Challenges in EVAR: Focus on Aortic Dissections

Treatment Approaches for the Distal Landing Zone in Type B Dissection

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Disclosure

Professor Andrew Holden

I have the following potential conflicts of interest to report:

- [x] Consulting – Advisory Board Member for Medtronic, Gore, Boston Scientific, Philips
- [ ] Employment in industry
- [ ] Stockholder of a healthcare company
- [ ] Owner of a healthcare company
- [x] Other(s) – Clinical Investigator for Abbott, e-Femoral, Biotronik, Surmodics

- [ ] I do not have any potential conflict of interest
Background

• For all aortic pathologies, accurate and predictable proximal endograft landing and deployment is vitally important to optimize seal and preserve aortic branches

• The GORE® TAG® Conformable Thoracic Stent Graft with ACTIVE CONTROL has a number of design features to facilitate this
Background

• However, the importance of accurate distal landing is often overlooked
• In Type B aortic dissection, more extensive descending thoracic aortic coverage results in improved true lumen expansion and coverage of intimal fenestrations but at a small increased risk of spinal cord ischemia
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• However, the importance of accurate distal landing is often overlooked
• In Type B aortic dissection, more extensive descending thoracic aortic coverage results in improved true lumen expansion and coverage of intimal fenestrations but at a small increased risk of spinal cord ischemia
• Accurate distal landing prevents unplanned coverage of aortic branches including intercostal arteries and the visceral arteries
• The distal thoracic aorta is often tortuous, challenging accurate distal landing
Optimized Distal Landing

• The GORE® TAG® Conformable Thoracic Stent Graft with ACTIVE CONTROL also has design features to optimize distal landing

• Deployment between intermediate to full diameter is from DISTAL – PROXIMAL, minimizing the risk of migration

• Distal end is fully covered, designed to decrease the risk of septal perforation at the distal landing zone in dissection
Optimized Distal Landing
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False Lumen Management in Aortic Dissection

• False lumen thrombosis and favourable aortic remodelling significantly reduces the incidence of aortic-related death

• This was clearly demonstrated in the INSTEAD Trial, with patients largely treated in the sub-acute phase¹,²,³

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2. Mani et al Eur J Vasc Endovasc Surg 2012;43:386-91
False Lumen Management – Knickerbocker Technique

• A relatively simple and effective method of excluding the false lumen in the thoracic aorta and preventing retrograde perfusion

• Used extensively in sub-acute and chronic aortic dissection

• Conventional endografts can be used in the descending thoracic aorta, sized approximately to the outer diameter of the dissected aorta
False Lumen Management – Knickerbocker Technique

- A compliant balloon is used
- A long supportive sheath is advised to prevent caudal migration
- The dilated segment should be at least 1 stent element above the distal landing zone to avoid further intimal disruption

55 year female, chronic TBAD, progressive dilatation
False Lumen Management – Knickerbocker Technique
Conclusions

• Accurate and predictable distal landing of endografts is an important feature of aortic dissection management

• The GORE® TAG® Conformable Thoracic Stent Graft with ACTIVE CONTROL has design features to optimize distal landing

• False lumen thrombosis and positive aortic remodelling is important to optimize patient survival and can be facilitated by the simple and effective Knickerbocker Technique
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