Case discussion: Aorto-iliac case with covered balloon expandable stent

Gianmarco de Donato
Associate Professor
University of Siena
Italy
## 2017 ESC Guidelines on the Diagnosis and Treatment of Peripheral Arterial Diseases, in collaboration with the European Society for Vascular Surgery (ESVS)

<table>
<thead>
<tr>
<th>Recommendations</th>
<th>Classa</th>
<th>Levelb</th>
</tr>
</thead>
<tbody>
<tr>
<td>An endovascular-first strategy is recommended for short (i.e. &lt;5 cm) occlusive lesions.</td>
<td>I</td>
<td>C</td>
</tr>
<tr>
<td>In patients fit for surgery, aorto-(bi)femoral bypass should be considered in aorto-iliac occlusions.</td>
<td>IIa</td>
<td>B</td>
</tr>
<tr>
<td>An endovascular-first strategy should be considered in long and/or bilateral lesions in patients with severe comorbidities.</td>
<td>IIa</td>
<td>B</td>
</tr>
<tr>
<td>An endovascular-first strategy may be considered for aorto-iliac occlusive lesions if done by an experienced team and if it does not compromise subsequent surgical options.</td>
<td>IIb</td>
<td>B</td>
</tr>
<tr>
<td>Primary stent implantation rather than provisional stenting should be considered.</td>
<td>IIa</td>
<td>B</td>
</tr>
<tr>
<td>Open surgery should be considered in fit patients with an aortic occlusion extending up to the renal arteries.</td>
<td>IIa</td>
<td>C</td>
</tr>
<tr>
<td>In the case of ilio-femoral occlusive lesions, a hybrid procedure combining iliac stenting and femoral endarterectomy or bypass should be considered.</td>
<td>IIa</td>
<td>C</td>
</tr>
<tr>
<td>Extra-anatomical bypass may be indicated for patients with no other alternatives for revascularization.</td>
<td>IIb</td>
<td>C</td>
</tr>
</tbody>
</table>

*Class of recommendation.*

*Level of evidence.*

*These recommendations apply for patients with intermittent claudication and severe chronic limb ischaemia.*
Aorto-iliac occlusive lesions

Aortic bifurcation
Kissing covered stenting of aortic bifurcation

VBX 9/39 mm x 2
Covered stents higher midterm patency rates than BMSs for TASC D lesions:
- total lesion length  6 cm,
- occlusion length > 3.5 cm,
- calcification > 75% of the arterial wall circumference.
Aorto-iliac occlusive lesions

Aortic bifurcation

Infrarenal aorta

Juxtarenal aorta
Best practice
Endo first line for all aorto-iliac lesion

... same paradigm shift from open to endo that we have had for AAA
Aorto-iliac configuration

- CERAB
- Kissing covered stent
Leriche Syndrome – endovascular tx

1. Antegrade recanalization (brachial access)
2. GW rendez-vous at CFA
3. Kissing covered stents (femoral access)
1. Antegrade recanalization, percutaneous brachial access (5F sheath, 90 cm)
2. CFA pucture under fluoroscopy

& GW rendez-vous
Aorto-iliac occlusive disease – endovascular tx

3. Kissing stents

Viabahn (SE and BX)  Tigris
Aorto-iliac endovascular recanalization with IMA preservation

Viabahn (self-exp)
Case discussion: Aorto-iliac case with covered balloon expandable stent
Aorto-iliac case with covered balloon expandable stent

- 82 years-old-man
- CABG, COPD, surgery for gastric cancer, intracerebral hemorrhage (minor stroke)
- 2010: EVAR (Anaconda)
- 2017: mild left buttock claudication.
- CT scan: left limb thrombosis. Medical treatment due to mild symptoms and the high surgical risk.
Case presentation

- 2017: mild left buttock claudication
- 2018: the patient was re-admitted with severe bilateral claudication lasting from several months.
- CT scan demonstrated an unusual case of complete aortic graft occlusion.
- The patient was unfit for open repair, so an endovascular rescue was planned.

Endovascular relining with covered BX stents
Antegrade recanalization (brachial access)
Antegrade recanalization (brachial access)
CFA puncture

GW rendez-vous into the femoral 8Fr sheath
Relining by kissing covered stent & renal chimney
Relining – distal landing
Relining – after single renal chimney persistent thrombus at the juxtarenal level
Relining – double renal chimney
FINAL RESULT
Aortic endograft complete thrombosis
Relining – double renal chimney
5 month-follow-up
Relining – proximal landing

Distal landing
Case discussion: Aorto-iliac case with covered balloon expandable stent

- Complete endograft chronic thrombosis (challenging aortic disease presentation)

- Endovascular relining with covered BX stents

- The Gore VBX Stent Graft demonstrates a notable, unique combination of technical features beneficial in this complex anatomy
  * Radial strength
  * Flexibility
  * Accuracy (compliance cards)
  * Length
  * Trackable delivery system (retention)
  * Thromboresistance
Case discussion: Aorto-iliac case with covered balloon expandable stent

- Complete endograft chronic thrombosis (challenging aortic disease presentation)
- Endovascular relining with covered BX stents
- The Gore VBX Stent Graft demonstrates a notable, unique combination of technical features beneficial in this complex anatomy
  * Radial strength
  * Flexibility
  * Accuracy (compliance cards)
  * Length
  * Trackable delivery system (retention)
  * Thromboresistance

* independent stainless steel rings connected via fluoropolymer graft material (only stent-graft with no longitudinal stent struts)*
Case discussion: Aorto-iliac case with covered balloon expandable stent

KEY POINTS

- Complete endograft chronic thrombosis (challenging aortic disease presentation)

- Endovascular relining with covered BX stents

- The Gore VBX Stent Graft demonstrates a notable, unique combination of technical features beneficial in this complex anatomy
  * Radial strength
  * Flexibility
  * Accuracy (compliance cards)
  * Length
  * Trackable delivery system (retention)
  * Thromboresistance
Case discussion: Aorto-iliac case with covered balloon expandable stent

**KEY POINTS**

- Complete endograft chronic thrombosis (challenging aortic disease presentation)
- Endovascular relining with covered BX stents
- The Gore VBX Stent Graft demonstrates a notable, unique combination of technical features beneficial in this complex anatomy
  * Radial strength
  * Flexibility
  * Accuracy (compliance cards)
  * Length
  * **Trackable delivery system** (retention)
  * Thromboresistance

A thin fluoropolymer/elastomer film covers the percutaneous balloon on the delivery catheter to ensure stent-graft **retention** during tracking and balloon inflation.
Case discussion: Aorto-iliac case with covered balloon expandable stent

**KEY POINTS**

- Complete endograft chronic thrombosis (challenging aortic disease presentation)
- Endovascular relining with covered BX stents
- The Gore VBX Stent Graft demonstrates a notable, unique combination of technical features beneficial in this complex anatomy
  * Radial strength
  * Flexibility
  * Accuracy (compliance cards)
  * Length
  * Trackable delivery system (retention)
  * **Thromboresistance**

CBAS Heparin Surface for lasting thromboresistence
Conclusion

- Endovascular relining of complete endograft chronic thrombosis is feasible

Why VBX Stent Graft in this case

- flexibility (renal Chimeys)
- the longer lengths reduce the need to use multiple stents for extensive lesions
- does not require pre-dilation (risk of renal or distal embolization)
- accuracy of proximal and distal landing
- thromboresistance (secondary prevention of graft thrombosis)
Case discussion: Aorto-iliac case with covered balloon expandable stent

Gianmarco de Donato
Associate Professor
University of Siena
Italy