Inner branch with funnel-like ostium in the treatment of the TAAAs
First experience in the development of a new off-the-shelf protheses

Koshty A., Nink N., Fuhrmann L., Pleger S., Kunold A., Elzien M.
Department of vascular and endovascular surgery
Diakonie Hospital
Siegen. Germany
Disclosure

Speaker name: Ahmed Koshty MD.

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
Classification of the TAAA
Open repair
Open repair
Endovascular
Hybrid
“Lego Technic”
“Lego Technic”
Combination of “all”
Analysis of the data of the German society of vascular surgery in the time from 1999 to 2012

In hospital mortality
- Pulmonary complications
- Cardiac complications
- Wound infection
- Bleeding
- Putt ischemia
- Intestinal ischemia
- Peripheral ischemia
- Renal failure
- Sepsis

Endovascular is Superior
Early Results of Fenestrated Endovascular Repair of Juxtarenal Aortic Aneurysms in the United Kingdom

Target vessel Patency

<table>
<thead>
<tr>
<th>Time (months)</th>
<th>0</th>
<th>3</th>
<th>6</th>
<th>12</th>
<th>24</th>
<th>36</th>
<th>42</th>
</tr>
</thead>
<tbody>
<tr>
<td>n (TV) at risk</td>
<td>889</td>
<td>573</td>
<td>472</td>
<td>365</td>
<td>149</td>
<td>40</td>
<td>3</td>
</tr>
<tr>
<td>Cum Survival (%)</td>
<td>99</td>
<td>98</td>
<td>98</td>
<td>97</td>
<td>97</td>
<td>95</td>
<td>95</td>
</tr>
<tr>
<td>Std err (Cum.surv.)</td>
<td>0.00</td>
<td>0.00</td>
<td>0.01</td>
<td>0.01</td>
<td>0.01</td>
<td>0.02</td>
<td>0.02</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Time (months)</th>
<th>0</th>
<th>3</th>
<th>6</th>
<th>12</th>
<th>24</th>
<th>36</th>
<th>45</th>
</tr>
</thead>
<tbody>
<tr>
<td>n at risk</td>
<td>318</td>
<td>284</td>
<td>273</td>
<td>215</td>
<td>110</td>
<td>38</td>
<td>12</td>
</tr>
<tr>
<td>Cum. Survival (%)</td>
<td>96</td>
<td>95</td>
<td>95</td>
<td>94</td>
<td>91</td>
<td>89</td>
<td>85</td>
</tr>
<tr>
<td>Std err (Cum.surv.)</td>
<td>0.01</td>
<td>0.01</td>
<td>0.01</td>
<td>0.01</td>
<td>0.02</td>
<td>0.02</td>
<td>0.02</td>
</tr>
</tbody>
</table>
First case
Retrograde branches
Retrograde branches
## Retrograde branches

<table>
<thead>
<tr>
<th>Advantages</th>
<th>Disadvantages</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Short ways</td>
<td>• severe angles “CT”</td>
</tr>
<tr>
<td>• Easy navigation of the wires</td>
<td>• arteriosclerosis</td>
</tr>
<tr>
<td>• Big vessels</td>
<td>• complications</td>
</tr>
<tr>
<td>• Less X-Ray</td>
<td>• Management of the distal Migration</td>
</tr>
<tr>
<td>• Less ...</td>
<td></td>
</tr>
</tbody>
</table>
Retrograde branches
Retrograde branches
E-NSIDE
TAAA MULTIBRANCH STENT GRAFT
Development of an off the shelf endograft
Development of an off the shelf endograft E-nside®

ROTATION
Current “Ostium”

New “Ostium”
Ostium

Bigger Ostium

<table>
<thead>
<tr>
<th>Ø 6</th>
<th>L = 12 mm</th>
<th>B = 6 mm</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ø 7</td>
<td>L = 14 mm</td>
<td>B = 7 mm</td>
</tr>
<tr>
<td>Ø 8</td>
<td>L = 16 mm</td>
<td>B = 8 mm</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Ø 6</th>
<th>L = 15 mm</th>
<th>B = 13 mm</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ø 7</td>
<td>L = 15 mm</td>
<td>B = 13 mm</td>
</tr>
<tr>
<td>Ø 8</td>
<td>L = 15 mm</td>
<td>B = 13 mm</td>
</tr>
</tbody>
</table>
E-nside
E-nside
Ostium
E-nside „retrograde“
E-nside „retrograde“
E-nside „retrograde“
E-nside „antegrade“
Ruptured TAAA
Endoleak 1b

reversed chimney
Repair of an endoleak

44mm
Repair of an endoleak

Right Renal (Viabahn)

Lift renal
Repair of Endolake
Inner branches
The planning of the E-xtra design prosthesis has to be individual.

The retrograde implantation of the inner branches seems to be technically easier. “Rand. Studies”

The E-xtra design prosthesis with inner branch offers solutions in complicated cases.

The development of “off the shelf” endografts is important in the treatment of emergency cases.
Inner branch with funnel-like ostium in the treatment of the TAAAs
Frist experience in the development of a new off-the-shelf protheses

Koshty A., Nink N., Fuhrmann L., Pleger S., Kunold A., Elzien M.
Department of vascular and endovascular surgery
Diakonie Hospital
Siegen. Germany