Optimal choice of bridging stent for FEVAR/BEVAR

What is available? Which is best?

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FEVAR

Uncovered stents

Visceral stent patency in fenestrated stent grafting for abdominal aortic aneurysm repair

Early Results of Fenestrated Endovascular Repair of Juxtarenal Aortic Aneurysms in the United Kingdom

318 patients
670 stented target vessels
BMS 63
Unspecified 78
Covered stents 529
- Advanta 522/Joomed 4/Fluency 3
Maquet Advanta V12
- Stainless steel
- PTFE encapsulation – struts completely covered
- 0.035 (RX 0.014)
- Diameters 5,6,7,8,9,10
- Lengths 16,22,38,59 (8-10mm: 38/59 only)
- Post-dilatation: 5-10mm can be dilated to 12mm
- IFU: iliac and renal arteries

Bard LifeStream
- Stainless steel
- Two layers of ePTFE encapsulating the stent
- 0.035
- Diameters 5,6,7,8,9,10,12
- Lengths 16,26,37/38,58
- Post-dilatation: 5-8 can be post-dilated to 10mm
- IFU: indicated for the treatment of atherosclerotic lesions in common and external iliac arteries.

Bentley InnoMed BE graft
- CoCr
- Single external layer of ePTFE
- 0.035
- Diameters 5,6,7,8,9,10
- Lengths 18,22,28,38,58
- Post-dilatation: off-label
- IFU: indicated in iliac and renal arteries for: Treating aneurysms, acute perforations, acute ruptures and fistulas

Jotec E-ventus
- CoCr
- Single external layer of ePTFE
- Diameter 5,6,7,8,9,10
- Lengths 18,22,28,38,58
- Post-dilatation: ?
- Indicated for renal and iliac arteries – ruptures, dissections and aneurysms

Atrium and FEVAR
- 2003-2013: 107 Zenith FEVAR
- Excludes fenestrated cuffs and fen/branched grafts
- 240 stents: Atrium/Jostent/PG/AVE/unrecorded
- 142 Atrium for 141 target vessels
- CA 1, SMA 20, RRA 61, LRA 60
- No occlusions in 142 recorded Atrium stents
Adjunctive self-expanding

BEVAR

Efficacy and durability of endovascular thoracoabdominal aortic aneurysm repair using the caudally directed cuff technique

Endovascular treatment of thoracoabdominal aortic aneurysms


• 89 patients
• 192 fenestrations/102 branches
• Self-expanding covered stent
• Lined with bare nitinol self-expanding stent to add stability and avoid kinks

• 30 patients
• 51 branches
• Majority balloon-expandable stents (Atrium/Jomed)
• Additional Zilver stents
BE graft

- 4. Contraindications
- Contraindications include, but may not be limited to:
  - Aneurysms immediately adjacent to the site of stent implantation

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BE graft modifications

- Identical fixation of graft material at both ends
- Thickness doubled
- ePTFE

Current Design

Modified Design

Conclusion

- FEVAR covered stent
- All off-label
- V12 has the longest history and has performed well
- Occasional adjunctive stent

Conclusion

- BEVAR covered
- Self-expanding – balloon expandable
- Adjunctive stent
- All off-label
- Optimal?