Complex Juxtarenal Aorto-Iliac Occlusions Can Be Treated Safely And Effectively With Covered Stents (The CERAB Technique) – However Renal Chimney Endografts May Be Required: Technique For Doing Them Without Risking Renal Or Visceral Embolization

GOVERDE P.
TAEYMANS K.,
DIJKSTRA M.,
HOLDEN A.,
REIJNEN M.

1 ZNA Stuivenberg Hospital, Antwerp, BELGIUM
2 Rijnstate Hospital, Arnhem, NETHERLANDS
3 Auckland City Hospital, Auckland, NEW ZEALAND

Aorto-iliac occlusive disease

Covered Endovascular Reconstruction Aortic Bifurcation
• Less stagnant blood flow and thrombus formation
• Less neo-intimal hyperplasia
• Prevent embolisation
• Ability to solve intraprocedural complications (dissection, perforation)


Midaortic juxtarenal lesions

Risk of occluding visceral arteries
→ Embolisation of débris
→ Overstenting
→ Coral reef encroachment

Chimney grafts preserve visceral flow and allow safe stenting of juxtarenal aortic occlusion
Adel Bin Jabr, MD, Björn Sonesson, MD, PhD, Bengt Lindblad, MD, PhD, Nuno Dias, MD, PhD, Tim Resch, MD, PhD, Martin Malina, MD, PhD, Malmö, Sweden, J Vasc Surg 2013;57:399-405

BMS Chimney

• Adel Bin Jabr et al.
• Chimney technique successfully applied in
→ Juxtarenal, suprarenal, thoraco-abdominal & aortic arch aneurysms
→ Treatment type I endoleaks
→ Accidentally covered aortic branches

Juxtarenal aortic occlusive disease

Chimney grafts preserve visceral flow and allow safe stenting of juxtarenal aortic occlusion
Adel Bin Jabr, MD, Björn Sonesson, MD, PhD, Bengt Lindblad, MD, PhD, Nuno Dias, MD, PhD, Tim Resch, MD, PhD, Martin Malina, MD, PhD, Malmö, Sweden, J Vasc Surg 2013;57:399-405
Chimney - CERAB

• General anesthesia
• Percutaneous access: bifemoral & uni/bilateral brachial
• Antegrade recanalisation aortoiliac axes
• Catheterisation of visceral arteries (brachial)

V12 balloon expandable covered stents
Atrium Maquet Getinge Europe BV

• Aorta: 12x61 mm V12 balloon expandable stent-graft (Atrium Maquet Getinge Europe BV)
• Expansion of visceral stents (6x38 mm)
• Expansion of aortic stent

Second aortic stent: 12x 41 or 61 mm V12 BX stent-graft (Atrium Maquet Getinge Europe BV)
• 15 mm overlap
• +/- 20 mm above bifurcation
• “Classic” CERAB

First Results of the Covered Endovascular Reconstruction of the Aortic Bifurcation (CERAB) Technique for Aortoiliac Occlusive Disease.
Grimme FA, Goverde PC, Verbruggen PJ, Zeebregts CJ, Reijnen MH. Eur J Vasc Endovasc Surg. 2015 Sep 3

Our clinical experience : single centre (2013 till present)

<table>
<thead>
<tr>
<th>n</th>
<th>11</th>
</tr>
</thead>
<tbody>
<tr>
<td>M/F</td>
<td>7/4</td>
</tr>
<tr>
<td>mean age</td>
<td>59.2</td>
</tr>
<tr>
<td>Rutherford 3</td>
<td>4</td>
</tr>
<tr>
<td>Rutherford 4</td>
<td>7</td>
</tr>
<tr>
<td>Renal chimney</td>
<td>6</td>
</tr>
<tr>
<td>Double renal chimney</td>
<td>1</td>
</tr>
<tr>
<td>IMA chimney</td>
<td>4</td>
</tr>
</tbody>
</table>
Our clinical experience: single centre

- 100% technical success rate
- Intensive care admission (1 night): 5/11
- No 30 day mortality or SAE
- Relief of symptoms immediately after revascularisation
- Mean hospital stay: 2.2 days

Our clinical experience: single centre

- ASA (for life) & clopidogrel (at least 1 year)
- Follow up by ultrasound (at 1, 3, 6, 12, 18, 24 months) or CT-angiography
- At the moment:
  - All reconstructions are patent
  - No complications or re-occlusions reported

Case example

Pre

Post

Conclusions

- C-CERAB Safe and feasible technique
- “Sufficient” distal outflow is recommended / needed as in classic surgery
- Larger population and longer follow up is needed
- Long term economic benefit need to be proven

C-CERAB

- More information about Chimney CERAB?
- Join us at LINC@Veith:
  - Wed Nov 18  SESSION 45:
    INNOVATIVE TECHNIQUES FOR CHALLENGING PERIPHERAL LESIONS

Thank you for your attention