Inner Branched Endografts: A Better Solution For F/BEVAR Than Other Configurations For Treating Visceral Anterior Segment Lesions

What's an “Inner Branch”?
• Why we develop it?
• Do we made it to replace external branches?
• Is there any advantage of using it?

Why we are looking for alternatives to Fenestrated Endografts?
We have been working with fenestrations since 2006.
• Positioning can be very challenging, specially in angulated and narrow aortas.
• Balloon expandable stents are quite “delicate”, deformable, they can be displaced, misplaced or smashed during the procedure.
• P-Branch trial prove has shown an application for only 60-70%.
• Fenestrations are not the ideal solution for all renal arteries.

Visceral stent patency in fenestrated stent grafting for abdominal aortic aneurysm repair.
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(J Vasc Surg 2013;-:1-9.)
• Stent patency
  • 95.7% at 1 year
  • 88.5% at 4 years.
• 13 patients developed permanent renal function impairment (3.4%), of which two required permanent dialysis (1.4%)
• Renal dysfunction was significantly associated with renal stent occlusion or stenosis (P < .01).
Technical Issues with Fenestrations

Renal movement and Bridge Stent choices.

Inside branches device - Concept & design:

• "Off-the-Shelf" device.
• More applicability - P-branch (60%).
• Only one reference point, SMA FEN.
• Work with self-expandable stents in the renals.

Inside branches device - Concept & design: made it simple to everyone handle and deploy

Inner branches planning scope - operating range

P-Branch applicability with the inner branch device would be greater than 90%.
Inner branches device

- You can add a second fenestration to the CT to have a higher sealing or to external branches.

Inside branches device – other possibilities:
- Treat previous "failing Grafts" Type I Endoleaks

Inner branches device – Renal Catheterization
Inner branches device – First case May 2013

Small Right Kidney – 02 small renals
• CT Scan.

09 months control.
02 years control.
02 years control.

Actual experience - 57 cases.
• First case done in May 20th 2013. 100% Technical success.
• 41 patients with supra or juxta-renal aortic aneurysms greater than 5.5 cm.
• 09 Type IV TAAA
• 07 Chronic Dissections Aneurysms
• Ages: 84 to 52 years.
• Procedure time ranged between 1.30 to 3h.
• The amount of contrast ranged from 55 to 110 ml.
• One intra-operative complication.
  - Left Renal artery was positioned “Chimney like”, outside the branch. OCCLUDED in the early post-op.
  - 06 of 110 renal arteries occluded–asymptomatically- 5.4%-2y
• CT and SMA 100% patency 2y.
• 02 post-op. deaths
• No CNS injury
• No patients requires permanent dialyses.

Could it be a the solution for Chronic dissections??
Inner branches device with preloaded wires.
Chronic dissection case, multiple endo procedures. Solutions:

- Fenestrated device?
- Branched device?
- Open Surgery?

Inner branch makes the procedure easier

Final control intra-op

04 inner branches device with 04 preload wires

Special indications:

1- Para-renal and juxta-renal AAA.
2- Type IV TAAA.
3- Type I Endoleaks, even from previous Chimney's technique.
4- Degenerative Aneurysms from Chronic Type B Dissections.

Thank you for your kind attention.