ENDOVASCULAR TREATMENT OF TASC C & D LESION IN ILIAC OBSTRUCTIVE DISEASE

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INTRODUCTION

Previous experiences demonstrated a freedom of binary restenosis > 90% at 1 year when CS was used. In 2011, the COBE Stent multicycle randomized trials demonstrated an increase in patency at 18 months in favor of CS compared to BM in TAS and other lesions. In the whole world practice, the use of covered or uncovers stents in severe lesions is strictly related not only to the TAS classification (C or D lesions) but also to the lesion quantity and laterality.
External iliac and common iliac artery angioplasty and stenting in men and women

Carlos H. Timaran, MD, Scott L. Stevens, MD, Michael B. Freeman, MD, and Mitchell H. Goldman, MD, Knoxville, Tenn

J Vasc Surg 2001
INTRODUCTION

Previous experiences demonstrated a freedom of binary restenosis > 90% at 1 year when CS was used.

In 2011 the COBES study randomized treatments and demonstrated an increase in endpoints at 18 months in favor of CS compared to BMS in TASC C and D lesions.

In the real world practice the use of covered or uncovered stents in saphenous vessels is strictly related not only to the TASC C or D classification but also to the technical and anatomical feasibility.

Vascular and Endovascular Surgery
Padova University – School of Medicine

- Size Fr
- ∅- L
- Intimal hyperplasia
- Fracture
- Calcification
- Cost
A comparison of covered vs bare expandable stents for the treatment of aortoiliac occlusive disease

Bibombe P. Mwipatayi, MMed (Surg), FCS (SA), FRACS,¹,² Shannon Thomas, MBBS (Hons),¹
Jackie Wong, MPH,¹ Suzanna E. L. Temple, PhD, MBA,²,³ Vikram Vijayan, MRCS, FRCS,¹
Mark Jackson, MD, FRACS,¹ and Sally A. Burrows, BMath Grad Dip Med Stat,⁶ on behalf of the
Covered Versus Balloon Expandable Stent Trial (COBEST) Co-investigators,⁷ Perth, Western Australia
and Gold Coast, Queensland, Australia

J Vasc Surg 2011

Reintervention rate

- Male
- Female
- Hyperlipidemia
- Normal Cholesterol
- Non-Smoker
- No Hypertension
- Hypertension
- No Diabetes
- < 50% Baseline Stenosis
- ≥ 50% Baseline Stenosis
- Runoff 0, 1, 2
- Runoff 3, 4
- TASC B
- TASC C, D
- Rutherford 1, 2, 3
- Rutherford 4, 5

Freedom from TVR

OR : 0.21 (95% CI 0.07–0.64) ; P<.006

Number at risk
- V12 Stent Group 82
- Bare Stent Group 82

Time (Months)

0 1 6 12 18

0.00 0.25 0.50 0.75 1.00

V12 Stent  Bare Stent
Outcomes of polytetrafluoroethylene-covered stent versus bare-metal stent in the primary treatment of severe iliac artery obstructive lesions

Michele Piazza, MD, Francesco Squizzato, MD, Gaya Spolverato, MD, Luca Milan, MD, Stefano Bonvini, MD, Mirko Menegolo, MD, Franco Grego, MD, and Michele Antonello, MD

Padova, Italy

J Vasc Surg 2015

<table>
<thead>
<tr>
<th>Variable</th>
<th>Overall (N = 167)</th>
<th>TASC II C (n = 86)</th>
<th>TASC II D (n = 81)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>CS (n = 82)</td>
<td>BMS (n = 85)</td>
<td>CS (n = 34)</td>
</tr>
<tr>
<td>3</td>
<td>41 (50.0)</td>
<td>45 (52.9)</td>
<td>.76</td>
</tr>
<tr>
<td>4</td>
<td>23 (28.0)</td>
<td>19 (22.4)</td>
<td>.48</td>
</tr>
<tr>
<td>5-6</td>
<td>18 (22.0)</td>
<td>21 (24.7)</td>
<td>.72</td>
</tr>
</tbody>
</table>

Clinical data
- Rutherford class
- Bilateral iliac disease
- Stenosis length >10 cm
- Iliac occlusion
- Aortic bifurcation

Anatomical data
- CFA stenosis
  - Minimal, <50%
  - Moderate, 50%-75%
  - High, 75%-99%
  - Occlusion
  - Femoropopliteal occlusive disease
Outcomes of polytetrafluoroethylene-covered stent versus bare-metal stent in the primary treatment of severe iliac artery obstructive lesions

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Padova, Italy

J Vasc Surg 2015
Increasing efficacy of endovascular recanalization with covered stent graft for TransAtlantic Inter-Society Consensus II D aortoiliac complex occlusion

Daniele Psacharopulo, MD, a Emanuele Ferrero, MD, a Michelangelo Ferri, MD, a Andrea Viazzo, MD, a Sandeep Singh Bahia, MBBS, b Andrea Trucco, MD, a Fulvio Ricceri, MD, c and Franco Nessi, MD, a Turin, Italy; and London, United Kingdom

J Vasc Surg 2015

<table>
<thead>
<tr>
<th>Variable</th>
<th>EVR group</th>
<th>OSR group</th>
<th>P value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age, mean ± SD years</td>
<td>64.2 ± 8.1</td>
<td>67 ± 6.4</td>
<td>.27</td>
</tr>
<tr>
<td>Gender, No.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>15</td>
<td>15</td>
<td>.40</td>
</tr>
<tr>
<td>Female</td>
<td>7</td>
<td>6</td>
<td>.40</td>
</tr>
<tr>
<td>Hypertension, No.</td>
<td>19</td>
<td>19</td>
<td>.99</td>
</tr>
<tr>
<td>Diabetes, No.</td>
<td>8</td>
<td>2</td>
<td>.07</td>
</tr>
<tr>
<td>Coronary artery disease, No.</td>
<td>5</td>
<td>2</td>
<td>.41</td>
</tr>
<tr>
<td>Renal failure, No.</td>
<td>1</td>
<td>2</td>
<td>.96</td>
</tr>
<tr>
<td>Hyperlipidemia, No.</td>
<td>12</td>
<td>7</td>
<td>.16</td>
</tr>
<tr>
<td>Smoking, No.</td>
<td>15</td>
<td>18</td>
<td>.17</td>
</tr>
<tr>
<td>Rutherford stage, No.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>III</td>
<td>13</td>
<td>15</td>
<td>.29</td>
</tr>
<tr>
<td>IV</td>
<td>7</td>
<td>5</td>
<td>.40</td>
</tr>
<tr>
<td>V</td>
<td>2</td>
<td>1</td>
<td>.29</td>
</tr>
<tr>
<td>Occlusion, No.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Proximal aortoiliac</td>
<td>7</td>
<td>11</td>
<td>.14</td>
</tr>
<tr>
<td>Distal aortoiliac</td>
<td>4</td>
<td>4</td>
<td>.35</td>
</tr>
<tr>
<td>Common and external unilateral iliac</td>
<td>11</td>
<td>6</td>
<td>.13</td>
</tr>
<tr>
<td>Poor out flow (SFA occlusion)</td>
<td>8</td>
<td>9</td>
<td>.66</td>
</tr>
</tbody>
</table>

SD, Standard deviation; SFA, superficial femoral artery.

*Defined as patients with elevated serum creatinine concentration >1.5 mg/dL.

*Defined as patients with elevated plasma lipids or under medical treatment.

Kaplan-Meyer primary patency estimates

The average hospital length of stay was shorter for patients treated with EVR (3.9 ± 2.2 days) vs OSR (5.8 ± 3.1 days; P = .03). The complication rate was 4% for EVR vs 18% for OSR (P = .32).
Durability of the balloon-expandable covered versus bare-metal stents in the Covered versus Balloon Expandable Stent Trial (COBEST) for the treatment of aortoiliac occlusive disease

Bibombe P. Mwipatayi, MMed (Surg), FCS (SA), FRACS,\textsuperscript{a,b} Sarabhi Sharma, MBBS,\textsuperscript{a} Ali Daneshmand, MD,\textsuperscript{a} Shannon D. Thomas, BMedSc, FRACS,\textsuperscript{a,c,d} Vikram Vijayan, MRCs, FRCS,\textsuperscript{e} Nishath Altaf, PhD, FRCS,\textsuperscript{f} Marek Garbowski, MB BS, FRACS,\textsuperscript{g} and Mark Jackson, MD, FRACS,\textsuperscript{h} on behalf of the COBEST co-investigators,\textsuperscript{*} Perth, Sydney, and Queensland, Australia; and Singapore

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TASC B

TASC C-D
- Surgical access to bilateral common femoral arteries (Endarterectomy + patch)
- Intraluminal or subintimal crossing of iliac CTO
- Soft predilatation of iliac arteries with an undersized ballon
CONFORMABILITY

- Viabahn positioning and sizing
CONFORMABILITY

- Viabahn positioning
- Simultaneous Deployment of a Viabhan Covered stent in Infrarenal distal Aorta ed iliac arteries from the Femoral accesses *(double barrel technique)*
CONFORMABILITY

-Simultaneous PTA of all the endografts (kissing balloon) to obtain the best Adjustment and Sealing
CONFORMABILITY

- Intraoperative DSA
CONFORMABILITY
CONFORMABILITY

Geometrical consequences of kissing stents and the Covered Endovascular Reconstruction of the Aortic Bifurcation configuration in an in vitro model for endovascular reconstruction of aortic bifurcation

Erik Groot Jebbink, MSc,
Frederike A. B. Grimme, MD,
Peter C. J. M. Goverde, MD,
Jacques A. van Oostayen, MD,
Cornelis H. Slump, PhD,
and Michel M. P. J. Reijnen, MD, PhD,
Arnhem and Enschede, The Netherlands; and Antwerp, Belgium

J Vasc Surg 2015
CONFORMABILITY

External Iliac Artery
CONFORMABILITY

External Iliac Artery
CONFORMABILITY

External Iliac Artery
CONCLUSION

✓ Overall the use of CS for aorto-iliac lesions (TASC B, C and D) appear to have similar early and mid term outcomes compared to BMS.

✓ However, when considering a specific subcategory of TASC D lesions, where long segment severe disease of both CIA+EIA is present, BMS is a strong negative predictor of patency and CS has significantly better patency rate during mid-term follow-up.

✓ For this reasons, in this subset of TASC D lesions, CS should be considered as the primary line of treatment.

✓ Viabahn in term of both results and conformability in our experience is the stent graft of choice.
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