Intra-Abdominal Extra-Anatomic Reconstruction for Suprarenal Aortic and Graft Infection

Techniques and Results

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1. Treatment of Infected Aortic Grafts

Evolution from axillofemoral to in situ prostatic reconstruction for the treatment of aortic graft infections at a single center

Significant improvement in primary patency and limb salvage with similar procedure related mortality and reinfection rate

2. Treatment of Infected Aortic Grafts

In situ rifampin-soaked grafts with omental coverage and antibiotic suppression are durable with low reinfection rates in patients with aortic graft enteric fistulas

Operative mortality 2 % in non-ruptured aneurysms
Excellent graft patency and limb salvage
Avoid in patients with excessive perigraft purulence

3. Treatment of Infected Aortic Grafts

The use of cryopreserved aortosiaial autograft for aortic reconstruction in the United States

CAA should be considered a first line treatment of aortic infections
**Case Example**

- 73 yr old woman
- Recurrence of bleeding and passage of staples PR
- Pseudomonas septicemia
- 4 years s/p ABFG for AIOD complicated by colon ischemia
- Left colectomy and end-colostomy
- Early bleeding PR / pelvic hematoma controlled with IIA coil embolization

**Intra-abdominal Extra-anatomic Aortic Reconstruction**

- Cover of new grafts with retroperitoneal fat
- Exposure of infected garft through midline retroperitoneum
Intra-abdominal Extra-anatomic Aortic Reconstruction

- Preservation of renal / visceral blood flow
- Significant physiological stress
- Traditional extra-anatomic reconstruction not feasible
- Presence of large abscess around aorta / graft creates further challenge to \textit{in-situ} repair
- Creative positioning and tunneling of grafts necessary

Case Example

- 73 yr old man with infected infrarenal aortic graft + suprarenal mycotic aneurysm
- Osteomyelitis with L2 – L5 destruction
- s/p lumbar decompression
- s/p MI
- Large paraspinal abscess - percutaneous drain
- PCR diagnosed Q Fever

Intra-abdominal Extra-anatomic Aortic Reconstruction

Supracleiac aortoiliac bypass with Rifampin soaked dacron

Extensive abscess and vertebral debridement, left nephrectomy
Intra-abdominal Extra-anatomic

Case Example

64 yr old man with infected endograft, AEF and L4 vertebral body erosion

Aortic pseudoaneurysm with air along entire endograft

Intra-abdominal Extra-anatomic Aortic Replacement

• Supraceliac aorto-iliac bypass with cryopreserved allograft
• SMA bypass
• Reimplantation left renal artery
• Ilio-right renal bypass
• Buttress of aortic stump with fascia lata
• Omental wrap

Postop CTA

Intra-abdominal Extra-anatomic Aortic Reconstruction

Hepatorenal and aortorenal bypass with GSV

Preoperative

Supraceliac aorta to B/L EIA bypass with Rifampin soaked dacron

Postoperative

Mayo Experience

N = 5

N=4

Mean age 73 years

(range 64-80)

Occlized AAA N=1

Open grafts N=3

EVAR N=2

• Osteomyelitis – 3 pts
• Q Fever – 2 pts

Results

• 1 fatality at 60 days postop from failure to thrive, ruptured diverticulitis and MSOF
• No incidence of reinfection
• New aortic, renal and visceral grafts can be successfully compartmentalized within the abdomen away from major sepsis
• Sequential reconstruction decreases the physiological stress