Redo Aortobifemoral and Thoracobifemoral Bypass

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Disclosures

- None
Case Presentation

- PMH – COPD - Smoker, DM, HTN, PVOD
- PSH - AAA repair
- PE – non palpable femoral/pedal pulses
CTA Findings

- Mild occlusive disease supraceliac aorta
- Celiac artery occlusion
- Mild SMA occlusive disease
- Bilateral artery stenosis
- Infrarenal aortic occlusion – prior graft
- Normal infrainguinal runoff
- Small femoral arteries – CFA/PFA/SFA
Case Presentation – Treatment
Treatment Options

- Major amputation
- Endovascular revascularization
- Extra-anatomic revascularization
- In-line revascularization
  - Aortobifemoral bypass (redo aorta)
  - Thoracobifemoral bypass
Case Presentation – TBF
TBF - Indications

- Failed aortobifemoral bypass (both limbs)
- “Hostile” abdomen
- Failed extra-anatomic bypass/aortic ligation
- Severe AIOD +/- aortic occlusion
- Severe AIOD with visceral occlusive disease
Thoracobifemoral Bypass

Advantages
- Virgin tissue plane
- Tunnel - ureter
- Inflow source
- Exposure L RA

Disadvantages
- Remedial options
- Spinal cord injury
- Pulmonary insult
- Unfamiliar approach
- Exposure R RA, SMA
- Splenic injury
TBF – Patient Selection

- Clinical symptoms
- History/prior revascularization
- Comorbidities
- Anatomy - AIOD/supra-celiac aorta
Technique - Position
Technique - Dissection
Technique - Tunnels
Technique – “Pearls”

- Lumbar vein – renal artery
- Crus of diaphragm
- Supra-celiac control – umbilical tape
- Partial occluding clamp – Lambert/Kaye
- Preserve main body length
- Peritoneal exploration - completion
<table>
<thead>
<tr>
<th>Feature, N=41</th>
<th>% (No.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>30-day mortality</td>
<td>5% (2)</td>
</tr>
<tr>
<td>Length of stay, median [IQR]</td>
<td>11[7,16]</td>
</tr>
<tr>
<td>Any in-hospital complication</td>
<td>34% (14)</td>
</tr>
<tr>
<td>Pulmonary</td>
<td>15%</td>
</tr>
<tr>
<td>Cardiac</td>
<td>12%</td>
</tr>
<tr>
<td>Bleeding</td>
<td>7%</td>
</tr>
<tr>
<td>Acute kidney injury</td>
<td>5%</td>
</tr>
<tr>
<td>Wound</td>
<td>2%</td>
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<tr>
<td>Discharge disposition</td>
<td></td>
</tr>
<tr>
<td>- Home</td>
<td>74% (29)</td>
</tr>
<tr>
<td>- Rehabilitation unit</td>
<td>26% (10)</td>
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</tbody>
</table>
TBF – Primary Patency

Crawford JD J Vasc Surg 2019;69:1150
TBF – Survival

Crawford JD J Vasc Surg 2019;69:1150
• Thoracobifemoral bypass is a safe and effective option for patients with severe aortoiliac occlusive disease, especially if undergoing redo aortic surgery or when they have concurrent renal-mesenteric occlusive disease not amenable to endovascular therapy.
Thank You
TBF – Freedom Re-intervention

Crawford JD J Vasc Surg
2019;69:1150
TBF – MALE

Number at risk

Year

Freedom from Reintervention

0 25% 50% 75% 100%

41 20 15 8 5 2