New Advances In Open TAAA Repair Especially After Endovascular Treatment Failures: Technical Tips And Results

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Disclosure Statement
- PI/Co-PI for several thoracic and abdominal aortic stent graft trials (Cook, Inc, Cordis® Corporation, Bolton Medical)
- Proctor and participated as a lecturer at symposia hosted by Cook, Inc., Bolton, W.L. Gore and Associates, Jotec and Medtronic, Inc.

San Raffaele Experience
Thoracic aorta (1993 - 2018)

<table>
<thead>
<tr>
<th>Procedure</th>
<th>Arch</th>
<th>DTA</th>
<th>TAAA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Open</td>
<td>15</td>
<td>411</td>
<td>3068</td>
</tr>
<tr>
<td>TEVAR</td>
<td>242</td>
<td>923</td>
<td>973</td>
</tr>
<tr>
<td>Total</td>
<td>360</td>
<td>754</td>
<td>3141</td>
</tr>
</tbody>
</table>

Reinterventions after TEVAR
206

Type of reintervention

- Endo Relining: N = 113 (52%)
- Open conversion: N = 81 (37%)
- Hybrid approach: N = 12 (6%)

San Raffaele experience ('93-'18)

Open thoracic conversion

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San Raffaele experience ('93-'18)

Reinterventions after TEVAR
206

Initial TEVAR at our Center = 84 pts*
Our reintervention rate = 84/858 (9.8%)
*Initial TEVAR performed at other Centers: 122 pts

San Raffaele Scientific Institute

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Why OPEN conversion?

- Young / fit patient: 26
- Unstable condition: 23
- Infection / fistula: 16
- No proximal neck: 11
- Anatomical barrier (MFM / Petticoat): 5

Case #1
Dissective TAAA & multiple failed endovascular attempts

Case #1
- Male, 62 yo (referred from another Center)
- 07/2017: Acute Type B dissection with impending rupture
  - Emergent TEVAR (3 Gore TAG) from LSA to SMA (CT overstenting)
- 12/2017: "Home-made" FL occluder for FL reperfusion and expansion

After 1 month:
- FL still perfused
- Sac expansion
- Pain

Conversion
Thoraco-abdominal aortic preparation

Case #2
Conversion after PETTICOAT
Case #2: TAAA after PETICOAT

- 45 y.o. man
- Marfan syndrome
- 2000 ascending aorta repair
- 2015 – TEVAR + PETICOAT for acute TAA
- 2017 – Enlargement of thoracic & abdominal aorta

**TAAA Open conversion**

Open conversion

Final result

**TEVAR conversion: Results**

<table>
<thead>
<tr>
<th>Indication to conversion</th>
<th>30-days Mortality</th>
<th>Open conversion N (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Endoleak (14)</td>
<td>2 (14%)</td>
<td></td>
</tr>
<tr>
<td>Endograft migration + failure (17)</td>
<td>2 (12%)</td>
<td></td>
</tr>
<tr>
<td>Retrograde dissection (6)</td>
<td>2 (33%)</td>
<td></td>
</tr>
<tr>
<td>Infection/fistulization (17)</td>
<td>5 (30%)</td>
<td></td>
</tr>
</tbody>
</table>

**Conclusions**

- Close follow-up after TEVAR
- Open conversion
  - Technical challenge
  - Acceptable results in High Volume Centers
- Increased mortality in case of retrograde dissection and infection
... we wait for you in Milan!