Foot vessel disease in critical limb ischemia: innocent bystander or leading actor?

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Disclosure

Speaker name: ROBERTO FERRARESI

☒ I have the following potential conflicts of interest to report:

☒ Consulting: Medtronic, Abbott, Cook, LimFlow

No conflicts with this presentation
Foot vessel disease in critical limb ischemia: innocent bystander or leading actor?

1. Foot vessel disease: prevalence & risk factors

2. Role of foot vessel disease in CLI: innocent bystander or leading actor?

3. Endovascular treatment of CLI: go below-the-ankle!
Obstructive disease distribution in a series of 1624 pts with CLI (RTF 5-6)


55% FEM-POP
5% ATG
93% BTK
71% BTA
Obstructive disease distribution in a series of 1624 pts with CLI (RTF 5-6)

FOOT VESSEL CLASSIFICATION

We considered 4 big foot vessels:
1. *retromalleolar posterior tibial artery*
2. *dorsalis pedis artery*
3. *lateral plantar artery*
4. *medial plantar artery*

Plantar arch was considered *separately*, as the distal arch originating from lateral plantar artery, giving the *forefoot distribution system* and connecting to dorsalis pedis artery through the 1st perforating branch.
Obstructive disease distribution in a series of 1624 pts with CLI (RTF 5-6)

Obstructive disease distribution in a series of 1624 pts with CLI (RTF 5-6)

“Below the Ankle Peripheral Artery Disease” Ferraresi R et Al

Arch disease according to risk factors

- DM-/ESRD- (166 pts)
- DM+/ESRD- (993 pts)
- ESRD+/DM- (74 pts)
- DM+/ESRD+ (216 pts)

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1. Foot vessel disease is present in >70% of patients with CLI

2. Foot vessel disease is particularly represented in DM-ESRD pts
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Disease distribution in a series of 1915 with PAD and a complete angiographic study of BTA vessels

<table>
<thead>
<tr>
<th>PAD symptoms</th>
<th>N°</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Asymptomatic</td>
<td>6</td>
<td>0.3</td>
</tr>
<tr>
<td>Claudication</td>
<td>177</td>
<td>9.2</td>
</tr>
<tr>
<td>Ischemic Rest Pain</td>
<td>90</td>
<td>4.7</td>
</tr>
<tr>
<td>Ulceration or Gangrene</td>
<td>1642</td>
<td>85.7</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>1915</td>
<td>100</td>
</tr>
</tbody>
</table>

“Below-the-ankle vessel disease in CLI patients: innocent bystander or leading actor?” Ferraresi R et Al, submitted for publication 2014
<table>
<thead>
<tr>
<th>Risk Factor for CLI</th>
<th>OR (p)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Above the ankle vessel disease</td>
<td>1.20 (&lt;.05)</td>
</tr>
<tr>
<td>Foot vessel disease (arch excluded)</td>
<td>1.58 (&lt;.05)</td>
</tr>
<tr>
<td>Arch = small vessel disease</td>
<td>7.83 (&lt;.01)</td>
</tr>
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Risk Factor for CLI | OR (p)
---|---
Foot vessel disease | 1.58 (<.05)
Risk Factor for CLI | OR (p)
---|---
Arch = small vessel disease | 7.83 (<.01)

24%
1. The disease of every above-the-ankle vessel segment has a weak association with CLI: we need many of them to get CLI

2. BTA vessel disease has the strongest association with CLI, particularly the small vessel disease of the arch (the tiger of CLI!)
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Above the ankle vessel disease
Below the ankle vessel disease
Above the ankle vessel disease treatment
basal

Below the ankle vessel disease treatment

after PTA
Direct blood flow on the dorsal and plantar side of the BTA
6 months later
We cannot treat CLI without considering and facing in every patient foot vessel disease

3° Conclusion: Endovascular treatment of CLI: go below-the-ankle!
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