Outcome of CLI-Interventions through the retrograde pedal and tibial access

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I have the following potential conflicts of interest to report:

Consulting:
- Medtronic
- Abbott
- Bard
- Boston Scientific
- Biotronik
- Cook
- Cordis
- Covidien
- Spectranetics
- Upstream Peripheral

Stockholder of a healthcare company:
- IDEV Technologies
Single Center Experience with the retrograde transpedal or transtibial approach

Retrograde approach is reserved for cases in which an antegrade guidewire-passage is impossible, might jeopardize the distal arterial segment, takes too much time.
**Single Center Experience with the retrograde transpedal or transtibial approach**

From Nov/2006 – Aug/2014

<table>
<thead>
<tr>
<th>Description</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>N patients</td>
<td>554</td>
</tr>
<tr>
<td>CLI-patients</td>
<td>395 (71.3 %)</td>
</tr>
<tr>
<td>Rutherford 4</td>
<td>108 (27.3 %)</td>
</tr>
<tr>
<td>Rutherford 5</td>
<td>216 (54.7 %)</td>
</tr>
<tr>
<td>Rutherford 6</td>
<td>71 (18.0 %)</td>
</tr>
</tbody>
</table>
Registry Pedal and Tibial Access for CLI

- Successful intervention: 93.9 %
- Successful in CLI-patients: 92.7 %

- Access-site
  - Dorsalis pedis artery: 37.2% (147)
  - Prox. anterior tibial artery: 22.8% (90)
  - Posterior tibial artery: 23.3% (92)
  - Peroneal artery: 14.9% (59)
  - Plantar arteries: 1.0% (4)
  - Occluded anteriot tibial art.: 0.8% (3)
- Access-site complications (during treatment)
  - Spasm at access-site: 15.4%
  - Acute access artery occlusion: 0.5%
  - Access artery dissection: 0.5%
  - Distal thrombus / embolus: 0.9%
  - PTA of access artery: 0.9%
  - Compartment-syndrome: 0.7%
Survival of CLI-Patients with retrograde pedal or tibial access

Mean age (y.): 73.9 ± 10.0
Male: 61.5 %
Diabetes m. 67.8 %
Art. hypertension 95.7 %
Nikotin 46.8 %
HLP 54.9 %
Adipositas 22.5 %
CAD 48.9 %
CVI 31.4 %
GFR < 3ml/sec. 19.2 %
Dialysis 8.4 %
Major-Amputation in CLI-Patients with retrograde pedal or tibial access

Freedom from major amputation

Major-amputations: 32
Major-amput. at 1y **7.7 %** (29)

Major-amp. / Ruth. class
- Ruth. class 4 4.8 % (5)
- Ruth. class 5 6.8 % (14)
- Ruth. class 6 19.7 % (13)

N at risk 377 214 115 65 31
TLR in CLI-Patients with retrograde pedal or tibial access

Freedom from TLR

Days until TLR

N at risk 377 146 66 28 11

n TLRs during follow-up:
6 months 84
12 months 107

Bypasses: 13
Failed bypass: 4
## Late Access-Site Complications

Duplex or angiographic (DSA / MRA) examination of the access-site during FU:

<table>
<thead>
<tr>
<th>Condition</th>
<th>Count / Total (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Performed in</td>
<td>267 / 395 (67.6 %)</td>
</tr>
<tr>
<td>Time to 1. FU (median)</td>
<td>97 days</td>
</tr>
<tr>
<td>Stenosis</td>
<td>1 / 267 (0.4 %)</td>
</tr>
<tr>
<td>Occlusion</td>
<td>7 / 267 (2.6 %)</td>
</tr>
<tr>
<td>Av-fistula</td>
<td>3 / 267 (1.1 %)</td>
</tr>
</tbody>
</table>
Outcome of CLI-Patients with Retrograde Pedal or Tibial Access

Risk-factors for major amputations:
- Rutherford class (Rutherford 6)

Occlusion of the puncture-site?
- 2 / 32 major amp. had an access-art occlusion
- 23 / 32 major amp. had proven open access-art.
- 7 / 32 major amp. access-art. not examined
Summary

Long-term follow-up of CLI-patients in whom a retrograde pedal or tibial access was necessary for recanalization confirm

- safety for the puncture-site and
- clinical success of this technique.
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