Endovascular Repair of Complex Aortic Aneurysms with Fenestrated Stentgrafts

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Disclosures

None
Complex Aortic Aneurysms

- 50% EVARs are complex cases due to difficult aneurysmal neck anatomy
  - Angulation
  - Short
FDA approved

Zenith Fenestrated AAA endograft (ZFEN)

- FDA-approved in April 2012
- Juxtarenal AAA
- Neck ≥ 4 mm
- Maximum 3 Fen or 2 Fen + 1 scallop
• However
  – Take 4-6 weeks to make
  – Not available for symptomatic, urgent or emergent cases

• There is no approved stentgraft available for suprarenal AAA or TAAA
  – Open surgery
  – Chimney or Sandwich techniques
  – Physician modified stentgrafts
Physician modified Cook Zenith stentgraft
Physician modification of Gore C3 excluder endograft for treatment of abdominal aortic aneurysms anatomically unsuitable for conventional endovascular repair

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Until recently, the Cook Zenith aortic endograft (Cook Medical Inc, Bloomington, Ind) was the only device used for physician-modified fenestration because its constraining wire allowed physicians to reconstrain the device after modifications. Although the Cook Zenith fenestrated endograft has been approved by the Food and Drug Administration, it is currently not available in the majority of the hospitals and is not applicable to the patients who need urgent or emergent aneurysm repair. With the redesign of the Gore C3 delivery system, the Gore Excluder aortic stent graft (W. L. Gore & Associates, Inc, Flagstaff, Ariz) can now also be reconstrained, which makes it suitable for physician-modified fenestration. We describe the technique for modification and implantation of the Gore Excluder aortic stent graft in a patient requiring 2-vessel bilateral renal artery fenestration. This application provides an additional option for treatment of patients with abdominal aortic aneurysms who are anatomically unsuitable for conventional endovascular aneurysm repair and are at high risk for open repair. (J Vasc Surg 2014;59:1739-43.)
Fenestration
Re-packing
Simplified
Juxta- and Suprarenal AAA
Suprarenal AAA and TAAA

Zenith t-Branch

No available yet
Outcomes of total endovascular repair of TAAA

**Greenberg et al. Circulation 2008; 117:2288-96.**

- Literature review
- 2 large series studies
  - Approximately 100 patients
  - Treated with fTEVAR or Branched TEVAR
  - Mortality: 3 and 6%

- Conclusions
  - fTEVAT/bTEVAR is feasible
  - Associated with relatively low perioperative mortality
TAAA
TAAA

Celiac A.

SMA

LRA

RRA
TAAA
• Juxtarenal AAA
  • First choice: ZFEN

• Physician modified stengrafts
  – off-label use
  – Compassionate: high risk patients
  – Suprarenal AAA
  – TAAA
  – Urgent/emergent juxtarenal AAA

• Long-term outcomes need to be investigated
  • Endoleaks
  • Patency of branch stents
  • Durability
Thank you