

# Transfemoral Technique For Thoracoabdominal Multibranch Endoprosthesis Placement

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## Introduction

The thoracoabdominal multibranch endoprosthesis (TAMBE, Figure 1) is the first FDA-approved off-the-shelf option for thoracoabdominal endovascular aortic repair.



Figure 1: TAMBE<sup>1</sup>

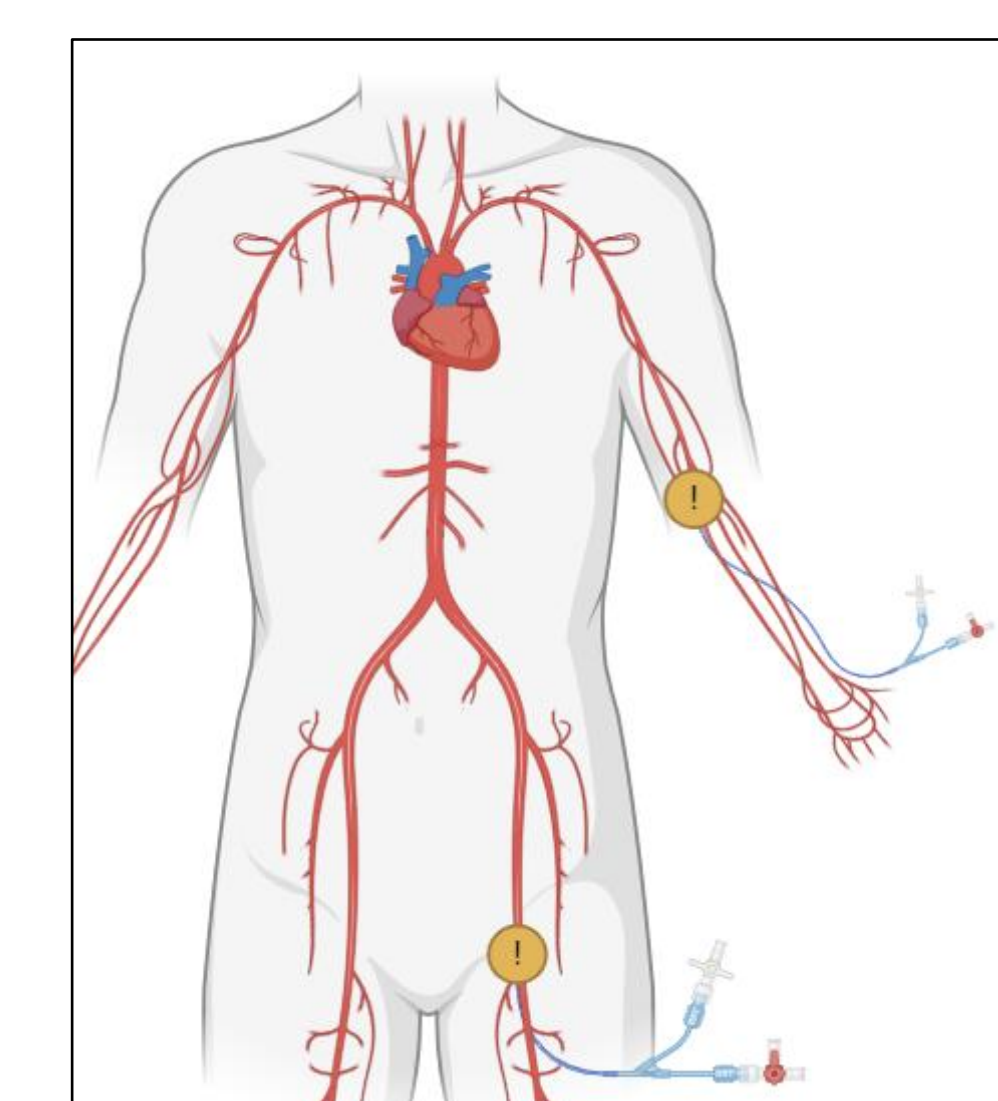


Figure 2: Upper and lower extremity access

Instructions for use mandates upper extremity access (Figure 2), but that isn't always possible.

Upper extremity access can be forgone if necessary and the procedure can be completed through unilateral or bilateral common femoral artery access.

**This case highlights our preferred technique for total transfemoral access using coaxial sheaths.**

## Patient history

68 y/o M smoker with hypertension and a known 4.0 cm ascending aortic aneurysm → Imaging incidentally revealed a 7.4 cm extent II thoracoabdominal aortic aneurysm (TAAA, Figure 3).

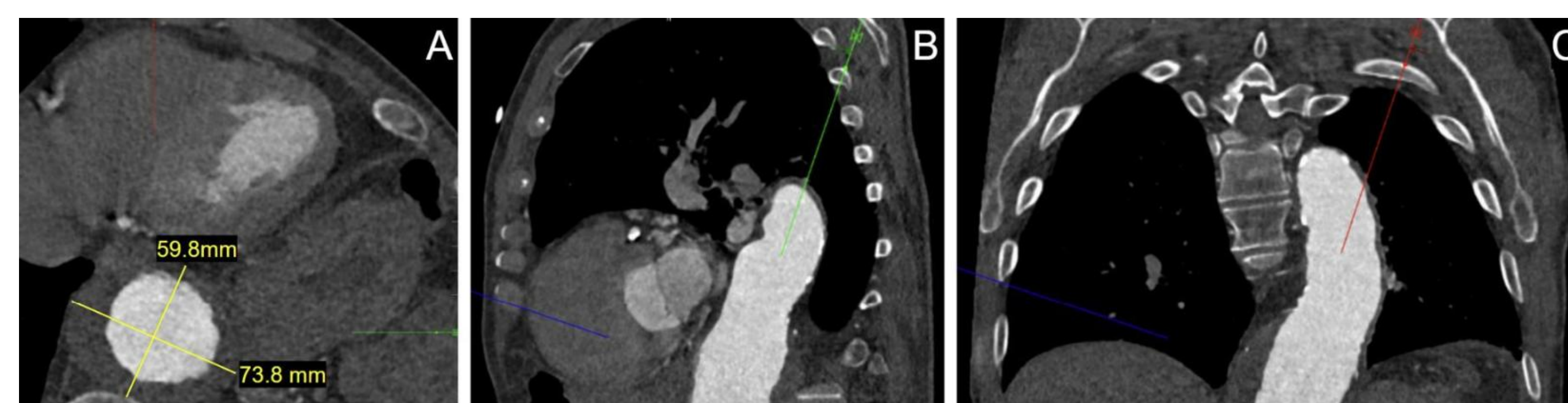
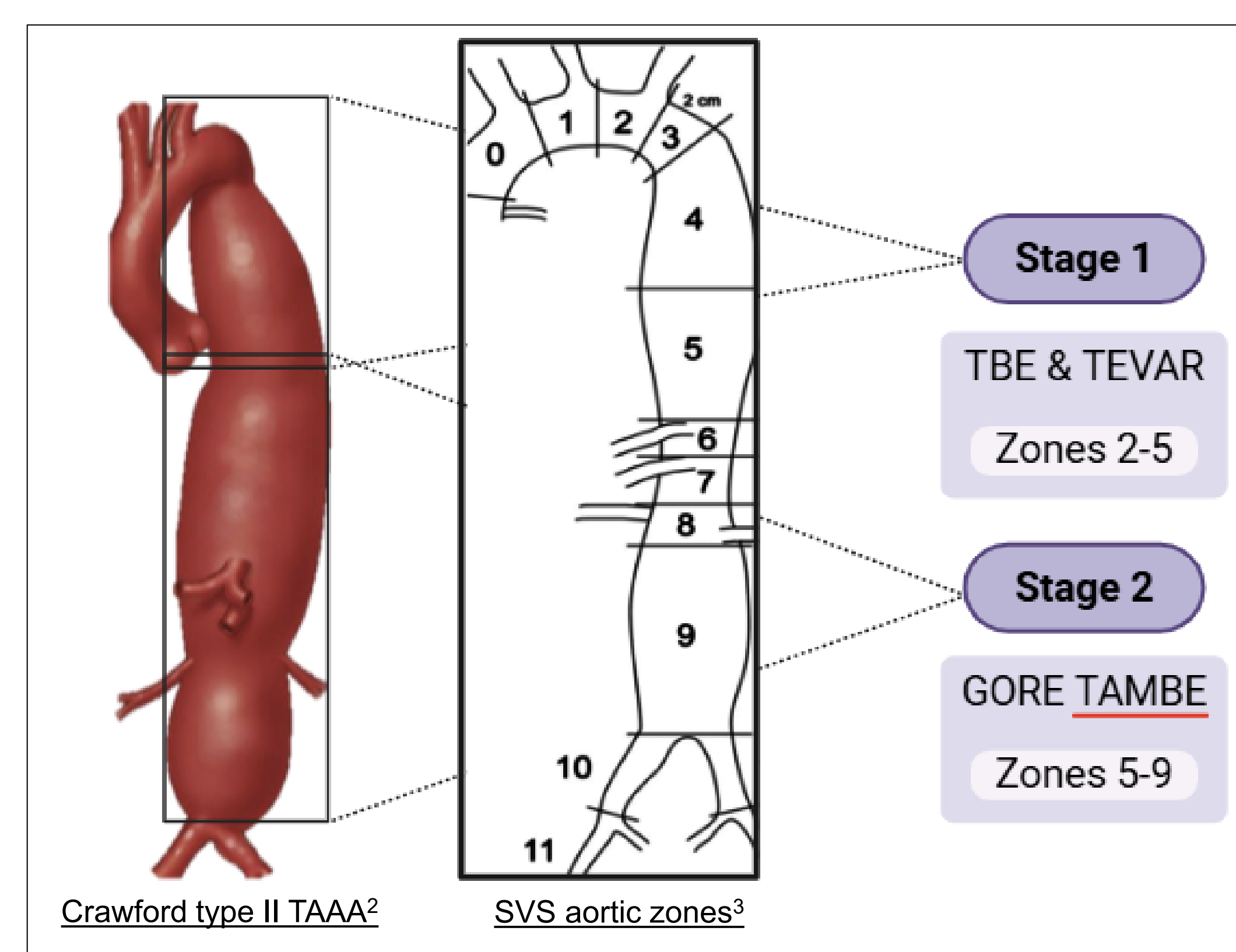


Figure 3: CTA of TAAA in A) axial, B) sagittal, and C) coronal planes



**Plan: Two-stage elective TAAA multibranch endoprosthesis placement**

## Technique

Bilateral femoral (transfemoral) access was favored over upper extremity access (Figure 4).

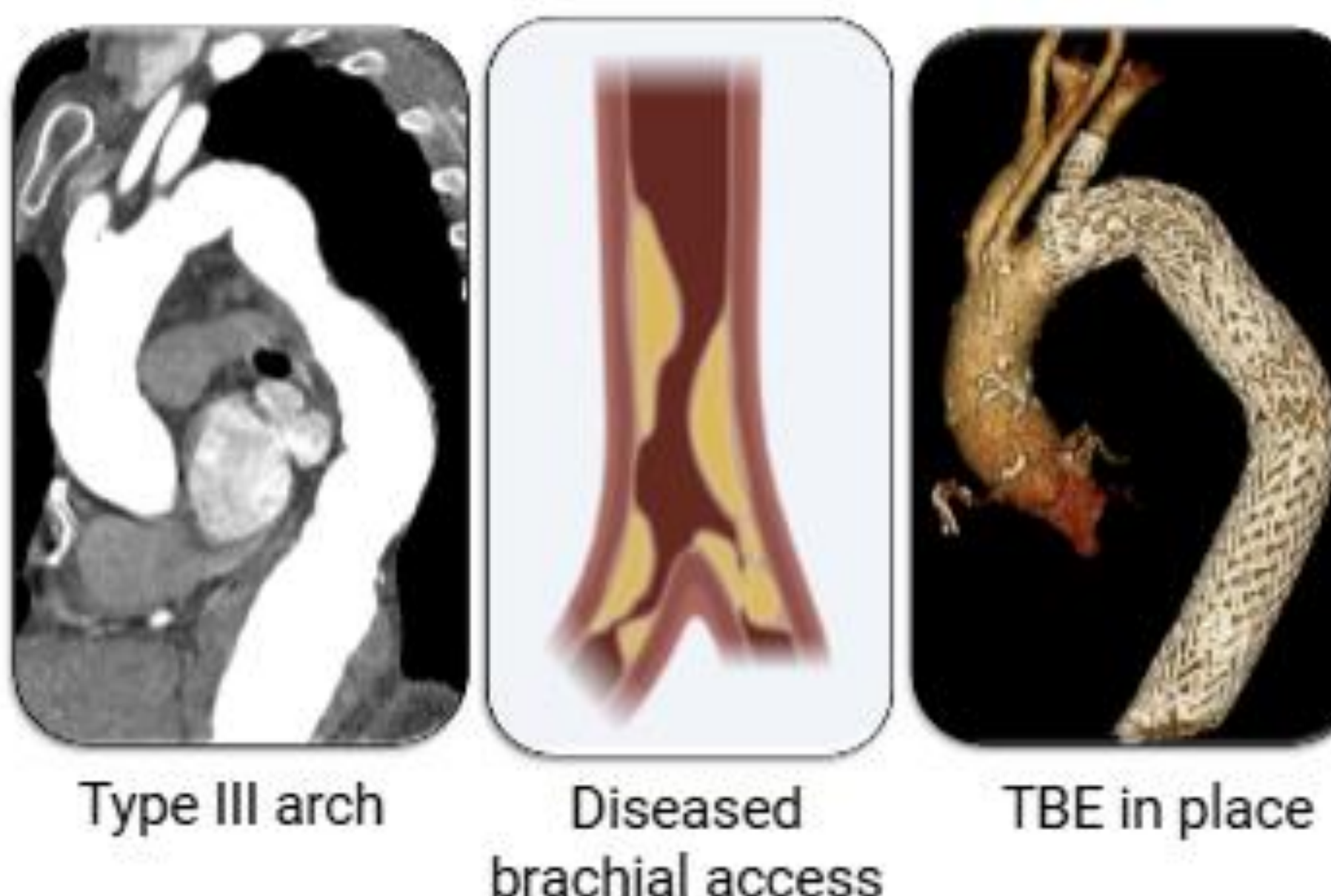
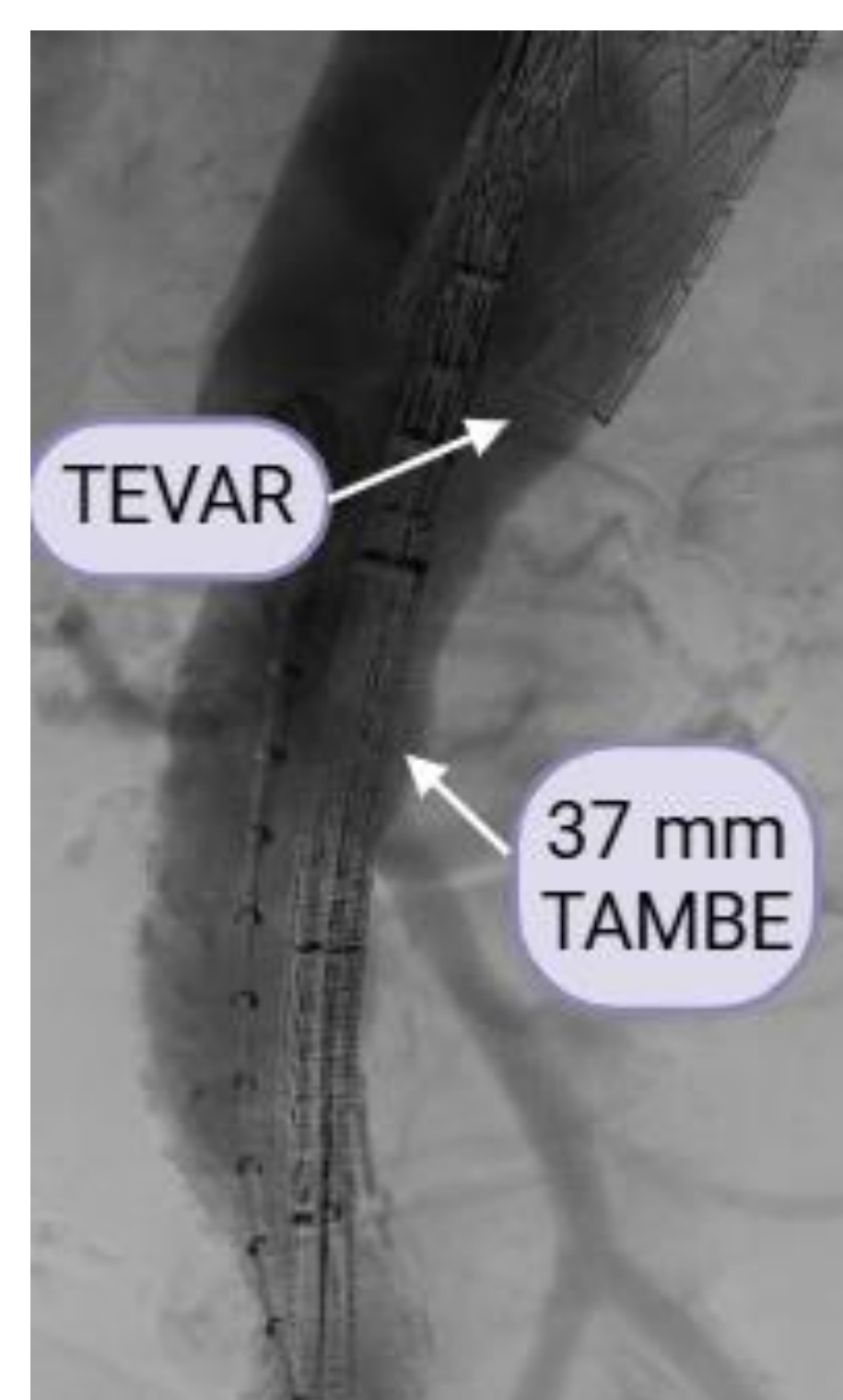
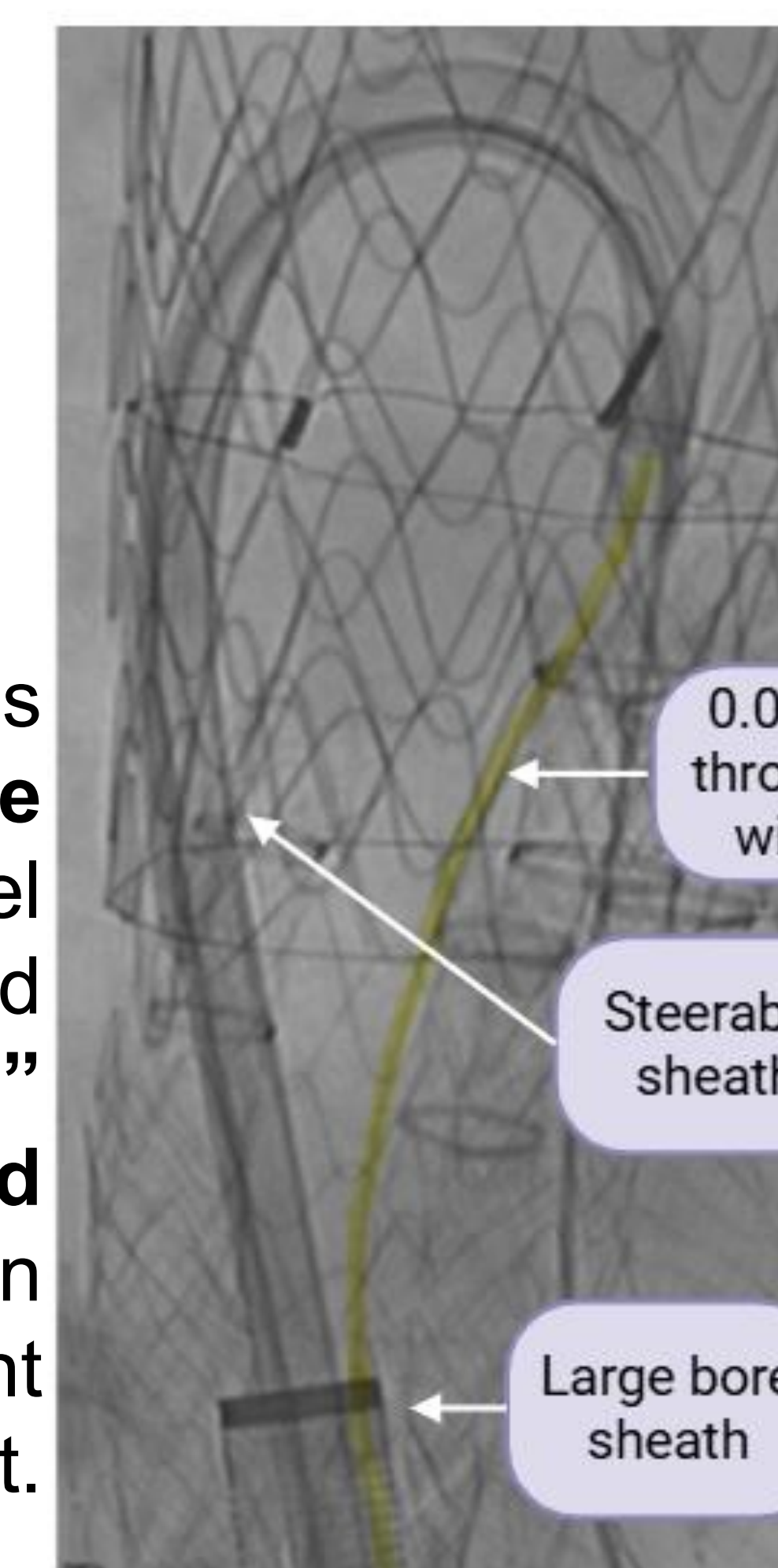


Figure 4: Factors inhibiting upper extremity access: Angulated arch; Tortuous upper extremity vessels; TEVAR with branch to LSA in place

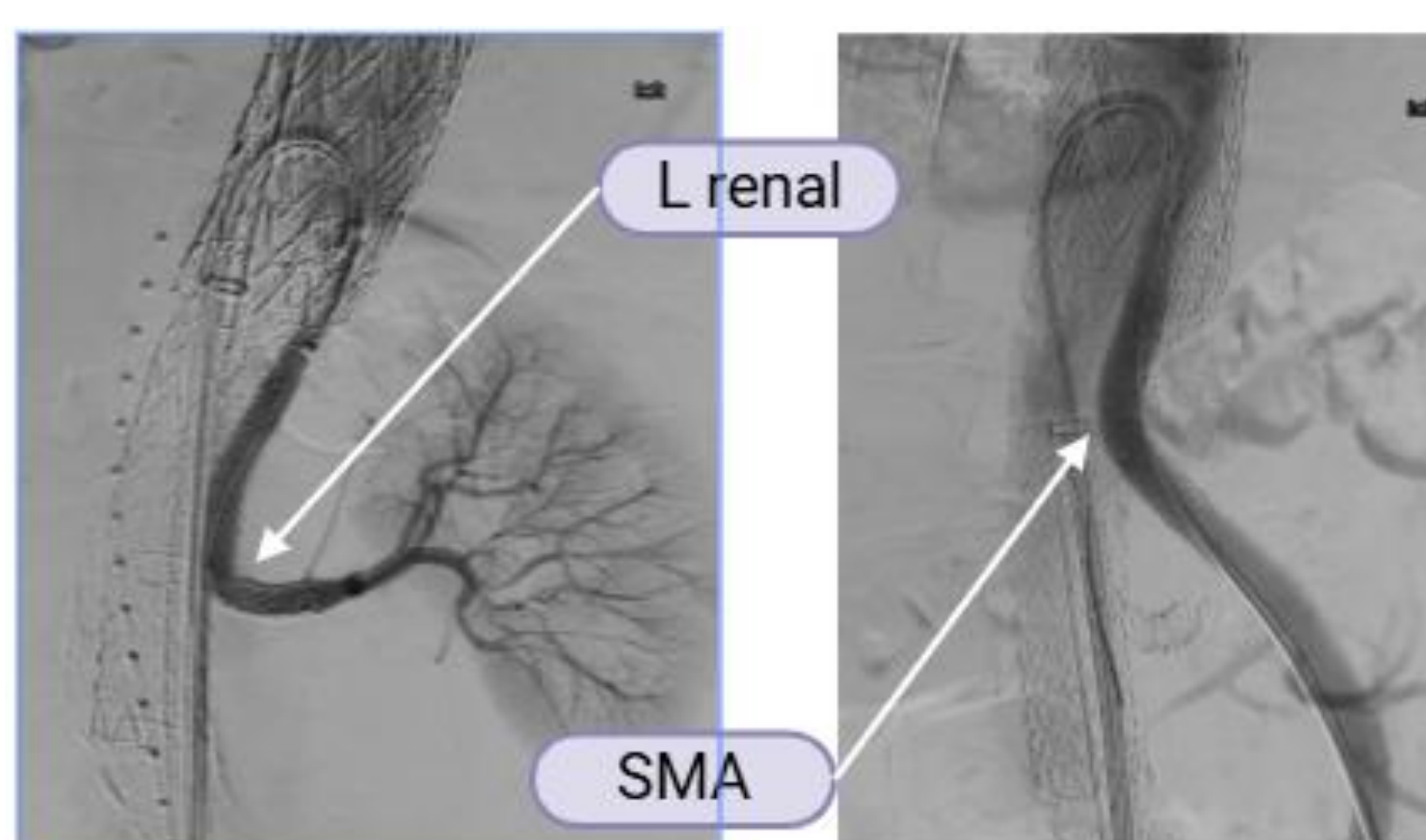
**A total transfemoral adaptation was employed for TAMBE delivery**



The **37 mm TAMBE endograft** is advanced and then **fully deployed overlapping** with the **TEVAR** (from stage 1) and molded with a trilobe balloon.



An **8.5-Fr steerable sheath** is advanced through a **large bore sheath** above the branch vessel portals, **retroflexed**, and stabilized with a **through-and-through 0.018 inch wire** that was **snared and exteriorized ipsilaterally** to maintain directional control for bridging stent placement.



The **SMA, celiac artery, and bilateral renal arteries** were sequentially cannulated, and **covered bridging stent grafts (VBX)** were placed.

## Results

The procedure was completed in approximately 4 hours without complications. The patient was discharged on postoperative day 1.

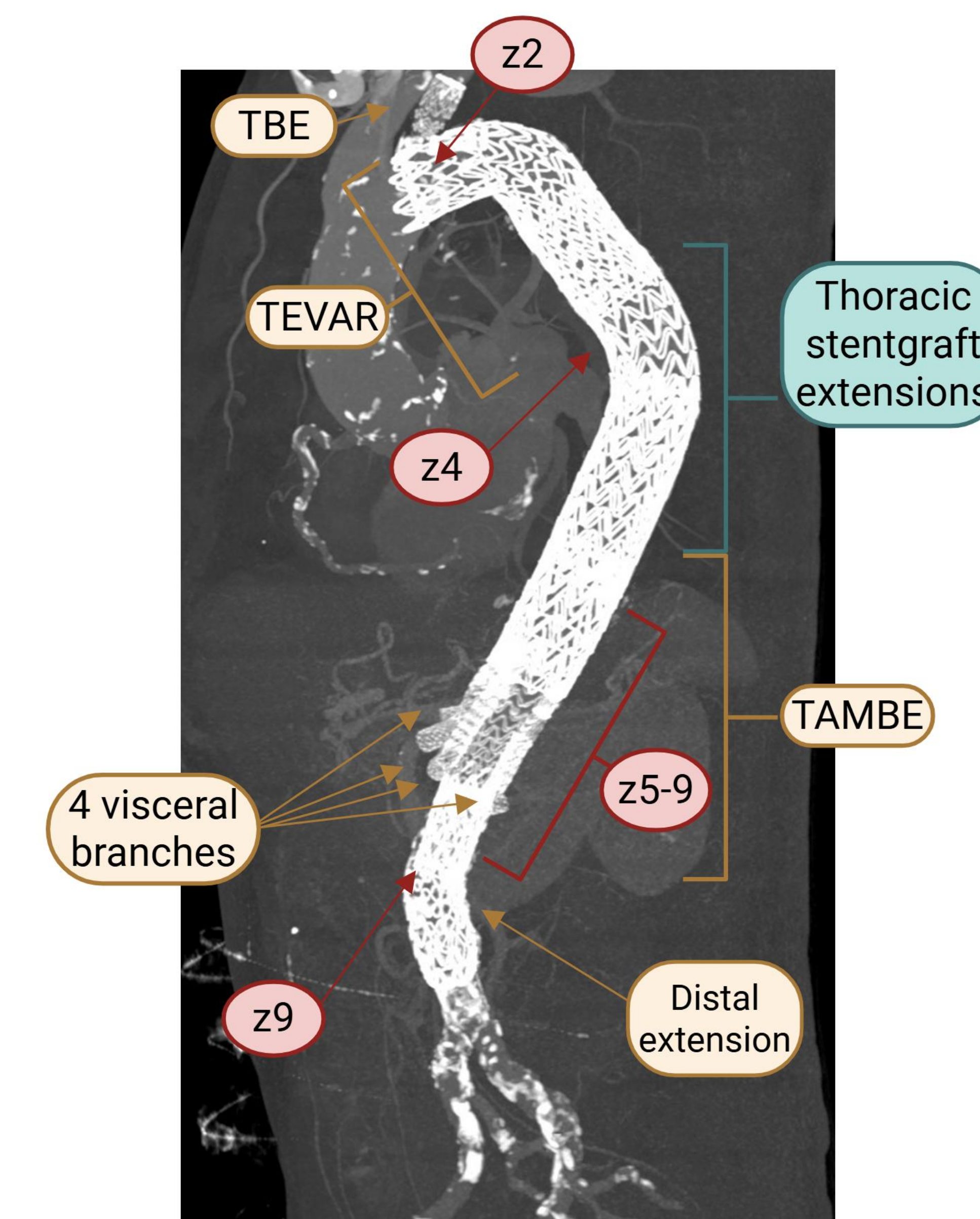


Figure 4: CTA of repair with devices, TEVAR and TAMBE overlap, and aortic zones labeled

At one-year follow-up, he remains asymptomatic, with successful aneurysm exclusion, patent visceral and renal branches, and stable maximum aortic diameter (Figure 4).

## Conclusions

- Reduce spinal cord ischemia risk by staging thoracic coverage: TBE and TEVAR of the distal arch with 2-4 weeks before TAMBE allows for conditioning and collateralization of lumbar arteries.
- Total unilateral transfemoral access using steerable sheaths enables branch vessel cannulation and is a feasible alternative to upper extremity access for TAMBE deployment<sup>4</sup>.
- Expands patient eligibility for minimally invasive mortality-sparing endovascular therapy.

## References

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- 3: [https://pub.mdpi-res.com/icm/icm-09-02965/article\\_deploy/html/images/icm-09-02965-g001.png?1600084845](https://pub.mdpi-res.com/icm/icm-09-02965/article_deploy/html/images/icm-09-02965-g001.png?1600084845)
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