Treatment of short-term complications after TEVAR for acute B dissection

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Faculty disclosure: G. Torsello

I have no financial relationships to disclose.
Compared with OR, TEVAR may reduce:

- early death
- paraplegia
- renal insufficiency
- transfusions and reoperation for bleeding
- cardiac complications, pneumonia
- length of stay

TEVAR  Systematic Reviews of 5880 patients

<table>
<thead>
<tr>
<th>Study</th>
<th>Year</th>
<th>N</th>
<th>Mortality 30-d</th>
<th>Stroke 30-d</th>
<th>SCI 30-d</th>
</tr>
</thead>
<tbody>
<tr>
<td>VIRTUE</td>
<td>2006-2012</td>
<td>Acute 50</td>
<td>4/50 (8%)</td>
<td>4/50 (8%)</td>
<td>1/50 (2%)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Sub-acute 24</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Chronic 26</td>
<td>0</td>
<td>0</td>
<td>1/26 (3.8%)</td>
</tr>
<tr>
<td>STABLE</td>
<td>2007-2009</td>
<td>Acute 20 Subacute 6 Chronic 10</td>
<td>2/40 (5%)</td>
<td>4/40 (10%)</td>
<td>1/40 (2.5%)</td>
</tr>
<tr>
<td>INSTEAD</td>
<td>2001-2007</td>
<td>72</td>
<td>2/72 (2.8%)</td>
<td>1/72 (1.5%)</td>
<td>2/72 (2.9%)</td>
</tr>
</tbody>
</table>

TEVAR begins with the access Iliac damage after TEVAR

Higher risk in:

- Women
- Young people
- Asian patients
- Tortuousity/calcification
Treatment of the bleeding

- Hold the wires in place
- Inflate a large balloon (from contralateral side)
- Deploy a stent-graft (long enough)
- Surgery for complete transsection of EIA
Complication: dissection EIA

Access: contralateral percutaneous
treated by PTA
Deployment complications

Acute B dissection
Malperfusion syndrome
thoracic pain

Droop effect

IMPLANTATION OF 2° DEVICE
Branch vessels

- **LSA sacrifice may result in different complications**¹
  
  - 6% Arm Ischemia
  - 4% Spinal Cord Ischemia
  - 2% Vertebrobasilar Ischemia
  - 5% Anterior Circulation Stroke
  - 6% Death

- Absolute indications (arm isch, LIMA etc)
- Relative indications (SCI and stroke)

Catheterization of the LSA helps identifying the vessel and perform chimney, if required.
Retrograde Type A Dissection after TEVAR

- Incidence 1.33%
- 36% in hospital
- 42% mortality
- 81% for aortic dissection
- 83% proximal bare stent
Retrograde Type A Dissection after TEVAR

- TAA: 0.9%
- Acute dissection 8.4%
- Chronic dissection 3%
Persisting malperfusion - If there is still severe compression of the TL, use of bare stents across the visceral segment.
Persisting extremity malperfusion after thoracic endografting
Visceral malperfusion after TEVAR
PTA and stenting of the SMA after fenestration of the lamella
Completion angiography after fenestration and stenting of the SMA
Fenestration of the lamella with the scissors
Use ballooning or stent when aortic occlusion occurs after use of scissors
Extremities and visceral ischemia after type B dissection – Crossover wire
Insufficient bleeding control even after aortic stenting
Treatment of the the rupture with the thoracoabdominal t-Branch
Summary: therapy of malperfusion

- If there is still severe compression of the TL, stent graft extension down to the celiac takeoff or use of bare stents across the visceral segment
- Adjunctive stenting of the aortic branches when branch malperfusion persists
- Large fenestration in cases in which TEVAR or stenting of isolated branches is not feasible/needed
Therapy of aortic rupture

- Placement of a stent graft to cover the ruptured aorta and the intimal tear at entry and reentry
- Angiography to check the complete control of the bleeding
- If bleeding control uncompleted, use of branched/fenestrated endografts or surgical therapy
Thank you!

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homepage: www.gefaesschirurgie-muenster.de