Treatment of a Contralateral Iliac Vein Occlusion
Creating a new bicurcation through an existing wall stent

David Dexter, MD, FACS
Sentara Vascular Specialists
Vein Center of Virginia
Assistant Professor of Surgery
Eastern Virginia Medical School
Disclosure

Speaker name:

I have the following potential conflicts of interest to report:

- [x] 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
Disclosures

• Consultant
  – Boston Scientific
Background

• There is no FDA approved Iliac Stent in the US – 3 ongoing US trials with more to come
• There are a series of stents available and in worldwide use
• All current venous technology has physiologic and structural limitations
Limitations to Venous Stenting

- Difficult to create a stent with an appropriate balance of
  - Flexibility to adopt to the native anatomy and radial force to resist compression
  - Open cell stents to allow tributary blood flow and closed cell stents that allow radial and linear strength
- No good approach to the bifurcation of the Iliac veins from the IVC
Bifurcated Iliac Vein Stenting

1. Double Barrel Stenting
2. IVC stenting and 2 stents into the caval component
3. Utilization of an arterial branched endoprosthesis
4. Open and stent through a contralateral stent interstice.

Bilateral stenting at the iliocaval confluence

Peter Neglén, MD, PhD, Rikki Darcy, BS, Jake Olivier, PhD, and Seshadri Raja, MD. *Flinders, Mc, and Sydney, New South Wales, Australia

(J Vasc Surg 2010;51:1457-66.)
Stent Selection

- Braided stents (Wall Stent) offer the unique ability to have their interstices dilated with a low risk of stent fracture.
- Cut Nitinol stents can be cannulated from the contralateral side, however serial angioplasty results in stent fracture.
Cook Triforce Crossing System

- 4Fr CXI support Catheter
- 5Fr Flexor Sheath that tapers to a 4 Fr inner diameter at the tip
  - Seamless transition from catheter to sheath when crossing tight lesions
- 0.035 system
- Hydrophilic coated
Chronic Occlusion of IVC Filter

- 55 year old male who had a DVT after craniectomy.
- Filter placed.
- Filter occluded 6 months later
- Bilateral venous hypertension from IVC occlusion
Contralateral Iliac Access  Ipsilateral Access  5 Fr BER Cath
4mm x20mm PTA and 10 Fr Sheath

14mm Atlas pre
16x90 Wall Stent

16mm Atlas post
44 year old female with L CIV Stent and Left venous ulcer

- Presents with acute R leg pain and swelling. Severe. Could not stand or walk.
- Has a history of Left side venous ulcer and Prior stenting
Bilateral Venogram demonstrating Thrombus from Right femoral into the IVC/Stent junction.
IVUS at the IVC junction. Thrombus within the Left Stent.
Angiovac Thrombectomy of the IVC and Right Iliac Veins
Bilateral Venogram demonstrating Thrombus from Right femoral into the IVC/Stent junction
Right Common Iliac Was crossed with a Cook Triforce, Dilated with a 4mmx20mm balloon and pre-dilated with a 14x40mm atlas balloon
16x60mm Wall stent was deployed creating a neo-bifurcation
Post Dilation with a 16x40mm Atlas Balloon
Post Dilation with a 16x40mm Atlas Balloon
Completion Venogram
Conclusion

• Recreation of the IVC/iliac bifurcation can be done through an occluded contralateral wall stent in the acute and chronic setting.

• Appropriate catheter balloon and stent selection are of paramount importance for technical success.
Thank You
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