The retrograde approach for flush SFA occlusions: Techniques and mid-term outcomes

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Disclosure

Speaker name:
Michael Piorkowski

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
Problems of SFA Flush-Occlusions

How to direct the guidewire into the CTO?

Does PTA jeopardize the origin of the deep femoral artery?
SFA-Occlusion without Stump into the CTO
SFA-Occlusion without Stump into the CTO

SOS-catheter  Terumo stiff straight
How to direct the GW into a Flush-Occlusion

6Fr Guiding IMA or JR

+ 0.035” Support-catheter

+ 0.035” Terumo straight, stiff
How to direct the GW into a Flush-Occlusion

6Fr Guiding IMA or JR
+ 0.035" QuickCross
+ straight, stiff Terumo
Flush-Occlusion after Surgery of the Groin

Retrograde approach via distal SFA

Retrograde dissection into the CFA
Re-Entry devices from retrograde?

Requires a 6Fr sheath

Increased bleeding-risk?

To lower the bleeding-Risk: puncture into an occlusion
Retrograde Puncture into an Occluded Superficial Femoral Artery
Re-Entry devices from retrograde!
Recanalization of a non-existing SFA
Re-Entry system are obligate for extraanatomic reconstruction !!
The „Flush occluded (cut) SFA“ registry - patients -

• between 09/2011 and 01/2015
• 48 patients with long flush SFA/popliteal occlusion starting at the SFA origin
• mean age 66.6 ± 8.4 years
• 83.7% male patients
• typical cardiovascular risk profile
The „Flush occluded (cut) SFA“ registry - patients -

<table>
<thead>
<tr>
<th>Rutherford-Becker</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1</td>
<td>18</td>
<td>9</td>
<td>8</td>
<td>12</td>
</tr>
<tr>
<td>(2.1%)</td>
<td>(37.5%)</td>
<td>(18.8%)</td>
<td>(16.7%)</td>
<td>(25.0%)</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Previous treatment</th>
<th>PTA/Stent</th>
<th>bypass</th>
<th>TEA</th>
<th>Cut SFA</th>
<th>number of surgery</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>4 (8.3%)</td>
<td>24 (49%)</td>
<td>40 (81.6%)</td>
<td>16 (32.7%)</td>
<td>1 (1;2)</td>
</tr>
</tbody>
</table>

Time since last open surgery: 3.4 (1.0; 6.0) years
The „Flush occluded (cut) SFA“ registry - lesion -

- lesion length: 340 mm (280 mm; 390mm)
- BTK vessel pre intervention: 2 (1;3)

<table>
<thead>
<tr>
<th>Location</th>
<th>SFA/A.pop</th>
<th>SFA/A.pop</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>P1</td>
<td>P2</td>
</tr>
<tr>
<td>SFA</td>
<td></td>
<td></td>
</tr>
<tr>
<td>16 (33.3 %)</td>
<td>16 (33.3 %)</td>
<td>6 (12.5 %)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Calcium</th>
<th>none</th>
<th>mild</th>
<th>moderate</th>
<th>severe</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>4 (8.2 %)</td>
<td>11 (22.4 %)</td>
<td>10 (20.4 %)</td>
<td>24 (49.0 %)</td>
</tr>
</tbody>
</table>
The „Flush occluded (cut) SFA“ registry - procedure -

- access to vessel was gained mainly with a 0.035“ support catheter (16.7%) or with a 6F sheath (66.7%)

<table>
<thead>
<tr>
<th>wire</th>
<th>Pioneer</th>
<th>Outback</th>
<th>Brocken brough</th>
<th>Enteer</th>
<th>several</th>
</tr>
</thead>
<tbody>
<tr>
<td>17 (35.4 %)</td>
<td>21 (43.8 %)</td>
<td>3 (6.3 %)</td>
<td>3 (6.3 %)</td>
<td>1 (2.0)</td>
<td>3 (6.3 %)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Terumo</th>
<th>Connect 250 T</th>
<th>V18 control</th>
<th>Terumo backend</th>
<th>V18 backend</th>
</tr>
</thead>
<tbody>
<tr>
<td>6</td>
<td>6</td>
<td>1</td>
<td>3</td>
<td>1</td>
</tr>
</tbody>
</table>
The „Flush occluded (cut) SFA“ registry - procedure -

- 20 patients treated with stentgraft (16 cut-off SFA)
- complex treatment with BMS, DES, Supera and DEB
- mean procedure time: 148.8 ± 54.2 min
- mean fluoro time: 50.2 ± 32.4 min
- procedural success in 47 cases (97.9 %)
- residual stenosis (> 30%) in 5 cases (11.1 %)
- ABI improvement from 0.39 ± 0.23 to 0.77 ± 0.35
The „Flush occluded (cut) SFA“ registry
- complication -

- hematoma: 3
- lower limb compartment: 1
- acute re-occlusion (within 48h): 2
- residual stenosis requiring stent: 1
- fever: 3
- cardiac decompensation: 1
The „Flush occluded (cut) SFA“ registry - outcome -

• primary patency at 6 month: 80.3% ± 8.3%
• 3 patients died within 30 days due to septic organ failure (initially all Rutherford 5/6)
• 1 patient died within 30 days due to intestinal ischemia
• another patient died at 6 month from pneumonia
• mortality rate: ~ 10 %
Retrograde approach for flush SFA occlusions - summary -

• puncturing an occluded SFA for recanalization of a flush occlusion is possible and safe procedure
• it minimizes open surgical treatment (repeated groin surgery)
• it is a complex bail-out procedure for the trained interventionalist
Thank you
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