No disclosures
Duplex Scanning Advantages

- Cheap
- Non-invasive
- Mobile / Repeatable
- Arterial wall imaging
- Hemodynamics
- Sensitive to low flow
1. Reliably identifies inflow and outflow vessels
2. Selects the best site for an anastomosis (calcified)
3. Identifies the cause and \textit{AGE} of occlusion
4. Visualizes low flow patent arteries (occluded by angio)
Duplex Sensitivity to Low Flow

5 cm/sec

2.3 cm/sec
<table>
<thead>
<tr>
<th>Procedure</th>
<th>Cases</th>
</tr>
</thead>
<tbody>
<tr>
<td>Femoral-popliteal</td>
<td>407</td>
</tr>
<tr>
<td>A-V access</td>
<td>430</td>
</tr>
<tr>
<td>Infrapopliteal</td>
<td>80</td>
</tr>
<tr>
<td>Infrainguinal bypasses</td>
<td>65</td>
</tr>
<tr>
<td>Carotid artery</td>
<td>41</td>
</tr>
<tr>
<td>Popliteal aneurysm</td>
<td>38</td>
</tr>
<tr>
<td>Others</td>
<td>18</td>
</tr>
<tr>
<td><strong>Total:</strong></td>
<td><strong>1080</strong></td>
</tr>
</tbody>
</table>
Results

➢ Technical success 387 / 407 (95%)

☆ Stenoses 264 / 265 (99.6%)

☆ Occlusions 123 / 142 (87%) *

* P < 0.0001
A Duplex - Guided Approach to Acute Arterial Occlusions: 27 cases

Intraop. Thromboembolism (12/387 cases)

- Thromboembolism 12 (3.1 %)
  - Popliteal 6 (50 %)
  - TP trunk 5 (42 %)
  - Peroneal 1 (8 %)
A Duplex - Guided Approach to Acute Arterial Occlusions: 27 cases

Additional 15 Cases (CRF)

- **Infrainguinal Arteries** 12
  - Femoral 5
  - Popliteal (2 PAA) 6
  - TP trunk 1

- **Infrainguinal Bypasses** 3
  - Fem – pop PTFE 1
  - Fem – AT vein 1
  - Fem – DP vein 1
A Duplex - Guided Approach to Acute Arterial Occlusions: 27 cases

**Treatment**

- **Suction thrombectomy** 17 (63 %)
- **Thrombolysis alone** 5 (19 %)
- **Thrombectomy + thrombolysis** 3 (11 %)
- **Thrombolysis + suction + stent** 2 (7 %)
A Duplex - Guided Approach to Acute Arterial Occlusions: 27 cases

**Overall Results**

24 / 27 patent (89%)

3 – 36 months (mean 13 ± 8)
Thrombolysis for TP Trunk Embolus
Thrombus proximal to the inflated balloon
Angiojet
Acute Thrombosis of SFA Stents
Mechanical Thrombectomy
Acute Popliteal Embolus & SFA Stenosis
Mechanical Thrombectomy
Conclusion

➢ Avoidance of nephrotoxic agents
➢ Visualization of low flow arteries
➢ Identification of the cause of occlusion

are unique advantages of duplex arteriography.
Patients with acute arterial ischemia of diverse etiology can be safely treated by various endovascular procedure under duplex guidance alone.
Can lower extremity acute arterial occlusions be treated under duplex guidance alone? YES!

Natalie Marks, MD
Enrico Ascher, MD

The Vascular Institute of New York®
NYU Langone Medical Center Brooklyn