Taking the complex and making it SIMPLE
Repair of ThoracoAbdominal Aortic Aneurysms

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Disclosures
Patrick Kelly
US Patent Applications Pending/Awarded on Devices
Presented
Licensed Intellectual Property to Medtronic

Disclaimer
- This presentation discusses off-label and no-label use of devices
- This presentation discusses the use of physician-modified endografts (PMEGs) under PSIDE G140207

Paradigm Shift
Proximal Deployment
Endo-Bypasses
Delayed Distal Seal
**Proximal Deployment**

Place the first compartmentalizing graft above the “Branch Vessels”

Allows for continues perfusion throughout the procedure

**EndoBypass**

Each of the branch vessels are stented individually from a position more proximally

These bridging stents are slightly longer but the favorable flow characteristics and conformability to anatomic variations mirror many of the lessons we’ve learned from open bypass

**Endo-Bypasses**

Gradual sweeping renal debranch stents

Completion of the visceral debranch through the conforming visceral manifold

Extend the infrarenal barrel distally allowing completion of the procedure via a standard EVAR
Delayed Distal Seal

Once flow has been secured to each of the involved branches than the open limb of the proximal compartmentalizing graft can be extended distally excluding the diseased segment of vessel.

Proposed Devices

IDE TGB Devices

Valiant Main Component
- Diameter Size Match
- Endurant Extension
  - 20mm Limb
  - 16mm Limb

IDE VM Devices

- 24mm Main Body
- 14mm Proximal Limbs
- 8mm Individual Limbs

Assembled System
Looks Good On Paper and in Cartoons but “Remember the Coyote Never Dies”

28 Patients Treated (non-emergent)

- Gender
  - 17 males
  - 11 females
- Mean Age
  - 72.6 (61-87)

Distribution
- Meet IDE Inclusion 12/28
- Not Meeting IDE Inclusion 16/28
  - Previous SuperRenal Fixation 2/28
  - Visceral/Iliac Stenosis/Occlusion 8/28
  - Intro-Op deviation from Protocol 1/28
  - TAAA after TBAO 5/28

Intra-Op
- Length of Surgery 297min (238-489)
- Fluoro Time 96min (57-238)
- Total Contrast Used 103ml (43-137)
- Target Vessels Debranched 104/107*

* 3 vessels were unsuccessfully debranched secondary to previously placed superrenal stented grafts
In Hospital Post-Op Results

- Mortality rate 0/28
- MI 0/28
- Renal Failure 2/28
- CVA 0/28
- Paraplegia 2/28
- Endoleaks 2/160 Junctions Type 3
- LOS 7.6 days (3-21)
- Discharged to Home 22/28 w/ LOS 6.2 days

Mid-term Follow-up

- Aneurysm Related Deaths 0/28
- Renal Failure 0 new cases
- Paraplegia 0 new cases
- Endoleaks 6 Total - Type 2 & 3
  - Both T-3 Resolved - one required coil intervention
  - No Evidence of Sack Growth or Graft Migration
  - Branch Graft Patency 103/104 99% > 1yr

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A novel endovascular debranching technique using physician-assembled endografts for repair of thoracoabdominal aneurysms

TAAA after TBAD
By Approaching this problem from the lessons we’ve learned with 

**OPEN/ENDO SURGERY**

And applying

- **Proximal Deployment**
- **EndoBypass**
- **Delayed Distal Seal**

With Very Acceptable Results

Thank You