Advanced techniques for complex aortoiliac obstructions

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Diclosure

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I have the following potential conflicts of interest to report:

- Consulting:

  Abbott Vascular; Angioslide; Atrium Maquet Getinge group; Bard Peripheral Vascular; Cardionovum; Cordis Cardinal Health; IMDS; Ivascular; Stille; Veyran; Ziehm Imaging
Aorto-iliac occlusive disease

“Cerab-technique : a new approach in treating extensive aortoiliac occlusive disease”
Important

Infrarenal aorta

Aortoiliac bifurcation

Iliac region
Extensive aortoiliac disease

• Double barrel bare metal stents ± stents in the renal arteries

• Use of AAA devices

• Covered endovascular reconstruction (CERAB)
Extensive aortoiliac disease

- Double barrel bare metal stents ± chimney in the renal arteries
- Use of AAA devices
- Covered endovascular reconstruction (CERAB)

courtesy of Dr Mangialardi-Ronchey, San Filippo Neri Hospital, Rome
Extensive aortoiliac disease

- Double barrel bare metal stents ± stents in the renal arteries
- Use of AAA devices
- Covered endovascular reconstruction (CERAB)

13 cases (high risk pts)
follow-up 18 mths (6-30 mths)

- Death (6 mths) 1 (IMA)
- Prim patency 91.7%
- Sec patency 100%
- Ren art patency 100%
- CAD – PTCA 1
- CEA 1

courtesy of Dr Mangialardi-Ronchey, San Filippo Neri Hospital, Rome
Presented at the Veith Symposium 2012
Extensive aortoiliac disease

- Double barrel bare metal stents ± stents in the renal arteries
- Use of AAA devices
- Covered endovascular reconstruction (CERAB)

Possible Disadvantages  CERAB configuration

- LD-covered stents not everywhere and always available
- Maximum flaring capacity
- Cannulation of LD covered stent can be difficult (brachial approach)
- Radial mismatch depending on operator experience → technical imperfection

Endologix AFX Stent Graft

- Unibody design for AAA repair (EVAR)
- Sits on the aortic bifurcation
- Sizes from 22mm to 28mm with various iliac sizes and lengths
- Low 17F profile (percutaneous)
- Percutaneous approval

**Role in Aortoiliac Occlusive Disease?**

*Courtesy of Dr Michel Reijnen MD*
AFX : Advantages for AIOD

- Preserves aortic bifurcation
- No limb competition in a narrow distal aorta
- Avoid the possibility of ‘missing’ CIA lesion
- Does not preclude future aortic interventions
- Protective in cases of potential rupture
- Fabric allows for significant oversizing without wrinkle / infolding

Courtesy of Dr Michel Reijnen MD
Extensive aortoiliac disease

- Double barrel bare metal stents ± stents in the renal arteries
- Use of AAA devices
- Covered endovascular reconstruction of Aortic Bifurcation (CERAB)
How to start?
Points of ATTENTION
Tips & Tricks
Midaortic juxtarenal lesions

Risk of occluding visceral arteries
→ Embolisation of débris
→ Overstentening
→ Coral reef encroachment

Brachial access
Brachial access
V12 balloon expandable covered stents
Atrium Maquet Getinge Europe BV
• Aorta: 12x61 mm V12 balloon expandable stent-graft (Atrium Maquet Getinge Europe BV)
• Expansion of visceral stents (6x38 mm)
• Expansion of aortic stent
Angio control after 18 months
Re-entry failure after balloon attempts

Outback re-entry device Cordis Cardinal Health
Re-entry failure after balloon attempts

Outback use
Re-entry failure after balloon attempts

Outback use
Common Iliac Artery calcification
Common Iliac Artery calcification
Common Iliac Artery calcification
Common Iliac Artery calcification
Occluded external iliac stents
Occluded external iliac stents
Occluded external iliac stents
Occluded external iliac stents
Occluded external iliac stents
Occluded external iliac stents
Possible technical problem: replacement of 2’ guide wire into aortic stent
Possible technical problem: replacement of 2’ guide wire in to aortic stent
Possible technical problem: replacement of 2’ guide wire in aortic stent : CONTROL !!!!
Possible technical problem: replacement of 2’ guide wire in to aortic stent
Technical considerations
What’s on the market
Different possible CERAB configurations with BX covered stents

Courtesy of Peter Goverde MD
Different possible CERAB configurations

• Future CERAB made of:
  • Main body:
    – BeGraft Aortic Bentley Bx
    – **Diameters** 12-14-16-18-20-22-24mm
    – Largest Can been postdilated up to max 28 mm
    – **Length**: 19-28- 37-57mm
  • Legs:
    – BeGraft Bentley Bx Bx
    – **Diameters** 6 to 10mm
    – **Length** : 28 (27)-38(37)-58(57)
  • Can be postdilated
  • Less shortening

Courtesy of Peter Goverde MD & Bentley
Different possible CERAB configurations

- CERAB made of:
  - Main body:
    - V12 Maquet Getinge Bx
    - Diameters 10-12-14-16 mm
    - Length:
      - 10: 38 & 59 mm
      - 12-14-16: 41 & 61 mm
  - Legs:
    - V12 Maquet Getinge Bx
    - Diameters 6 to 9 mm
    - Length: 38 & 59 mm
- Can be postdilated
- Cave shortening

Courtesy of Peter Goverde MD
Different possible CERAB configurations

• CERAB made of:
  • Main body:
    - LifeStream Bard PV Bx
    - Diameters 10-12 mm
    - Can be postdilated to 16 mm
    - Length:
      - 38 & 58 mm
  • Legs:
    - LifeStream Bard PV Bx
    - Diameters 6 to 9 mm
    - Length: 37 (38 for 9mm) & 58 mm
• Can be postdilated
• Less shortening

Courtesy of Peter Goverde MD
Different possible CERAB configurations

• CERAB made of:
  • Main body + bifurcation:
    – AFX main body Endologix
    – Diameters 22 mm
    – Length: 40 or 60 mm
  • Legs:
    – V12 Maquet Getinge Bx
    – LifeStream Bard PV
    – Fluency Plus Bard PV
    – Viabahn Gore
• Can be an alternative if rest is not available
• For larger reconstructions

Courtesy of Dr Peter Goverde MD
Preclosing with Proglide (Abbott vascular)
Preclosing with Proglide (Abbott vascular)
Be carefull with percutaneous closure
Conclusions

• Safe and feasible techniques

• “Sufficient” distal outflow is recommended / needed

• Awareness of some tips & tricks
Thank you for your attention
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