Patient Specific And Off-The-Shelf Devices Will Not Suffice For Many Patients With AAAs Involving The Visceral Aortic Segment: What Is The Solution

David Minion, MD
University of Kentucky Medical Center
Lexington, Kentucky

Disclosures

• No financial disclosures
• I'm not sure I understand the title of my talk either.

When to choose parallel grafts?

VS

Situations Favoring Parallel Grafts

• Ruptures
• Angulated Anatomy
• Intraluminal Thrombus

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Case Example
Ex Lap

Branched endografts for thoracoabdominal aneurysms
• 406 patients with TAA and 227 with juxta-renal AAA treated with patient specific fenestrated grafts
• 30 Day Mortality
  – Type I = 12.5%
  – Type II or III = 5.2%
  – Type IV = 2.3%
  – Juxtarenal = 1.8%

Why do they die?

Endovascular treatment of thoracoabdominal aneurysms
• 89 patients treated with patient specific fenestrated grafts
• 30 Day Mortality = 8.9%
• In-Hospital Mortality = 10%
• Renal complications
  – Decrease GFR = 11%
  – Temporary dialysis = 6.7%

Why do they die?

Endovascular treatment of thoracoabdominal aneurysms

Multiple organ failure developed in six patients at days 4, 7, 12, 18, 29, and 42. The underlying causes were (1) massive cholesterol embolism syndrome, (2) acute ischemic pancreatitis after postoperative thrombosis of the celiac branch of the device, (3) postoperative coagulopathy and pulmonary sepsis, (4) massive cholesterol emboli and pulmonary sepsis, (5) hemorrhage after intraoperative rupture of an external iliac artery treated with an iliofemoral bypass graft, and (6) acute renal failure and severe pulmonary sepsis.

Case Example

Wrong Sequence

Wrong Sequence

Wrong Sequence

Strategies to Reduce Embolic Complication
Summary

• Athero-embolism may be partly responsible for the high mortality rates associated with endovascular repair of thoracoabdominal aneurysms.

• One of the key advantages of parallel endografts is that the reno-visceral branch vessels are cannulated prior to the deployment of the aortic graft.

• This feature is likely beneficial in cases of:
  – Intraluminal thrombus
  – Angulated Anatomy

• Deploy parallel grafts prior to the main aortic graft