Two Cases of Ascending Aortic Pseudoaneurysm Repair using a Thoracic Branch Endoprosthesis Proximal Extender

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Conflicts of Interest:

- No disclosures

N.B.:

- Patients consented to publish case details and images.

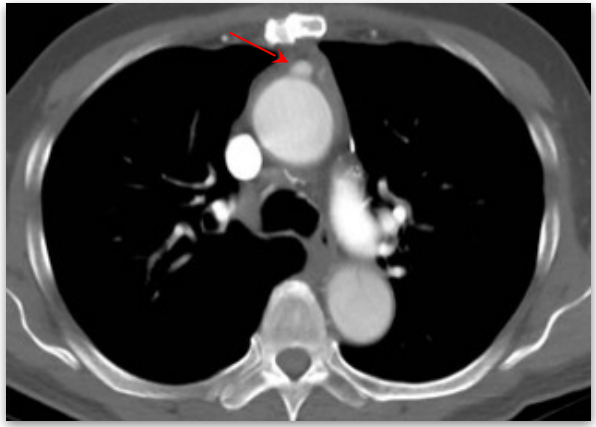
Introduction

- Ascending aortic pseudoaneurysms (AAPs) are a rare complication of cardiac surgery (< 0.5% incidence).[1–3]
- Endovascular repair is recommended in European guidelines (class IIA, level B).[4]
- Until recently, Zone 0 endovascular repair was performed “off label” in the United States.[5]
- Two cases of AAP repair with a TAG Thoracic Branch Endoprosthesis Aortic Extender (TBE-AE).

Case 1

- 76 year old M with:
  - Mitral valve repair with porcine valve and left atrial appendage ligation 18-months prior to presentation.
  - Post-op course c/b sternal wound infection and sternal OM s/p wire removal, on antibiotics.
  - Developed AAP at the aortic cannulation site.

- AAP:
  - 9.6 mm AAP.
  - 3 months later measured 12.0 mm.
  - Coronary ostia (CO) to AAP - 55.0 mm.
  - AAP to innominate artery (IA) - 10.2 mm.
  - CO to IA - 70.2 mm.



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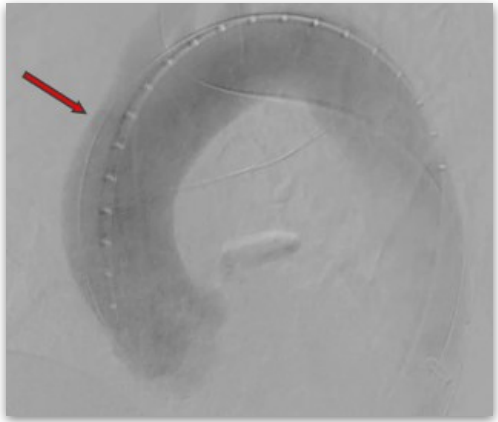
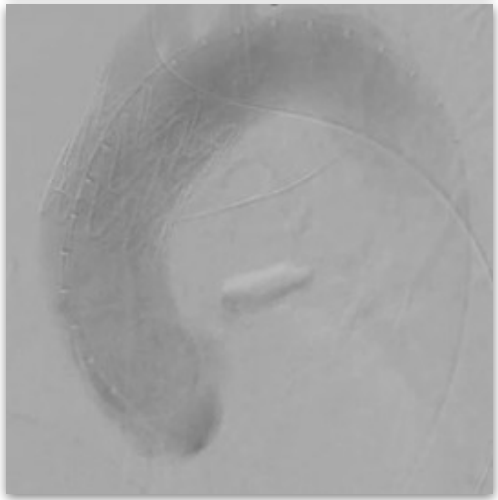
Case 1

- Bilateral common femoral artery access.
- RUE radial artery access.
- Central venous pacing.
- TBE Aortic Extender 45 x 46 mm.
  - Mustang balloon 10 x 40 mm for IA protection.





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Case 1

- Uneventful post-op course.
- Discharged POD1 w/ lifelong antibiotics.
- CTA at 1 month, 12 months, and 18 months demonstrated AAP exclusion.

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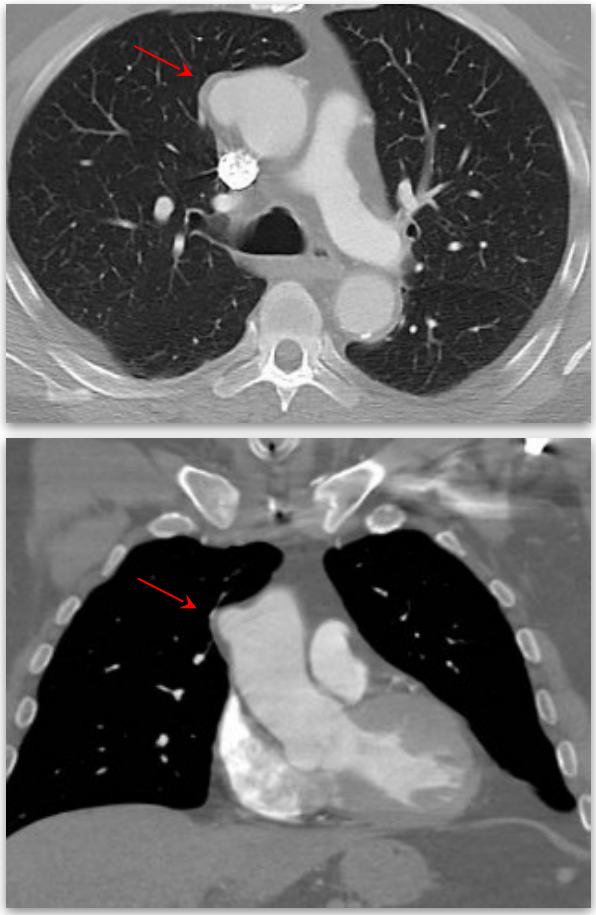
Case 2

- 63 year old M with:
  - End-stage heart failure s/p LVAD c/b driveline infection s/p orthotopic heart transplant.
  - Developed AAP at aortic anastomosis.

- AAP:
  - 21.2 mm AAP
  - Coronary ostia (CO) to AAP - 40.3mm
  - AAP to innominate artery (IA) - 36.1 mm
  - CO to IA - 92.7 mm



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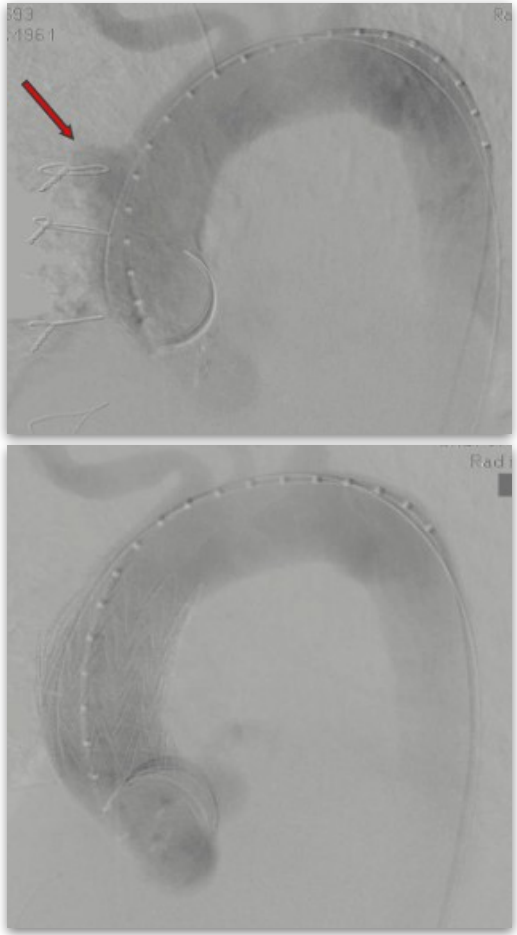
Case 2

- Bilateral common femoral artery access.
- Central venous pacing.
- TBE Aortic Extender 40x40 mm (x3).



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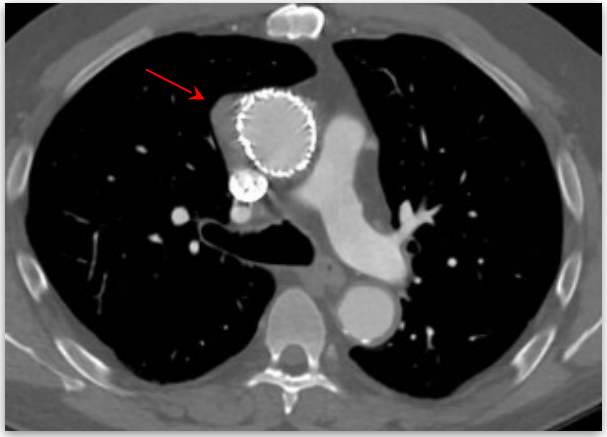
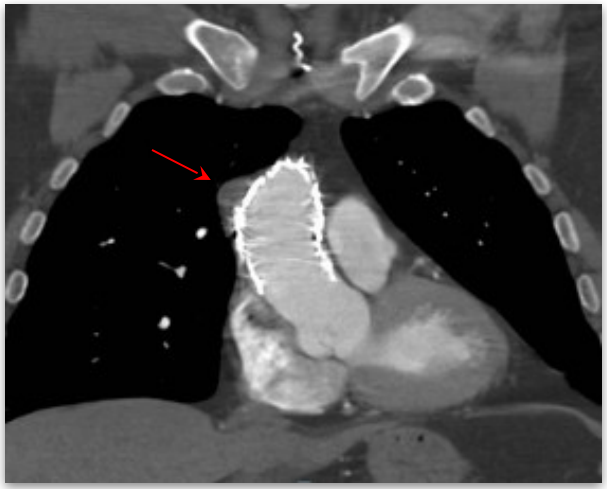
Case 2

- Uneventful post-op course.
- Discharged POD1.
- CTA at 1 month and 12 months demonstrated AAP exclusion.





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Discussion

- Zone 0 endovascular repair:
  - Gore TAG TBE (approved June, 2025).
  - IDEs (e.g. Nexus platform) or PMEGs.
  - EVAR cuffs.

Discussion

- Considerations for endovascular repair:
  - ▻ High-risk redo sternotomy.

- Considerations for TAG TBE-AE:
  - ▻ Short distance of coverage required for exclusion of AAP.
  - ▻ Short nose cone minimizes the risk of aortic valve injury.
    - > TAG TBE nose cone - 18 mm.

- Considerations of Zone 0 AE deployment:
  - ▻ Single stage deployment
    → risk of windsocking and bird beaking.
  - ▻ IA origin protection.

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Conclusion

- The Thoracic Branch Endoprosthesis Aortic Extender can be safely used for ascending aortic pseudoaneurysm repair when patients are not suitable candidates for open repair.

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Thank you!

Questions?

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