Managing Branch Complications Of F/B/EVAR:
Incidence And Outcomes

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**Branched (T)EVAR + Fenestrated EVAR**

Combined experience
Helios Vascular Center Berlin-Brandenburg

- 2004 - 2017
- 466 patients
- Zenith Stent-grafts in all cases (CMD, T-Branch, Standard Fenestrated)
- Target arteries: Renal, SMA, CA, IIA
- Bridging stent-grafts: Advanta V12 balloon expandable

**FEVAR/ Br(T)EVAR / ILIAC Branched Grafts**

*n = 466*
Helios Vascular Center Berlin-Brandenburg 2004-2017

<table>
<thead>
<tr>
<th>Graft Type</th>
<th>n</th>
<th>Hospital Mortality</th>
</tr>
</thead>
<tbody>
<tr>
<td>EVAR Fenestrated Grafts</td>
<td>190</td>
<td>4.7 % (n=9)</td>
</tr>
<tr>
<td>Branched TEVAR</td>
<td>138</td>
<td>8.7 % (n=12)</td>
</tr>
<tr>
<td>• Off-the shelf (T-Branch)</td>
<td>93</td>
<td></td>
</tr>
<tr>
<td>• CMD Grafts</td>
<td>35</td>
<td></td>
</tr>
<tr>
<td>EVAR with Iliac side branches</td>
<td>138</td>
<td>1.4 % (n=2)</td>
</tr>
<tr>
<td>Overall</td>
<td>466</td>
<td>4.9 % (n=23)</td>
</tr>
</tbody>
</table>

Target arteries 1270
Branched (T)EVAR + Fenestrated EVAR
n = 466

Complications in target arteries:
Dissection, rupture, perforation, thrombosis, occlusion

• 44 patients (9.4 %)
• 44 Target arteries (3.5 %)
  • Renal arteries 32
  • SMA 10
  • Celiac artery 2

Complications in target arteries
Management

• Thrombolysis
• Stenting
• Coiling
• Occlusion of side branch
**FEVAR**

**SMA occlusion**

![Image of SMA occlusion](image1)

**FEVAR**

**Stenting of dissected renal artery**

![Image of stented renal artery](image2)
FEVAR
Stenting of prolonged intraprocedural SMA occlusion

BrTEVAR
CA inaccessible – Branch occlusion with Amplatzer plug
Branched (T)EVAR + Fenestrated EVAR
n = 466

Management of 44 target artery complications

• Successful 34
• Lethal 9*
  • SMA 8 (of 9)
  • Renal artery 1 (of 22)

*contributes 40 % to overall mortality
(9 of 23)

Conclusion

• Injury to target arteries in endovascular repair with branched and fenestrated stent-grafts is a rare but serious complication.
• Especially damage to the SMA has a high mortality.
• Further improvement of endovascular skills, instruments and trouble shouting devices are mandatory to avoid these complications.
Thank you for your attention.