Aortic endografting with iliac side branch devices - lessons learned from the largest international registry (pELVIS)

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Disclosure

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I have the following potential conflicts of interest to report:

X Consulting/Grants: Medtronic, Cook, Gore, Boston, Cardinal, Biotronik

☐ Employment in industry
☐ Stockholder of a healthcare company
☐ Owner of a healthcare company
☐ Other(s)

☑ I do not have any potential conflict of interest
St. Franziskus Hospital Münster
University of Münster
University of Leipzig
San Camillo Forlanini Hospital
University of Perugia
University of Rome Tor Vergata
University of Florence
University of Hamburg
University of Lille Chru

• **814** patients
• **910** iliac branched devices
• January **2005**-April **2017**
Strengths of the registry

• Large experience: Greatest patient collective in the literature
• Long experience: Follow up duration up to 10 years
• Inclusion of challenging morphology of the iliac vessels treated (CIA, EIA, IIA)
• Experience with different bridging stent grafts, with relining stents and their total length
How safe is the procedure?

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
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</tr>
</thead>
<tbody>
<tr>
<td>30-day morbidity</td>
<td>8.8%</td>
</tr>
<tr>
<td>30-day mortality</td>
<td>0.5%</td>
</tr>
<tr>
<td>Total follow-up mortality</td>
<td>13.7%</td>
</tr>
<tr>
<td>IBD related follow-up mortality</td>
<td>1.0%</td>
</tr>
</tbody>
</table>
Is the use of IBDs effective?
Postop reduction of the aneurysm diameter

<table>
<thead>
<tr>
<th>Structure</th>
<th>Diameter</th>
<th>P-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aortic</td>
<td>41± 15</td>
<td>&lt;.001</td>
</tr>
<tr>
<td>Right common iliac</td>
<td>29± 10</td>
<td>&lt;.001</td>
</tr>
<tr>
<td>Right Internal iliac</td>
<td>12± 7</td>
<td>&lt;.001</td>
</tr>
<tr>
<td>Left common iliac</td>
<td>27± 10</td>
<td>&lt;.001</td>
</tr>
<tr>
<td>Left internal iliac</td>
<td>13 ± 9</td>
<td>&lt;.001</td>
</tr>
</tbody>
</table>
What is the rate of type I EL?

<table>
<thead>
<tr>
<th>Follow-up Endoleaks</th>
<th>n</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>TOTAL TYPE I</td>
<td>39</td>
<td>4.8</td>
</tr>
<tr>
<td>Non IBD Proximal aortic Ia</td>
<td>15</td>
<td>1.8</td>
</tr>
<tr>
<td>and/or contralateral Ib</td>
<td>7</td>
<td>0.8</td>
</tr>
<tr>
<td>IBD RELATED TYPE I</td>
<td>17</td>
<td>2.1</td>
</tr>
<tr>
<td>Ia from common iliac</td>
<td>3</td>
<td>0.4</td>
</tr>
<tr>
<td>Ib from internal iliac</td>
<td>12</td>
<td>1.5</td>
</tr>
<tr>
<td>Ia (aortic) &amp; Ib internal</td>
<td>1</td>
<td>0.1</td>
</tr>
<tr>
<td>Ib from ipsilateral external</td>
<td>1</td>
<td>0.1</td>
</tr>
</tbody>
</table>
Primary patency of the iliac artery
Risk factors for complications?

910 deployed IBDs

315 (34.6%) for hypogastric aneurysms
Freedom from type I endoleak

Cumulative Freedom from Endoleak T-1 at 5 years: 98% vs 93% respectively.

Log-rank (Mantel-Cox) test, $p = .006$
Juxtarenal aortoiliac aneurysm involving the hypogastric arteries on both sides
No difference in primary patency or reintervention between balloon expandable and self expanding stents.
Isolated CIA treated with IBD alone (N:91) or with an aortic bifurcated device (N:140)
Survival (A) and Freedom from aneurysm-related deaths (B) without any difference
Freedom from occlusion, from type III EL, from reinterventions similar
Suggestion: IBD can be used alone for the management of isolated CIAs meeting specific anatomic criteria
-Conclusions-

• Use of IBD for aorto-iliac aneurysms is safe, feasible and less invasive
• It is a durable repair
• We recommend the use of IBD in patients with hostile abdomen and when distal sealing of an endograft makes it necessary
Thank you!

homepage: www.gefaesschirurgie-muenster.de

St. Franziskushospital Münster