

The “Destino-guided BEVAR” to Catheterize Downward Branches from a Femoral Access: Technical Note and Case Report

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BACKGROUND

Thoracoabdominal aortic aneurysms (TAAAs) present complex challenges, often requiring open repair, which is still the gold standard. However, branched endovascular aortic repair (BEVAR) is gaining traction due to positive mid-term outcomes. This article reports a novel use of the Destino-guided BEVAR technique (De-BEVAR) to catheterize downward branches via femoral access, offering a potential alternative to the traditional brachial or axillary approach.

CASE REPORT

A 53-year-old female with Marfan syndrome underwent thoracoabdominal aortic aneurysm repair for a type III dissecting aneurysm. A custom graft with three fenestrations was deployed. Due to complex anatomy, the celiac trunk branch catheterization required significant effort. A bare stent was used as a bridging component for spinal cord preconditioning.

During follow-up, computed tomography angiography (CTA) revealed an increase in the left subclavian artery (LSA) aneurysm diameter. Due to lack of upper access, the patient subsequently underwent De-BEVAR using femoral access with a bidirectional steerable guiding sheath, avoiding the previously complex brachial/axillary approach.

The 1-month CTA control showed the exclusion of the TAAA and patency of all side branches.

TECHNIQUE

- The De-BEVAR technique involves advancing a steerable guiding sheath through femoral access. (Steerable sheath has a distal end that can sharply bend to variable curve amplitudes (50, 22, and 17 mm) once the rotational handle is fully turned)
- A smaller sheath is placed inside to facilitate stent delivery while maintaining stability. This method allows easier catheterization of downward branches without the need to navigate the aortic arch, reducing procedural risk in hostile arch anatomies.

DISCUSSION

- Endovascular repair with BEVAR devices is being increasingly used for complex aortic repairs.
- The traditional method of catheterizing downward branches involves accessing the vessels through the axillary or brachial arteries and crossing the aortic arch. However, in cases with hostile aortic arch anatomy or diseased supra-aortic branches, this technique can be difficult and risky.
- The Destino-guided technique provides an alternative route through femoral access, simplifying the procedure in certain anatomical conditions.
- The DE-BEVAR technique allowed the relining of the bare metal stent to be performed quickly, streamlining the procedure without the need for additional adjunct devices or techniques.
- Authors report a high technical success rate and good clinical outcomes in the mid-term, suggesting that the technique is a viable option for complex endovascular repairs.

CONCLUSION

The Destino-guided BEVAR approach is a reproducible and effective alternative for catheterizing downward branches in patients with challenging anatomies. It allows for safer and more accessible procedures via femoral access, offering potential advantages over conventional methods.