Covered Endovascular Reconstruction of Aortic Biforcation (CERAB-technique) in a case of common iliac artery rupture

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Disclosure

Speaker name:
Maria Antonella Ruffino, MD, EBIR

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
RISK FACTORS:
- Hypertension

CLINICAL HISTORY
- Chronic hepaticopathy
- 2010: right ICA EA destra; left ICA stenosis
- 2014: diagnosis of myelofibrosis in treatment with Ruxolitinib from 2015
- 2017: pancytopenia; bone marrow study: leukemic evolution of myelofibrosis (blasts 40%)


05.09.2017: review of the CT: distal aorta/common iliac artery pseudoaneurysm (maximum diameter of 45 mm)
Distal aorta/common iliac artery pseudoaneurysm (maximum diameter 45 mm)
### AORTIC DEVICE?

<table>
<thead>
<tr>
<th>Company Name</th>
<th>Product Name</th>
<th>Main Body Diameter (mm)</th>
<th>Main Body Length (cm)</th>
<th>Main Body Delivery System Profile: Device OD (F)</th>
<th>Sheath Required for Delivery</th>
<th>Delivery Sheath OD (F)</th>
<th>Fixation Location</th>
<th>Stent Expansion</th>
<th>Stent Material</th>
<th>Graft Material</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cook Medical</td>
<td>Zenith Fenestrated AAA Endovascular Graft (Bifurcated)</td>
<td>24</td>
<td>7.6, 9.1, 10.6, 12.1</td>
<td>23</td>
<td>No</td>
<td>--</td>
<td>--</td>
<td>Self expanding</td>
<td>Stainless steel</td>
<td>Woven polyester</td>
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<tr>
<td>Cook Medical</td>
<td>Zenith Fenestrated AAA Endovascular Graft (One Proximal Seal Stent)</td>
<td>24, 26</td>
<td>7.6, 9.1, 10.6, 12.1</td>
<td>23</td>
<td>No</td>
<td>--</td>
<td>--</td>
<td>Self expanding</td>
<td>Stainless steel</td>
<td>Woven polyester</td>
</tr>
<tr>
<td>Cook Medical</td>
<td>Zenith Flex AAA Endovascular Graft</td>
<td>22, 24</td>
<td>6.2, 7.0, 9.1, 10.6</td>
<td>32</td>
<td>Yes</td>
<td>0.03</td>
<td>--</td>
<td>Self expanding</td>
<td>Stainless steel</td>
<td>Woven polyester</td>
</tr>
<tr>
<td>Endologix</td>
<td>AFX Endovascular AAA System - AFX2 Bifurcated Endograft System</td>
<td>24</td>
<td>7.4, 9.1, 10.6, 12.1</td>
<td>32</td>
<td>No</td>
<td>--</td>
<td>--</td>
<td>Self expanding</td>
<td>Stainless steel</td>
<td>Woven polyester</td>
</tr>
<tr>
<td>Endologix</td>
<td>Ovation iX Abdominal Stent Graft System</td>
<td>20, 23, 26</td>
<td>6.2, 7.0, 9.1, 10.6</td>
<td>32</td>
<td>No</td>
<td>--</td>
<td>--</td>
<td>Self expanding</td>
<td>Stainless steel</td>
<td>Woven polyester</td>
</tr>
<tr>
<td>Gore &amp; Associates</td>
<td>Gore Excluder AAA Endoprosthesia featuring G3 Delivery System</td>
<td>23, 26,*</td>
<td>7.4, 9.1, 10.6, 12.1</td>
<td>32</td>
<td>No</td>
<td>0.03</td>
<td>--</td>
<td>Suprarenal</td>
<td>Nitinol</td>
<td>Nitinol</td>
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<tr>
<td>Medtronic</td>
<td>Endurant II AAA Stent Graft System</td>
<td>23, 25, 28</td>
<td>7.4, 9.1, 10.6, 12.1</td>
<td>32</td>
<td>No</td>
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<td>--</td>
<td>Suprarenal</td>
<td>Self expanding</td>
<td>Nitinol</td>
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<tr>
<td>Medtronic</td>
<td>Endurant II AUI Stent Graft System</td>
<td>23, 25, 28</td>
<td>7.4, 9.1, 10.6, 12.1</td>
<td>32</td>
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<td>Suprarenal</td>
<td>Self expanding</td>
<td>Nitinol</td>
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<td>Medtronic</td>
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<td>No</td>
<td>--</td>
<td>--</td>
<td>Suprarenal</td>
<td>Self expanding</td>
<td>Nitinol</td>
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</tbody>
</table>
Three-year outcome of the covered endovascular reconstruction of the aortic bifurcation technique for aortoiliac occlusive disease

Kim Taeymans, MD, Erik Groot Jebbink, MSc, Suzanne Holewijn, PhD, Jasper M. Martens, MD, Michel Versluis, PhD, Peter C. J. M. Goverde, MD, and Michel M. P. J. Reijnen, MD, PhD, Antwerp, Belgium; and Arnhem and Enschede, The Netherlands

ABSTRACT

Objective: The objective of this study was to demonstrate the 3-year outcome of the covered endovascular reconstruction of the aortic bifurcation (CERAB) technique for the treatment of extensive aortoiliac occlusive disease (AIOD).

Methods: Between February 2009 and July 2016, all patients treated with the CERAB technique for AIOD were identified in the local databases of two centers and analyzed. Demographics and lesion characteristics were scored. Follow-up consisted of clinical assessment, duplex ultrasound, and ankle-brachial indices. Patency rates and clinically driven target lesion revascularization were calculated by Kaplan-Meier analysis.

Results: Of 130 patients (69 male and 61 female) treated, 68% were diagnosed with intermittent claudication and 32% suffered from critical limb ischemia. The majority (89%) were TransAtlantic Inter-Society Consensus II D lesions, and the remaining were B and C lesions (both 5%). Median follow-up was 24 months (range, 0-67 months). The technical success rate was 97%, and 67% of cases were performed completely percutaneously. The ankle-brachial index improved significantly from 0.65 ± 0.22 preoperatively to 0.88 ± 0.15 after the procedure. The 30-day minor and major complication rate was 33% and 7%. The median hospital stay was 2 days (range, 1-76 days). At 1 year and 3 years of follow-up, 94% and 96% of the patients clinically improved at least one Rutherford category (2% and 0% unchanged, 4% and 4% worsened). Limb salvage rate was 98% at 1 year and 97% at 3 years of follow-up. Primary, primary assisted, and secondary patency was 86%, 91%, and 97% at 1 year; 84%, 89%, and 97% at 2 years; and 82%, 87%, and 97% at 3 years. Freedom from clinically driven target lesion revascularization was 87% at 1-year follow-up and 86% at both 2-year and 3-year follow-up.

Conclusions: The CERAB technique is a safe and feasible technique for the treatment of extensive AIOD with good 3-year results regarding patency and clinical improvement. (J Vasc Surg 2017;11:1-10.)

Data:
ZNA hospital
Rijnstate hospital
Antwerp – Belgium
Arnhem – The Netherlands
BILATERAL FEMORAL ARTERY ACCESSSES + LEFT BRACHIAL ACCESS

- Right: 7-F sheath, 45 cm, Flexor® Ansel® introducer (Cook Medical)
- Right (II): 4-F sheath, 11 cm, Radifocus® Introducer II, Terumo, + TEMPO AQUA®, 4F straight, Cordis
- Left: 12-F sheath, 33 cm, Dryseal Flex Introducer Sheath (Gore)
- Left brachial: 5-F sheath, 11 cm, Radifocus® Introducer II, Terumo + TEMPO AQUA®, 5F pigtail, Cordis
Throught the left access:
- 12x39 mm BeGraft Aortic (Bentley) – in aorta -
Through the femoral accesses:

- 2x 6x28 mm BeGraft Peripheral (Bentley)
- 2x 10x57 mm BeGraft Peripheral (Bentley)
Angiography through the TEMPO AQUA®, 4F straight, Cordis shown mc leakage

EMBOLIZATIONS WITH PUSHABLE COILS
Throught the right access:
- 14x39 mm BeGraft Aortic (Bentley) – as right limb extension -
Angiography through the TEMPO AQUA®, 4F straight, Cordis shown persistence of mc leakage

EMBOLIZATIONS WITH GLUE
- Regular post-procedure course
- Discharge on 16.12.2017
TAKE HOME MESSAGES

Endovascular treatment with BeGraft covered stents safe and effective in the management of arterial injuries and emergencies.

Sometimes, in case of complex arterial injuries, we need to customize a "solution" for occluding the lesion.

The proper sizing of the stentgraft is essential to achieve technical and clinical success without complications/recurrences, therefore a wide range of stentgrafts is mandatory.
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