Mechanical Thrombectomy using Rotarex® device in PAOD with Thrombotic Occlusion

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Disclosure

Speaker name: Jae Kyu Kim. MD, PhD

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
PTA / Stent

Thrombolysis / Thrombectomy + PTA or stent

Embolization!!
### Patient Demography

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
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</thead>
<tbody>
<tr>
<td><strong>Period</strong></td>
<td>2014.03~2018.10</td>
</tr>
<tr>
<td><strong>Pts</strong></td>
<td>43(46 session)</td>
</tr>
<tr>
<td><strong>Age</strong></td>
<td>55~84(70.3) yrs</td>
</tr>
<tr>
<td><strong>Sex(M:F)</strong></td>
<td>42:1</td>
</tr>
<tr>
<td><strong>Risk factors</strong></td>
<td>HTN&lt; DM&lt; Smoking, MI, CVA</td>
</tr>
<tr>
<td><strong>Sx(RF)</strong></td>
<td>IIa(8), IIb(14), III(16), IV(8)</td>
</tr>
<tr>
<td><strong>Lesion length</strong></td>
<td>5 ~45 (27.1) cm</td>
</tr>
<tr>
<td><strong>Site</strong></td>
<td>SFA 16, PA 6, SFA –PA 16, PA-TPT1,</td>
</tr>
<tr>
<td></td>
<td>iliac –SFA 2, CFA-PA 1</td>
</tr>
<tr>
<td><strong>Etiology</strong></td>
<td>Native occlusion 24</td>
</tr>
<tr>
<td></td>
<td>Embolism 1</td>
</tr>
<tr>
<td></td>
<td>Fem-fem bypass graft occlusion 1</td>
</tr>
<tr>
<td></td>
<td>stent occlusion / ISR 17</td>
</tr>
<tr>
<td></td>
<td>post-op thrombectomy 1</td>
</tr>
</tbody>
</table>
• Thrombotic filling in enhanced CTA
  ("Target sign")
• Intraluminal passage of GW
ROTAREX® (*Straub* Medical, AG)
• **Catheter sizes**
  - 6F Catheter: vessels 3-5 mm
  - 8F Catheter: vessels 5-8 mm
  - 10F Catheter: vessels 7-12 mm
Four functions of ROTAREX ® device

• **Detachment** of the occlusive material from the vessel (up to 1cm/sec, 40,000~60,000 rpm)

• **Aspiration** of the detached material into the catheter head

• **Fragmentation** of the aspirated material

• **Transportation** out of the patient’s body
## Results

<table>
<thead>
<tr>
<th>Rotarex catheter</th>
<th>6 Fr 37</th>
<th>8 Fr 6</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Kind of procedure</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rotarex only</td>
<td></td>
<td>6</td>
</tr>
<tr>
<td>(46 sessions)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rotarex + DCB</td>
<td></td>
<td>18</td>
</tr>
<tr>
<td>Rotarex + stent</td>
<td></td>
<td>8</td>
</tr>
<tr>
<td>Rotarex + PTA</td>
<td></td>
<td>9</td>
</tr>
<tr>
<td>Rotarex + UK</td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>Rotarex + DCB + stent</td>
<td></td>
<td>2</td>
</tr>
<tr>
<td><strong>Technical success</strong></td>
<td>100%</td>
<td></td>
</tr>
<tr>
<td><strong>Complication</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Distal embolism</td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>Dissection</td>
<td></td>
<td>2</td>
</tr>
<tr>
<td>Pseudoaneurysm</td>
<td></td>
<td>2</td>
</tr>
<tr>
<td><strong>Recurrence</strong></td>
<td>10/43</td>
<td>(re-do in 3 cases)</td>
</tr>
</tbody>
</table>
Initial

68yrs, M
RF IV 5, Left leg
D; 2 ms
Smoking, rehab for CVA
Post-Rotarex

DCB
POD# 2 yrs
Post-stent 3 days

82yrs, M
RF III 4  Right leg
SFA stent POD# 3 ds
No RFs
ABI 0.5 -> 0.9

8 Fr
Initial

80yrs, M
RF IIB 4   **right leg**
D; 1day (surgical Fogarty thrombectomy)
HTN, DM
Post-Rotarex → POBA

ABI 0.8 → 1.14
76yrs, M
RF IIA 1, **Left leg**
D; 3ms
HTN, DM, CVA
Post-Rotarex

5ms, 30ms Tampon

Post-tampon

LifeStream Stent-graft

ABI 1.01
Summary

• Thrombotic occlusion should be observed in CT angiography ("Target sign")

• Intraluminal passage of guidewire is highly recommended.

• Femoropopliteal artery including proximal tibioperoneal trunk ("straight segment") can be applied.

• Combination therapy such as DCB or stent can be also possible.

• But, we need the more data!!
Conclusion

Percutaneous mechanical thrombectomy in arterial thrombotic occlusion using Rotarex® catheter showed the safe result with acceptable technical success rate.
Thanks for your kind attentions!
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