Consequences Of An “Endovascular First Policy For All CLI Patients”: They Are Real – Especially With TASC C And D Lesions

Ross Milner, MD
Professor of Surgery
Co-Director, Center for Aortic Diseases

42nd Annual Veith Symposium
November 18, 2015

Disclosure

- Consultant – Boston Scientific, Cook, Medtronic, WL Gore, and Trivascular

Introduction

- Despite technical success with stenting of advanced SFA lesions (TASC C/D), little is known about the negative effects of a failed SFA intervention

Methods

- Retrospective review of SFA stenting at Loyola University Medical Center and Hines VAMC from 2007-2010
- N = 42 limbs in 39 patients
- Primary endpoint: Patency
  - One-year primary, primary-assisted and secondary patency rates
- Secondary endpoints: Death, amputation-free survival, limb salvage rates

Demographics

- Male: 22/39 (56%)
- Female: 17/39 (44%)
- Mean age: 68 years (range 43-88)
- Mean BMI: 27.02 kg/m² (range 20-47)

From the Peripheral Vascular Surgery Society

Failed superficial femoral artery intervention for advanced infrapopliteal occlusive disease has a significant negative impact on limb salvage


Despite technical success with stenting of advanced SFA lesions (TASC C/D), little is known about the negative effects of a failed SFA intervention. The purpose of this study was to evaluate patency rates and determine the impact of failed SFA interventions on long-term outcomes. A retrospective review was performed at Hines VA Medical Center and Loyola University Medical Center, which includes 42 patients who underwent SFA intervention with TASC C/D lesions.

Methods

The study included 42 limbs in 39 patients with TASC C/D lesions. The primary endpoint was patency, defined as the presence of an intact arterial conduit greater than or equal to the diameter of the target lesion on follow-up imaging. Secondary endpoints included death, amputation-free survival, and limb salvage rates. The mean follow-up period was 13 months.

Results

The overall one-year primary patency rate was 59.5%. The primary-assisted patency rate was 74.4%, and the secondary patency rate was 84.8%. The 5-year amputation-free survival rate was 93.7%, and the limb salvage rate was 95.3%

Conclusion

Failed SFA interventions have significant negative implications for long-term outcomes. Further studies are needed to evaluate the impact of early intervention strategies to prevent failure and improve outcomes.
### Risk Factors Number of patients (n=39) Percentage

<table>
<thead>
<tr>
<th>Condition</th>
<th>Number</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Coronary artery disease</td>
<td>19</td>
<td>49%</td>
</tr>
<tr>
<td>Myocardial infarction</td>
<td>9</td>
<td>23%</td>
</tr>
<tr>
<td>Hypertension</td>
<td>36</td>
<td>92%</td>
</tr>
<tr>
<td>Diabetes</td>
<td>19</td>
<td>49%</td>
</tr>
<tr>
<td>Hypercholesterolemia</td>
<td>29</td>
<td>74%</td>
</tr>
<tr>
<td>End-stage renal disease</td>
<td>6</td>
<td>15%</td>
</tr>
<tr>
<td>Warfarin anticoagulation</td>
<td>5</td>
<td>11%</td>
</tr>
<tr>
<td>Smoking history</td>
<td>30</td>
<td>77%</td>
</tr>
</tbody>
</table>

### Lesion Characteristics

- TASC A: 15 (36%)  
- TASC B: 9 (21%)  
- TASC C: 5 (12%)  
- TASC D: 13 (31%)  
- Patent peroneal artery: 35/42 limbs (83%)

### Indication for Intervention

- Tissue Loss: 45%  
- Claudication: 36%  
- Ischemic rest pain: 17%

### 1-Year Overall Patency

- Primary: 24%  
- Primary-assisted: 44%  
- Secondary: 51%

### TASC Classification 1-Year Primary Patency

- TASC A: 47% (N=15)  
- TASC B: 13% (N=9)  
- TASC C: 40% (N=5)  
- TASC D: 0% (N=13)  

### TASC Classification 1-Year Primary-Assisted Patency

- TASC A: 66% (N=15)  
- TASC B: 33% (N=9)  
- TASC C: 45% (N=5)  
- TASC D: 29% (N=13)
### Results

- **17 Failed Interventions**
  - 7 (17%) Developed claudication
  - 7 (17%) Developed Ischemic rest pain
  - 3 (7%) Remained asymptomatic

### Table

<table>
<thead>
<tr>
<th>Event</th>
<th>TASC A (N=15)</th>
<th>TASC B (N=9)</th>
<th>TASC C (N=5)</th>
<th>TASC D (N=13)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stent failure</td>
<td>5</td>
<td>4</td>
<td>3</td>
<td>5</td>
</tr>
<tr>
<td>Loss of runoff vessels</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>2</td>
</tr>
<tr>
<td>Open revascularization</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Major amputation</td>
<td>0</td>
<td>0</td>
<td>2</td>
<td>1</td>
</tr>
</tbody>
</table>
Results

- Mortality during follow-up: 6/39 (15.4%)
  - TASC A: 2 patients
  - TASC B: 0 patients
  - TASC C: 2 patients
  - TASC D: 2 patients

- Mortality:
  - 2 sepsis
  - 1 hospice
  - 1 septic shock secondary to fulminant liver failure
  - 1 urosepsis
  - 1 MI

Conclusions

- SFA stenting performed for TASC C/D lesions: more likely to fail and lead to bypass or amputation more than TASC A/B
- SFA stenting performed for TASC C/D lesions: negative impact on limb salvage if stent occludes

Conclusions

- Patent peroneal artery did not increase likelihood of SFA stent patency
- Smoking has a negative impact on stent success
- 13/17 (76%) of failed SFA interventions were in current smokers (P <0.05)