How Will The Decreased Frequency And Increased Complexity Of Open AAA Repair Affect Vascular Surgery Training: What Can Be Done About It?

Disclosure

CONSULTANT:
- MEDTRONIC
- TRIVASCULAR

The Days of Simple Open Repair Are Over


Albany Vascular Group

Our Trainees are getting less open experience
The open case are more complex
Off Label

- < 1.5mm

Off Label

- >60 degrees

Small Access Vessels

Extending the length of the short proximal neck

Snorkel or Chimney Technique

Moving the proximal neck more proximally

- Custom Fenestrated grafts
  - Zenith (Cook)
  - Jotec
  - Anaconda
    (Terumo/Vascutek)
- Surgeon Modified
- Ventana (Endologix)
  - Conventional (dome design)

Problems with Commonly Used Stent Grafts

Large bore EVAR Devices have the potential to cause access related complications
Novel Design Paradigm

The Ovation Prime Aortic Body eliminates stent / material overlap which allows for significant reduction in profile without compromising durability.

Pushing the limit with EVAR

Why Do Trainees Need To Know Open Aortic Surgery?

- 20-40% AAA Anatomically unsuitable for EVAR
- Endovascular/Stent Failures (Ruptures, Infections, Leaks)
- Visceral Reconstructions
- Spine Exposures
- Trauma

THERE IS NO SUBSTITUTE FOR EXPERIENCE
THE RETROPERITONEAL EXPOSURE
Technically What Do Trainees Need To Know?

- Exposure of Subdiaphragmatic Aorta
- Exposure of Visceral Vessels
- Methods to Minimizing Visceral Ischemia

EXPERIENCE THE LIMITATIONS OF THE RETROPERITONEAL EXPOSURE

- Difficult access to the right renal and right iliac arteries
- Difficult access to the superior mesenteric and celiac arteries
- Cannot evaluate intra-abdominal structures

Long-term safety of left renal vein division and ligation to expedite complex abdominal aortic surgery

From Rutherford's Atlas of Vascular Surgery
Supraceliac Clamp

Medial Visceral Rotation

What do I do once I get there?

Liberal Distal Aortic Endarterectomy
Endograft Explantation

WHY ME?

Infected Endografts

Thoracoabdominal Aortic Aneurysm Repair

- Atrial to Femoral Bypass with Sequential Clamping
- Detailed CTA mapping of the Spinal Artery
- Neuromonitoring
Predicted shortfall in open aneurysm experience for vascular surgery trainees

S curve regression equation:

endovascular procedures will lead to vascular trainees completing 10 OAR by 2015 and 5 OAR by 2020.

So what do we do?

Find ways to get our trainees more cases...

- Simulation
- Away rotations to high volume centers
- Mentorship early on in practice
- Referral to high volume centers
**Simulation**

**Away Rotations**

**Future Directions**

- Identify National trends in open aortic cases done by trainees.
- Define complexity of recent and current open aortic cases and their outcomes to better define the current climate.
- Study the effects of simulation and other adjuncts to open aortic surgery and their influence on trainees' comfort.

**Table:**

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Conclusions

- Most of the easy ones are taken by EVAR
- Open aortic surgery has become more difficult
- Outcomes of open repair in the modern endovascular era need to be more clearly defined.

Conclusions

- The future of open AAA repair will increasingly include endograft explant
- The challenges of training our next generation vascular surgeons on open aortic surgery will likely need to be met with simulation, away rotations and mentoring

Thank You