The importance of vessel preparation?

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Disclosure

Speaker name:
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- I have the following potential conflicts of interest to report:

Consulting
Abbott, Alvimedica, Bard, Biotronik, Boston-scientific, Cook, Cordis, Gore, Lutonix, Medtronic, Spectranetic
Vessel preparation
native vessel

- Necessary for maximum efficiency
- Pre-dilatation and adequate (size and time) inflation
- We have learnt a lot with DEB use
  - Global IM.PACT on SFA
  - Deep IM.PACT on BTK
Vessel preparation native vessel

DEB IV
In.Pact Deep – What went wrong and why?

Effectivity – angiographic control

<table>
<thead>
<tr>
<th>12-month Outcomes [1]</th>
<th>DEB</th>
<th>PTA</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean Lesion Length (mm±SD)</td>
<td>59.1 ± 41.7</td>
<td>79.7 ± 74.6</td>
<td>0.060</td>
</tr>
<tr>
<td>Binary (50%) Rest. Rate (%)</td>
<td>41.0% (25/61)</td>
<td>35.5% (11/31)</td>
<td>0.609</td>
</tr>
<tr>
<td>Occlusion Rate (%)</td>
<td>11.5% (7/61)</td>
<td>16.1% (5/31)</td>
<td>0.531</td>
</tr>
<tr>
<td>Longitudinal Restenosis (%) [2]</td>
<td>62.7 ± 56.2</td>
<td>93.2 ± 60.8</td>
<td>0.167</td>
</tr>
</tbody>
</table>

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<thead>
<tr>
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</thead>
<tbody>
<tr>
<td>12-month LLL (mm, mean ± SD)</td>
<td>0.51 ± 0.66</td>
<td>0.60 ± 0.97</td>
<td>0.654</td>
</tr>
</tbody>
</table>

- Problem of the control group: Only 35% restenosis after 12 months = best data ever reported
- Quality of angiograms good enough to detect a difference of 0.2 mm?
  - bad flow in BTK arteries
  - CLI patients with slow run-off + no artefact free image
- Selection of the angiographic cohort
Vessel preparation
native vessel

Use the correct technique!

<table>
<thead>
<tr>
<th>Inflation Time (sec)</th>
<th>30</th>
<th>180</th>
<th>P Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Major dissection (grades 3 and 4)</td>
<td>16</td>
<td>5</td>
<td>.010</td>
</tr>
<tr>
<td>Minor or no dissection (grades 1 and 2)</td>
<td>21</td>
<td>32</td>
<td>.010</td>
</tr>
<tr>
<td>Further interventions</td>
<td>20</td>
<td>9</td>
<td>.017</td>
</tr>
<tr>
<td>Stent</td>
<td>4</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Further dilation (prolonged dilation, dilation with larger diameter)</td>
<td>16</td>
<td>8</td>
<td></td>
</tr>
<tr>
<td>Residual stenosis (&gt;30%)</td>
<td>12</td>
<td>5</td>
<td>.097</td>
</tr>
<tr>
<td>Complication (embolization, thrombosis)</td>
<td>1</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Mean ankle-brachial index (before, after intervention)</td>
<td>0.66, 0.87</td>
<td>0.65, 0.84</td>
<td></td>
</tr>
</tbody>
</table>

Prolonged inflation (180 sec) improves the immediate result of BTK angioplasty compared to short dilatation times (30 sec)

Significantly fewer major dissections and a modest reduction of residual stenoses are observed

Vessel preparation for ISR

• Does it really exist ?
• PTA: very bad results (TOSAKA III ++++)
• Cutting Balloon : poorly reported
• New stent ? DES ?
• Debulking : not adapted or any recommendation for use
• Laser excimer : FDA approval after EXCITE study
LASER EXCIMER

• Debulking with fibrotic pulverisation
  – Reduce the residual ISR
  – May progress into long occlusion
  – Avoid immediate recoil we observe in TOSAKA III
  – Fibrotic residual lesion after LASER ablation is smoother and adequate for final remodelling
LASER EXCIMER

- Case: lady 62 years
- SFA recanalisation 16 months ago
- ISR after 10 months
- ISR inflation using PTA 12 months
- New symptomatic ISR (90-95%) on duplex investigation
Clinical case
Clinical case
Clinical case
Clinical case
Clinical case
Clinical case
Clinical case
Clinical case
Clinical case
CONCLUSION

• Vessel preparation is the key for native vessels and moreover for ISR
• We have now dedicated tools
• Perfect protocol need to be clarified
• Endovascular treatment is progressing also in terms of FU and durability
The importance of vessel preparation?

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