Foot Artery Disease In CLI: Innocent Bystander Or Leading Villain: When Should It Be Treated; When Should It Not Be Treated; And When Can It Not Be Treated: Some Patent Arteries In Leg And Foot Are Not Seen On DSA: How They Can Be Visualized

Disclosure

I have the following potential conflicts of interest to report: consulting, travel reimbursement, teaching courses, training, proctoring:

- Medtronic
- Boston Scientific
- Abbott
- LinMed
- Taras
- Cook
- Biotronik

Roberto Ferraresi, MD

Foot Artery Disease In CLI

1. Innocent Bystander Or Leading Villain
2. When Should It Be Treated; When Should It Not Be Treated
3. And When Can It Not Be Treated
4. Some Patent Arteries In Leg And Foot Are Not Seen On DSA: How They Can Be Visualized

<table>
<thead>
<tr>
<th>Prevalence of disease (%)</th>
<th>Prox-BTK vessels</th>
<th>Dist-BTK vessels</th>
<th>BTA vessels</th>
<th>Arch</th>
<th>POP-TPT</th>
<th>SFA</th>
<th>Above-the-groin vessels</th>
<th>Aggregated segments</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>0 artery</td>
<td>1 artery</td>
<td>2 arteries</td>
<td>3 arteries</td>
<td>0 artery</td>
<td>1 artery</td>
<td>2 arteries</td>
<td>3 arteries</td>
</tr>
<tr>
<td></td>
<td>14.3</td>
<td>24.3</td>
<td>37.6</td>
<td>23.7</td>
<td>13.2</td>
<td>25.5</td>
<td>44.9</td>
<td>16.4</td>
</tr>
</tbody>
</table>

Risk factors for CLI

<table>
<thead>
<tr>
<th>Risk factor</th>
<th>Odds Ratio (95% CI)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Any of BTA and Arch</td>
<td>13.25 (1.69 - 104.16)</td>
</tr>
</tbody>
</table>

Prox-BTK distal disease

0 artery: ref.
1 artery: 1.7 (0.76 - 3.83)
2 arteries: 1.86 (0.72 - 4.83)
3 arteries: 4.84 (1.12 - 20.88)

Dist-BTK distal disease

0 artery: ref.
1 artery: 1.69 (0.74 - 3.87)
2 arteries: 5.81 (1.91 - 17.62)
3 arteries: 5.71 (1.03 - 31.78)

Arch disease

0 artery: ref.
1 artery: 0.53 (0.26 - 1.1)
2 arteries: 0.46 (0.25 - 0.86)
3 arteries: 0.36 (0.23 - 0.56)

Notes: the whole vessel shown in Lumpect, however we use the term “proximal” for the proximal BTA vessel for simplicity

+ 50% 2-3 BTA vessel disease

25% arch disease
1. BTA vessel disease is present in half of PAD patients
2. Distality matters! BTA vessel disease has the strongest association with CLI

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When Should It Be Treated; When Should It Not Be Treated?

I have not a general answer!

Every patient is different!

We have to consider many variables:
- Patient’s comorbidities
- Foot lesion
- Wound related artery
- Interventional strategy

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Clinical history
- Female, 39 y old
- DM type 1 from the age of 14 y
- ESRD-HD in the last 8 months
- Presentation: bilateral 1st toe gangrene

Small vessel calcific obstructive disease is the final barrier to every type of revascularization!
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Below-the-knee disease

"Interventional angio": Injection from the distal catheter tip

"Basal angio": Injection from the proximal groin sheath

Subintimal dissection of the distal posterior branch of an occluded distal peroneal artery giving the lateral plantar artery

(Terumo 0.035" wire)
It is impossible to plan a procedure without knowing data that you can collect only "trying to do something".

1. The presence or not of a dissectable subintimal space
2. The true anatomy of BTK & foot vessels: very often only an "interventional angio" (injection from the distal catheter tip) can discover "hidden arteries"