Endovascular treatment of an abdominal aortic aneurysm with a very narrow lumen using an iliac branch device

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Disclosure

Speaker name:


I have the following potential conflicts of interest to report:

☐ Consulting
☐ Employment in industry
☐ Stockholder of a healthcare company
☐ Owner of a healthcare company
☐ Other(s)

☒ I do not have any potential conflict of interest
History

• 76 y old male presented with bilateral calf claudication with a walking capacity of 100 m (La Fontaine II B)

• PMH:
  • Obesity (BMI 38)
  • Diabetes mellitus
  • Ischemic heart disease
  • Colectomy for colon cancer
Work up

• ABI
  • 0.4 right, 0.5 left

• CT scan:
  • Abdominal aortic aneurysm (penetrating aortic ulcer)
  • Very narrow flow lumen of the aorta (tapering from 20 to 10 mm)
  • Renals to aortic bifurcation distance: 100 mm
  • Severe right and left common iliac artery stenosis
  • Multiple external iliac artery stenosis
• Abdominal aortic penetrating ulcer and Iliac axis occlusive disease.

• Options:
  • Open surgery: high risk patient
  • Standard EVAR: very narrow aortic flow lumen
  • Aorto-uni-iliac endograft with fem-fem bypass (obese patient, risk of groin infection)
• **E-liac (jotec)**
  - Proximal diameter 18 mm
  - Proximal length 65 mm
  - Distal Length 56 mm
  - Distal diameter 10 mm
  - Side branch diameter 8 mm
• Bilateral femoral percutaneous access
• Right CIA occlusion!
• Left brachial access:
  • 90 cm 5 fr flexor sheath
  • Antegrade recanalisation of RCIA occlusion
  • Balloon angioplasty 6*40
• Introduction of IBD from left side
• Capture of 0.018” wire in the pre-loaded catheter
• Positioning of contralateral gate 1 cm above aortic bifurcation and partial deployment
• Gate and right iliac cannulation from brachial access.
• Capture of antegrade wire from right access
• Complete deployment of graft
• Bridging stent (E-ventus 8* 57 mm)
• Kissing angioplasty
- Deployment of an aortic cuff (Endurant 23 23 49) proximal to E-liac with 2 cm overlap
- External iliac stenting for stenotic lesions
Follow up

• Patient had smooth recovery, ABI increased to 0.8 on both sides
• Discharged 3 days after the procedure
• One month CT Scan:
  • Patent aortic and IBD graft
  • Patent iliac stents
• 8 months follow up: patient is symptom-free with positive femoral pulses.
Discussion

• Off-label use of IBDs have been described before for non internal iliac use:
Discussion

• Three IBD are commercialized (Cook, Gore, Jotec)
• In this particular case we preferred to use the E-liac because of a more appropriate proximal diameter (18 mm)
  • Too large with Gore IBD (23 mm), too small with Cook ZBIS (12mm)
• Although the minimal recommended diameter for gate opening is 18 mm for the E-liac graft (16 mm for the ZBIS), we were confident that the gate opening will not be an issue in thrombotic material.
• Concerns about the radial force of the external iliac component in occlusive diseases.
Conclusion

• Iliac Branch devices may offer a versatile endovascular solution for different anatomical challenges and could represent a good alternative in high risk patients.
Thank you
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