Feasibility of Zone 1 Arch Landing Using Off The Shelf Zone 2 Device

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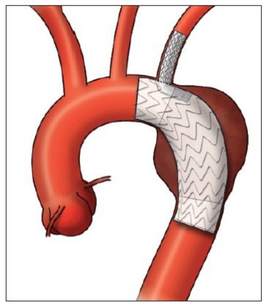
INTRODUCTION

- FDA approved Gore Thoracic Branch Endoprosthesis (TBE) has allowed off-the-shelf solutions for descending thoracic aortic pathologies.
- TBE enables Zone 2 deployment while maintaining left subclavian artery (LSCA) perfusion.
- Prior to TBE approval, Zone 1 landing required carotid-carotid bypass.



OBJECTIVE

- To present a case-series that allowed for Zone 1 landing after carotid-subclavian bypass or transposition to allow left carotid perfusion.
- To demonstrate the expansion in the applicability for a commercial available device to address aortic arch and proximal pathologies

METHODS

- Study type: Single center case series
- Indications: Complex and large thoracic aortic aneurysm near or involving the left SCA
- Outcomes: 30-day morbidity and mortality

RESULTS

- Sample size (N)= 6
- Mean increase in seal zone= 2.2cm into Zone 1
- No peri-operative strokes, MI or death
- No endoleaks at mean follow-up of 13 months (10-17 months) with patent LSCA portals and LCA

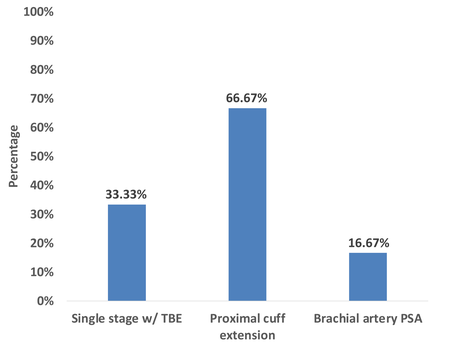


Figure 1. Procedure characteristics and postoperative complications in case-series

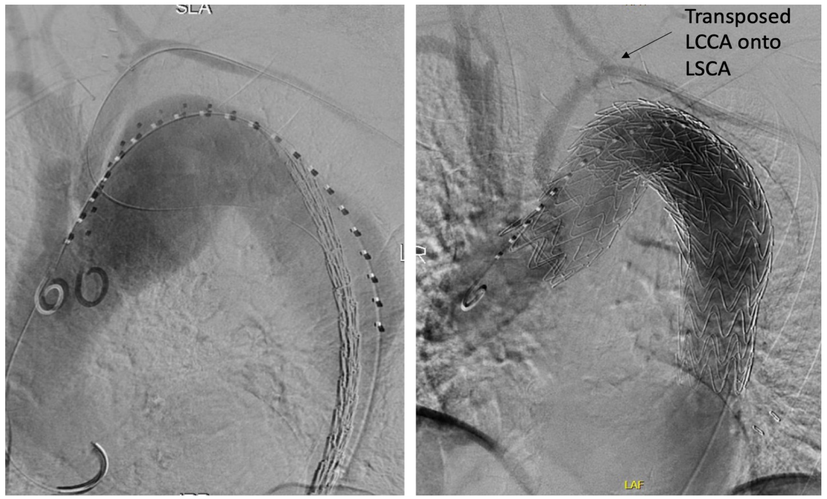


Figure 2. TEVAR with thoracic branch endoprosthesis with transposed left common carotid artery onto left subclavian artery.

DISCUSSION

- By using a supraclavicular incision to perform left carotid artery revascularization by bypass or transposition, we were able to utilize off-the-shelf device approved for Zone 2 deployment.
- This allowed for maximal seal zone to allow for Zone 1 deployment.
- No issue with carotid perfusion off the subclavian artery
- No device related issues with landing in Zone 1

LIMITATIONS

- Small sample size
- Mean follow up is 13 months in this cohort
- Selection bias

CONCLUSION

- Off- the-shelf TBE for Zone 1 deployment is feasible in order to maximize seal zone by performing one-stage or two-staged left carotid artery revascularization by subclavian artery bypass or transposition.
- Longer follow up is needed and more research is necessary to address more complex arch pathology

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