DEBATE: Ultrasound Imaging and Guidance are the Best Method to Control Retrograde Distal Access Procedures and Crossing CTOS: Tips and Tricks

J.A. Mustapha, MD, FACC, FSCAI
Director of Cardiovascular Research
Metro Health Hospital
Wyoming, MI
Clinical Assistant Professor of Medicine
Michigan State University College of Osteopathic Medicine
E. Lansing, MI

Disclosures
Consultant to:
- Abbott Vascular
- Bard Peripheral Vascular
- Boston Scientific
- Cook Medical
- Metronic
- Spectranetics
- Terumo

Comparison of CF Retrograde, CF Antegrade, PT and AT Access Success

<table>
<thead>
<tr>
<th>Access Type</th>
<th>Number of Attempts</th>
<th>Mean Time to Access (sec)</th>
<th>Access Success (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>CF Retrograde</td>
<td>100</td>
<td>93.5</td>
<td>93.7</td>
</tr>
<tr>
<td>CF Antegrade</td>
<td>120</td>
<td>91.1</td>
<td>90.7</td>
</tr>
<tr>
<td>PT Access</td>
<td>80</td>
<td></td>
<td></td>
</tr>
<tr>
<td>AT Access</td>
<td>50</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>


Comparison of CF Retrograde, CF Antegrade, PT and AT Access Success

<table>
<thead>
<tr>
<th>Access Type</th>
<th>Number of Attempts</th>
<th>Mean Time to Access (sec)</th>
<th>Access Success (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>CF Retrograde</td>
<td>100</td>
<td>93.5</td>
<td>93.7</td>
</tr>
<tr>
<td>CF Antegrade</td>
<td>120</td>
<td>91.1</td>
<td>90.7</td>
</tr>
<tr>
<td>PT Access</td>
<td>80</td>
<td></td>
<td></td>
</tr>
<tr>
<td>AT Access</td>
<td>50</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Can easily avoid venous puncture

Why Is This Better than Fluoroscopy?
- Can see the wire tip
- Avoid retro-perforation
- Avoid retro-dissection
- Enhance CTO crossing
- Increased confidence

EVUS wire advancement

Reverberation artifacts appear as multiple, equally spaced parallel lines

Technique
- After access, operators are able to maneuver their guide wire/access wire through high grade stenoses that otherwise could cause potential complication

You will always know where you are

A. Always find the cross sectional view of the proximal SFA/PFA then scan back to the CFA
B. Showing the CFA after scanning back from the visualizing the SFA/PFA
C. Long access view of the CFA/SFA/PFA with color
EVUS clock for safe access into arterial conduit including diseased and small arteries.

ADVANCING GUIDE WIRE UNDER US Sheath in the anterior tibial artery

POSTERIOR TIBIAL ARTERY

Step by step ultrasound guided tibial artery

0 radiation → 0 contrast
Ankle "strap" dissected
Posterior Tibial

USN or Fluoroscopy? You Decide.

Fluoroscopy
Ultrasound