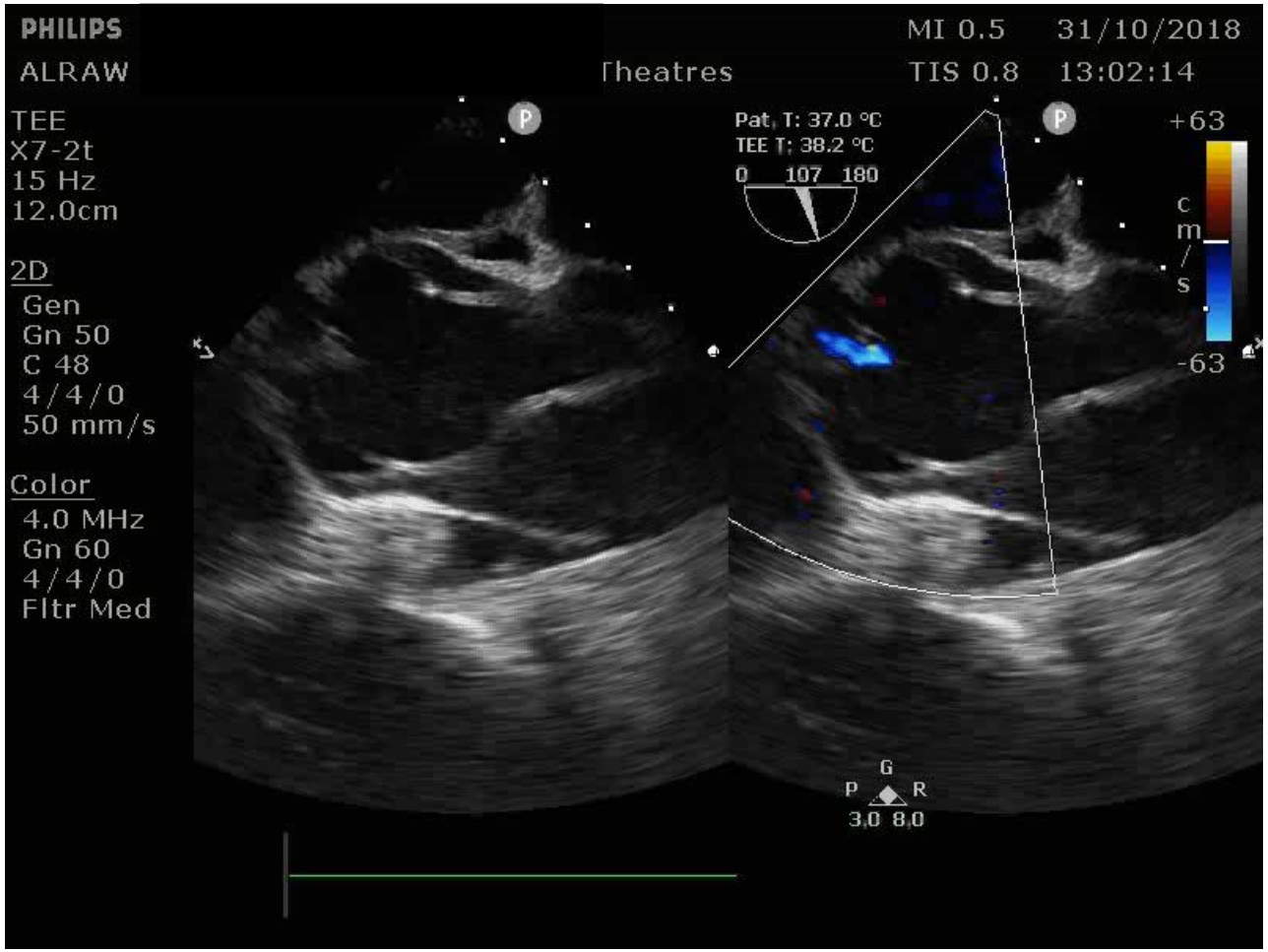


Greenbaum, A.B. et al. J Am Coll Cardiol. 2017;69(5):511–21.

Case

- 86 female
- Admitted with facial pain radiating to back – CT showed acute type A dissection and patient transferred to cardiothoracic centre
- COPD, HTN, smoker
- Good QoL but limited mobility
- Very high-risk, family and pt aware of this but keen to have anything done

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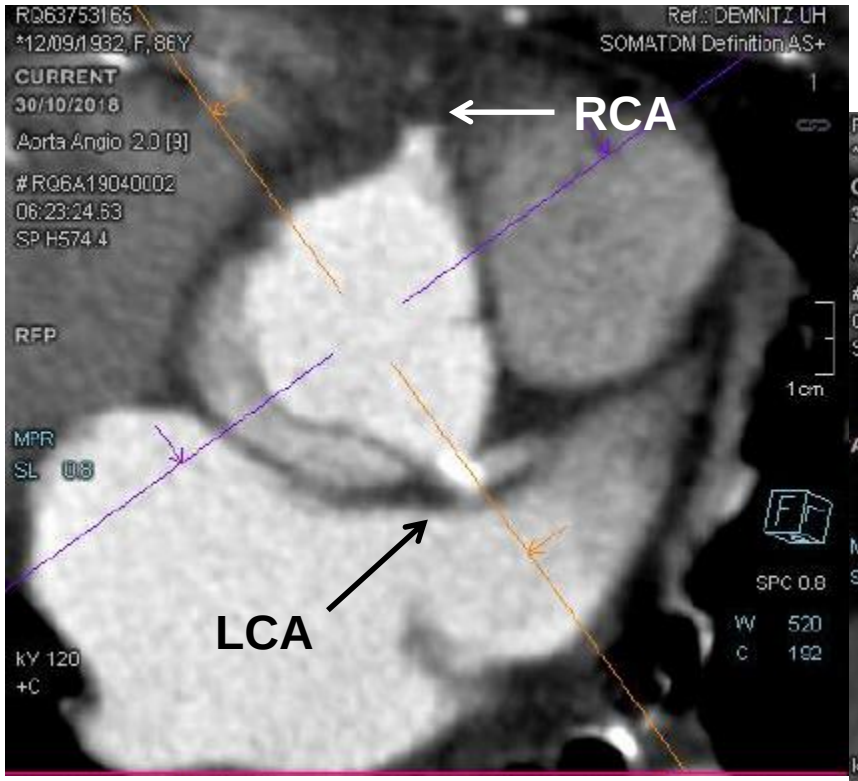
Coronaries?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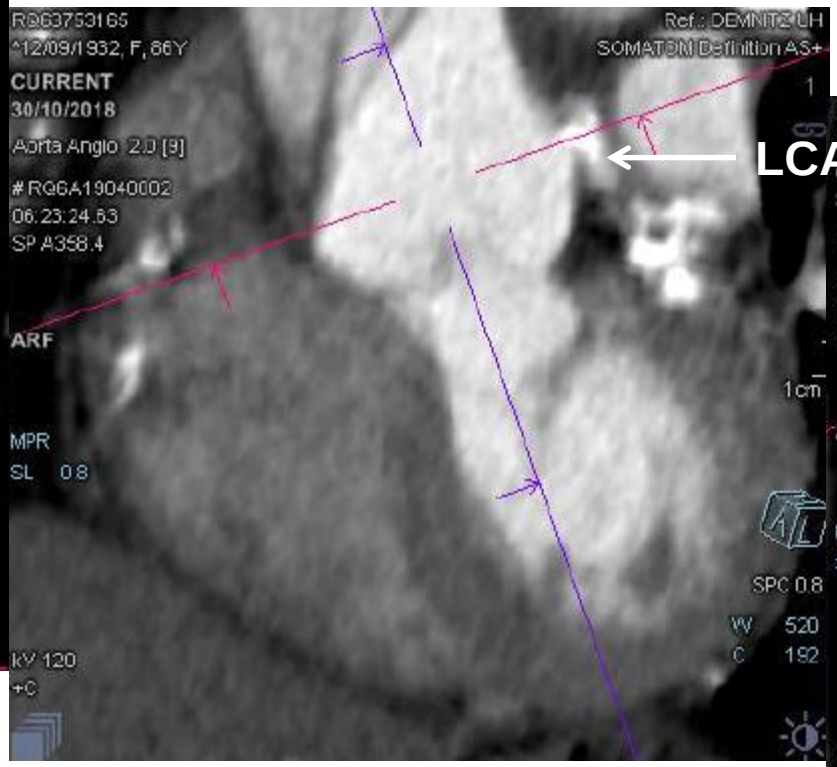
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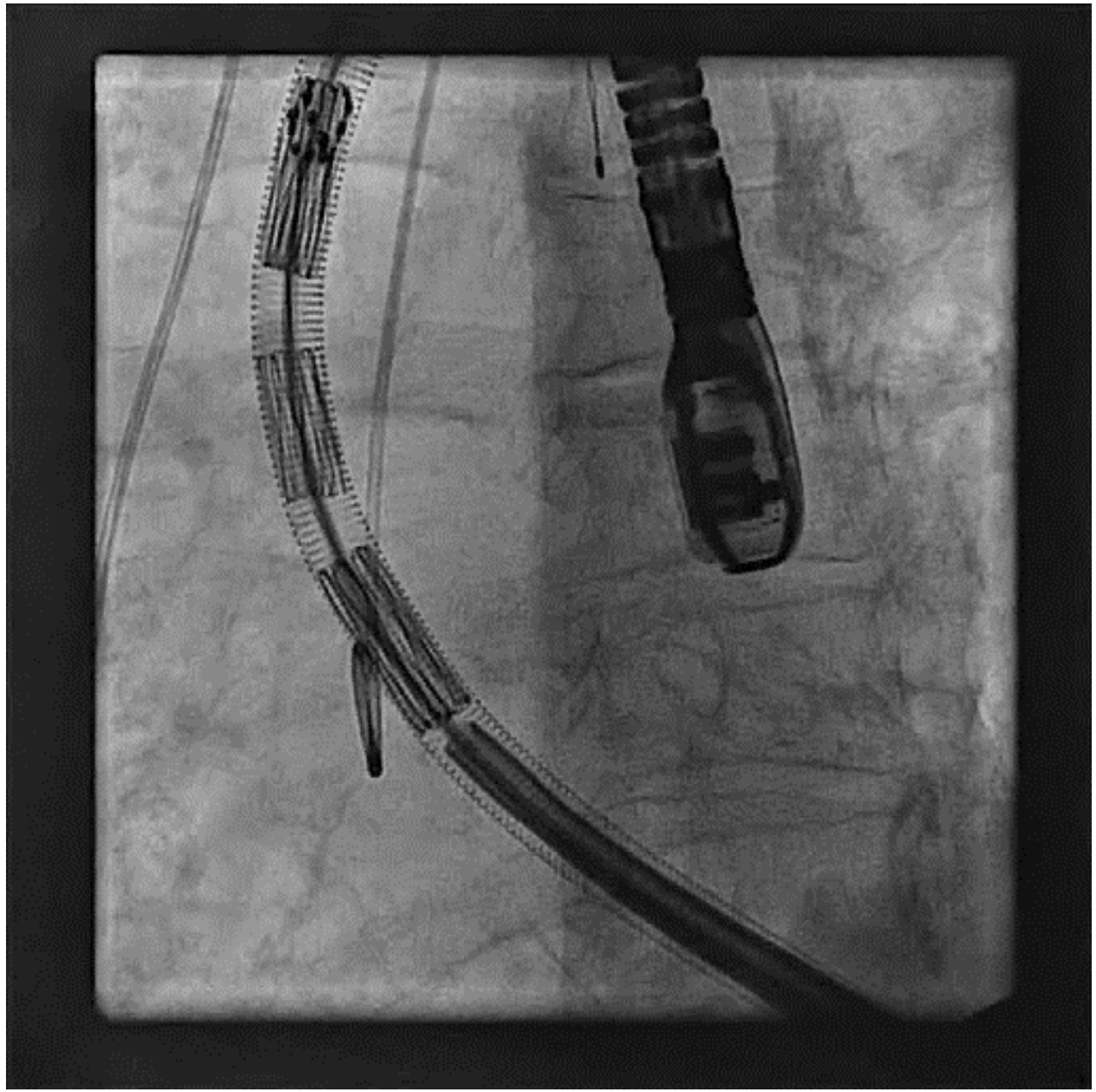

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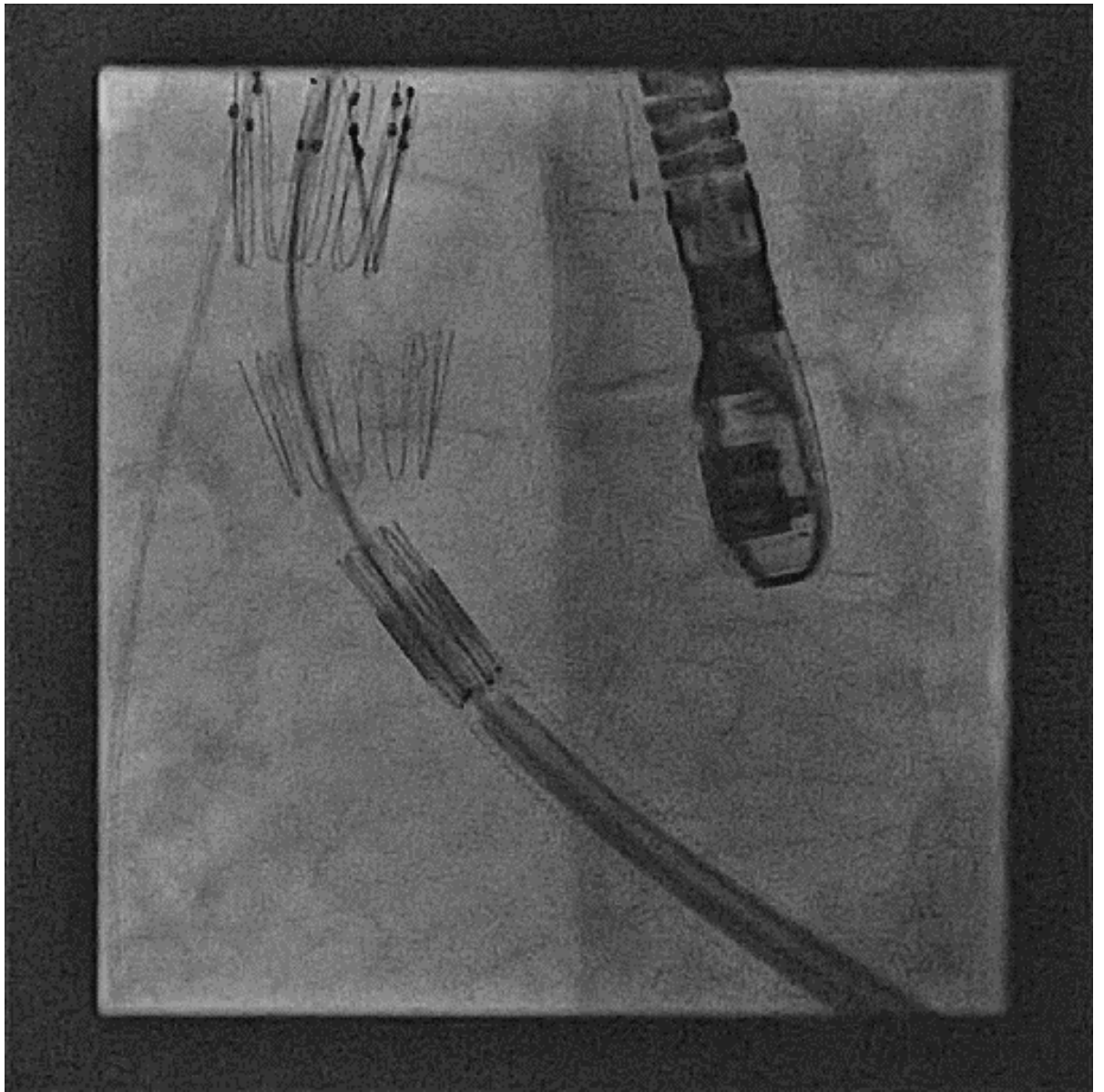

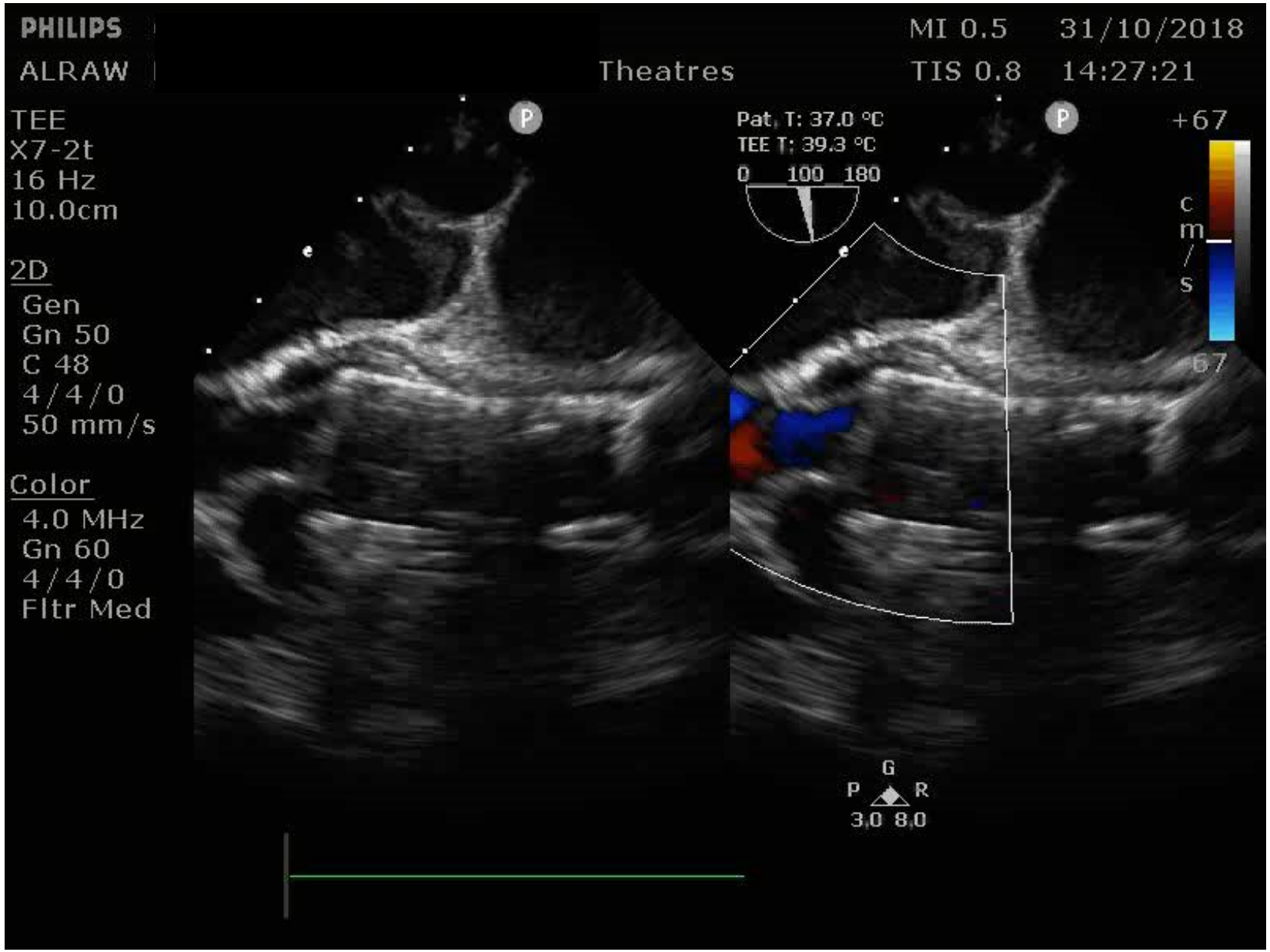
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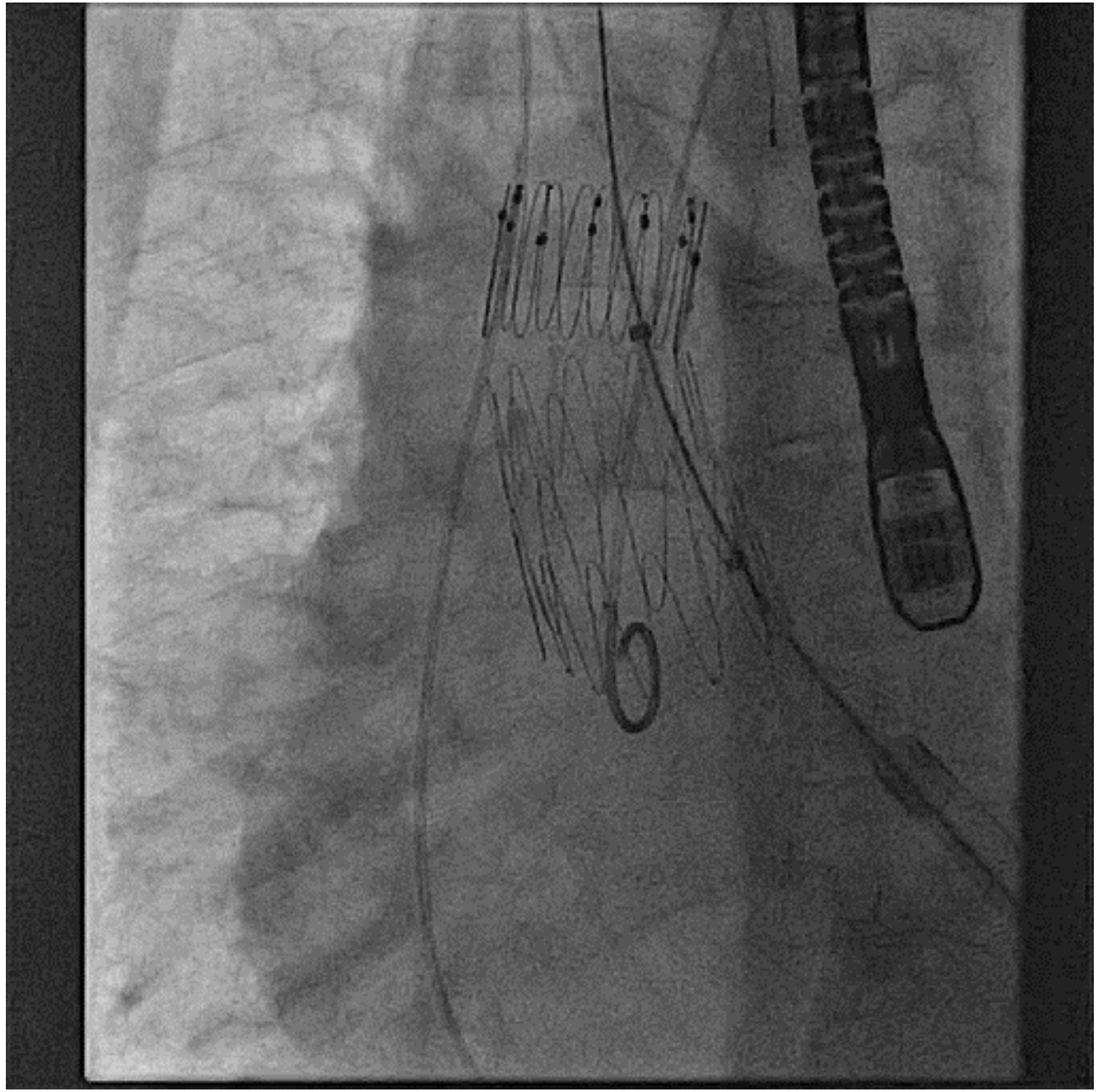

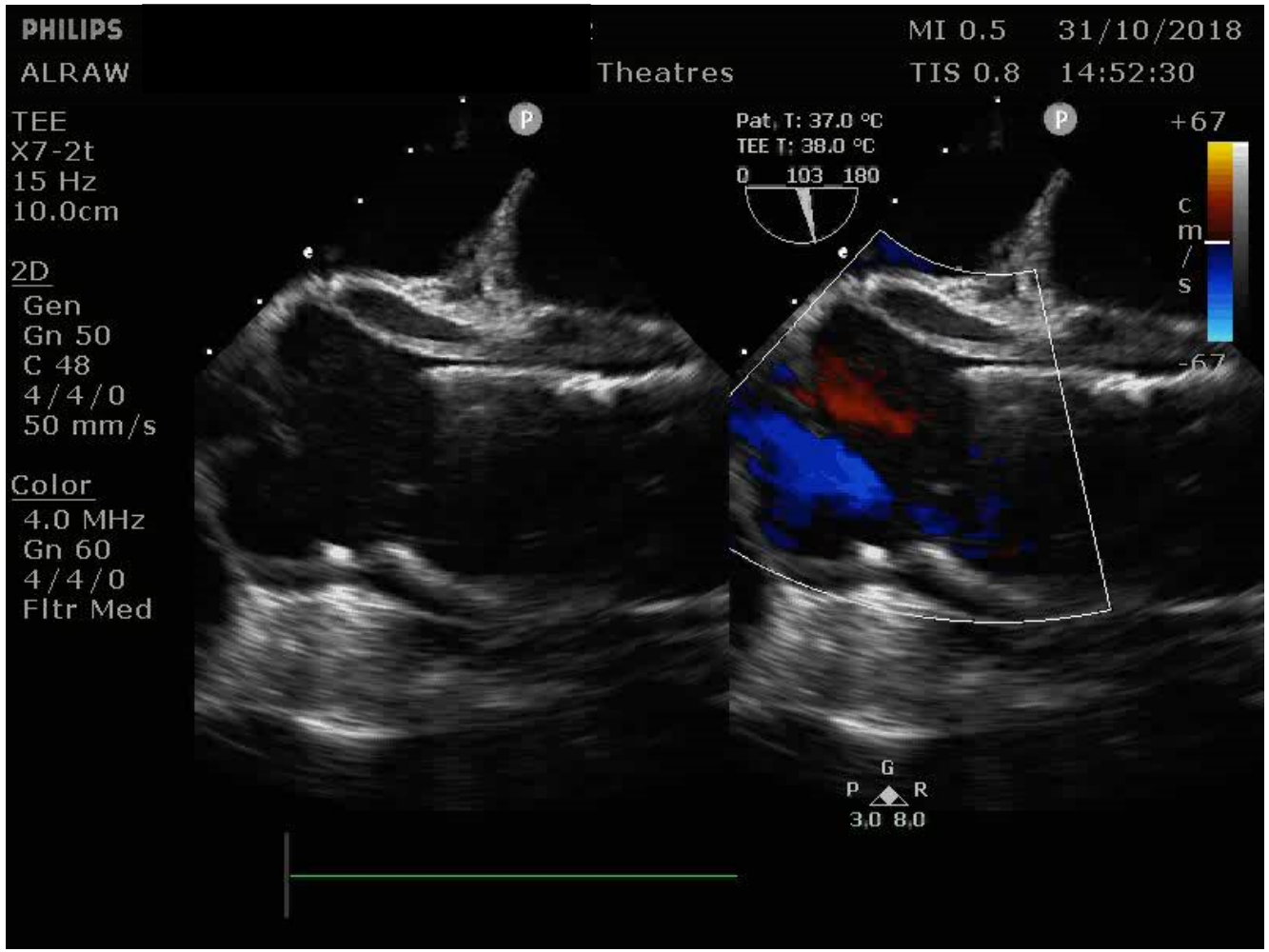
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Conclusions

- TAVI offers several lessons which may help endovascular treatment of appropriately selected Type A aortic dissections
- Collaboration between specialists is likely to help optimise outcomes for our patients