Performance of renal covered stents in the endovascular treatment of pararenal pathologies

Konstantinos P. Donas, MD

Department of Vascular Surgery,
St. Franziskus Hospital Münster, Germany
Head: Univ.-Prof. Dr. G. Torsello
Disclosure

Speaker name: Konstantinos P. Donas

I have the following potential conflicts of interest to report:

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

I do not have any potential conflict of interest
Pararenal pathologies

Fenestrated EVAR

Chimney technique

In courtesy M. Lachat
F-EVAR
Secondary Procedures After Aortic Aneurysm Repair With Fenestrated and Branched Endografts

Nicola Troisi, MD\textsuperscript{1,2}; Konstantinos P. Donas, MD, PhD\textsuperscript{1,2}; Martin Austermann, MD\textsuperscript{1}; Jörg Tessarek, MD\textsuperscript{3}; Thomas Umscheid, MD\textsuperscript{4}; and Giovanni Torsello, MD\textsuperscript{1,2}

![Graph B: Freedom from any device-related secondary procedures](image)

75.5%

![Graph C: Freedom from migration/type I endoleak](image)

92%
Used covered stents for f/b EVAR

- Fluency + Wallstent
- Viabahn + Zilver

10% occlusion of the renal covered stents
Chimney technique
Single chimney EVAR
Pararenal aneurysm
Multiple chimney EVAR
Multiple chimney EVAR
Used chimney grafts

Self expanding:

Balloon expandable:
Devices selection

Donas K, et al. JVS 2012
CT scan axial exam of an endograft–parallel stent model (Endurant–V12 combination), and B) measure of internal and external gutters area, and parallel-stent area.
The Münster experience with fenestrated/branched EVAR

n=150 patients since 2010

<table>
<thead>
<tr>
<th></th>
<th>TAAA</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>I</td>
<td>7</td>
<td>4.7%</td>
</tr>
<tr>
<td></td>
<td>II</td>
<td>27</td>
<td>18.0%</td>
</tr>
<tr>
<td></td>
<td>III</td>
<td>43</td>
<td>28.7%</td>
</tr>
<tr>
<td></td>
<td>IV</td>
<td>44</td>
<td>29.3%</td>
</tr>
<tr>
<td>Pararenal</td>
<td></td>
<td>29</td>
<td>19.3%</td>
</tr>
</tbody>
</table>
The Münster experience with fenestrated/branched EVAR

94.6%
The Münster experience with the chimney technique

- January 2009 - December 2014: 125 patients
- In the first 102 patients:
  - 141 CHIMPS - 132 ADVANTA V12 covered stents (93.6%)
  - Advanta patency: 96.2%

![Graph showing cumulative patency over time with 95.3% at 36 months]

<table>
<thead>
<tr>
<th>Time of occlusion in months</th>
<th>0</th>
<th>6</th>
<th>12</th>
<th>18</th>
<th>24</th>
<th>30</th>
<th>36</th>
</tr>
</thead>
<tbody>
<tr>
<td>patients at risk</td>
<td>102</td>
<td>79</td>
<td>63</td>
<td>54</td>
<td>41</td>
<td>32</td>
<td>27</td>
</tr>
<tr>
<td>targeted vessels</td>
<td>141</td>
<td>111</td>
<td>90</td>
<td>76</td>
<td>56</td>
<td>43</td>
<td>37</td>
</tr>
<tr>
<td>advanta sg</td>
<td>132</td>
<td>103</td>
<td>84</td>
<td>70</td>
<td>52</td>
<td>39</td>
<td>33</td>
</tr>
</tbody>
</table>
Balloon expandable covered stents in f/b EVAR and chimney EVAR

- Fluoroscopic visibility and high radial force
- Precise placement
- Inner surface of PTFE allowing safe removal or advancement of the sheath
- Durable mid-term results regarding patency

- No length between 22-38mm
- Flexibility
Performance of renal covered stents in the endovascular treatment of pararenal pathologies

Konstantinos P. Donas, MD

Department of Vascular Surgery,
St. Franziskus Hospital Münster, Germany
Head: Univ.-Prof. Dr. G. Torsello