Is totally endovascular treatment a good option for ruptured popliteal artery aneurysms? Tip and tricks

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Faculty Disclosure

Disclosure
Speaker name: Francesco Setacci, MD
I have the following potential conflicts of interest to report:
- Consulting
- Employment in industry
- Shareholder in a healthcare company
- Owner of a healthcare company
- Other(s)
✓ I do not have any potential conflict of interest

Background

Incidence 2-4%

The most common complications of a PAA include:
- acute thrombosis
- occlusion
- distal embolization.

Table 1. Summary of the Available Literature Regarding the Endovascular Management of Ruptured Popliteal Artery Aneurysms Presenting With Acute Complications

<table>
<thead>
<tr>
<th>Study</th>
<th>Rupture</th>
<th>Male</th>
<th>Age (yr)</th>
<th>Sex</th>
<th>Sex</th>
<th>Duration (mo)</th>
<th>Analytic</th>
<th>N/A</th>
<th>N/A</th>
<th>N/A</th>
</tr>
</thead>
<tbody>
<tr>
<td>Smith et al. (2007)**</td>
<td>Rupture</td>
<td>N.K.</td>
<td>N.K.</td>
<td>N.K.</td>
<td>N.K.</td>
<td>N.K.</td>
<td>No complication</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>Zhang et al. (2018)**</td>
<td>Rupture</td>
<td>66</td>
<td>Male</td>
<td>7</td>
<td>Male</td>
<td>5 weeks</td>
<td>No complication</td>
<td>No</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>Lim et al. (2019)**</td>
<td>Rupture</td>
<td>N.K.</td>
<td>N.K.</td>
<td>N.K.</td>
<td>N.K.</td>
<td>N.K.</td>
<td>No complication</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>Miller et al. (2010)**</td>
<td>Rupture</td>
<td>N.K.</td>
<td>N.K.</td>
<td>N.K.</td>
<td>N.K.</td>
<td>N.K.</td>
<td>No complication</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>Pfohl et al. (2013)**</td>
<td>Rupture</td>
<td>55</td>
<td>Male</td>
<td>3</td>
<td>Male</td>
<td>3 months</td>
<td>No complication</td>
<td>No</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>Tzika et al. (2014)**</td>
<td>Rupture</td>
<td>N.K.</td>
<td>N.K.</td>
<td>N.K.</td>
<td>N.K.</td>
<td>N.K.</td>
<td>No complication</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>Bellenger et al. (2015)**</td>
<td>Rupture</td>
<td>N.K.</td>
<td>N.K.</td>
<td>N.K.</td>
<td>N.K.</td>
<td>N.K.</td>
<td>No complication</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>Talbot et al. (2016)**</td>
<td>Rupture</td>
<td>N.K.</td>
<td>N.K.</td>
<td>N.K.</td>
<td>N.K.</td>
<td>N.K.</td>
<td>No complication</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
</tr>
</tbody>
</table>

Background
Vascular Surgery Unit, Giovanni XXIII Clinic – Monastier (TV), Italy

**Background**

- Only case reports regarding infected aneurysms

**Conclusions:** ER patency was inferior to OR, especially after treatment for acute ischaemia, and the amputation risk tended to be higher.

**Case #1**

- High Calcified vessels
- Long aneurysmatic lesion (20 cm)
- Suitable proximal and distal necks
Case #1

- 1 VIABANH 6 X 100 mm
- 2 FLUENCY 12 X 60 mm
- 1 FLUENCY 12 X 40 mm
- 1 ADVANTA 12 X 39 mm

Case #2

- Acute Limb Ischemia
- Popliteal aneurysm occlusion

- Catheter Thrombolysis
- Endo bypass (viabanh 6-150 mm x 2)

6-months later new admission: aneurysm rupture

Case #2

- Guidewire cannulation
- Re-lining. Viabanh 6 x 150 mm

Tip and Tricks

- Anterograde approach
- Catheters to engage distal popliteal artery after rupture
- Consider long introducer to improve trackability
- BTK approach
- In case of viabhan disconnection the distal segment could offers a good marker
## Considerations

- No too much pieces
- No overlapping in join site
- High risk of rupture due to segment disconnection

## Conclusions

**Is totally endovascular treatment a good option for ruptured popliteal artery aneurysms?**

- Good and safe option
- Reduce risk of infection
- Fast recovery and ambulation time
- To be mind to make a short incision in case huge haematoma.

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**Thank you!**

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