Challenging iliac occlusive cases treated with covered stents

Tomislav Stojanovic
Wolfsburg
Disclosure

Speaker name:
......Tomislav Stojanovic

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
Challenging iliac occlusive cases treated with covered stents

Strategies I:

• Prepare for long operating time

• Access
  • Prepare for bifemoral access
  • Prepare for brachial access
  • For difficult puncture, ultrasound guided puncture of the common femoral artery is helpful

• Material
  • Different wires 0014, 0018, 0035
  • Gliding catheter
  • CTO catheter
  • Cross over sheath
  • Long sheath for brachial access
  • .............
Challenging iliac occlusive cases treated with covered stents

Strategies II

• retrograde – antegrade recanalization

• creating a cross over through-and-through wire is very helpful in occlusions due to hard plaque and high Ca⁺ burden

• Predilatating the lesion before inserting the covered stent reduces risk of dislocation of balloon expanding stent from the shaft
Challenging iliac occlusive cases treated with covered stents

Planning the case

• “Expect the worse and hope for the best”
• Measurement of diameters: Aorta, common iliac artery, external iliac
• Length of lesion? Both iliacs involved?
• Be prepared for CERAB/Kissing Stents
• Order enough Stents to be able to extend the coverage
• Ballon-expandable for common iliacs and self-expandable for external iliacs
Challenging iliac occlusive cases treated with covered stents

Desired properties of stents in iliac occlusive disease

• High radial strength
• Flexible
• Conformable to tortuous anatomy
• In situ shaping to taper to different vessel diameter
• Different length of stents available to cover long lesions, if necessary
Self-expanding vs. balloon-expanding peripheral stents: Attribute and performance comparisons

**Self-Expanding Stent**
- Shape memory alloys (e.g., nitinol)
- Deployed via release of constraining mechanism

**Balloon-Expanding Stent**
- Ductile metal alloys (e.g., stainless steel)
- Deployed via angioplasty (PTA) balloon inflation

<table>
<thead>
<tr>
<th>ATTRIBUTE</th>
<th>SX</th>
<th>BX</th>
</tr>
</thead>
<tbody>
<tr>
<td>Radial strength / recoil resistance</td>
<td>-</td>
<td>+</td>
</tr>
<tr>
<td>Trackability / implanted conformability</td>
<td>+</td>
<td>-</td>
</tr>
<tr>
<td>Diameter adjustment (taper / flare)</td>
<td>-</td>
<td>+</td>
</tr>
<tr>
<td>Deployment accuracy</td>
<td>-</td>
<td>+</td>
</tr>
<tr>
<td>Compression recovery</td>
<td>+</td>
<td>-</td>
</tr>
</tbody>
</table>

© 2017 W. L. Gore & Associates, Inc.
Challenging iliac occlusive cases treated with covered stents -Gore VBX

Advanced technology and performance

**Independent stainless steel rings**
- Independent rings for flexibility and conformability
- Minimizes foreshortening
- Provides high radial strength

**Highly flexible stent and catheter**
- Enables contralateral deployment
- Enables implanted conformability

**Ultrathin balloon cover**
- Improves stent retention and deliverability

**Semi-compliant covered balloon**
- Enables diameter customization

**CBAS Heparin Surface**
Challenging iliac occlusive cases treated with covered stents: Case I VBX

Occlusion right CIA  Antegrade recanalization  X-over wire and predilatation
Challenging iliac occlusive cases treated with covered stents: Case I VBX

After predilatation

2 VBX Stents in kissing stent fashion

2 VBX Stents in kissing stent fashion VBX 8x79 and 8x59
Challenging iliac occlusive cases treated with covered stents: Case I VBX

Final Angio I

Final Angio II
Challenging iliac occlusive cases treated with covered stents: Case II Viabahn

Long occlusion of both external iliacs

Long term result 5 years postop VB 2 x 9x10
Challenging iliac occlusive cases treated with covered stents: Case III VBX
Challenging iliac occlusive cases treated with covered stents: Case III VBX
Challenging iliac occlusive cases treated with covered stents: Case III VBX
Challenging iliac occlusive cases treated with covered stents: Case IV, Viabahn

Complete occlusion of distal aorta

Successful recanalization with 2x VB 8/15
Challenging iliac occlusive cases treated with covered stents: Case V VBX

Stenosis both CIA

Recanalization right

Heavily calified and stenotic, dilatated CIA left
Challenging iliac occlusive cases treated with covered stents: Case V, VBX

Recanalization left
Predilatation both sides
Placement 2x VBX
Challenging iliac occlusive cases treated with covered stents: Case V, VBX (11x79; 11x59)
Challenging iliac occlusive cases treated with covered stents

Conclusion

• Recanalization even in complex cases with long occlusions and high Ca+ burden possible with very good immediate and long term results
• Success dependent on material and complete exclusion of lesion
• Gore VBX and Viabahn able to adapt to diameter, length and radial force needed in complex aorto-iliac occlusive disease
Thank you

Klinikum Wolfsburg
Klinik für vaskuläre und endovaskuläre Gefäßchirurgie
Prof. Dr. Tomislav Stojanovic, FEBVS
Sauerbruchstraße 7
38440 Wolfsburg
Tel.: 0536180 – 1588
Fax: 0536180 – 1689
tomislav.stojanovic@klinikum.wolfsburg.de
www.klinikum.wolfsburg.de

Porsche Pavillion Autostadt, Wolfsburg