DEBATE: Not So: Fluoroscopy And Angiography Are The Best Way To Control Distal Puncture Procedures And Lesion Crossing: Technical Tips And Tricks

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Potential conflicts of interest
Speaker’s name: Andrej Schmidt
✓ I have the following potential conflicts of interest to report:
Consulting:
Medtronic, Abbott, Boston Scientific, Cook, Cordis, C.R.Bard, Intactvascular, ReFlow Medical, Spectranetics, Upstream Peripheral

Reasons to use Fluoroscopy / Contrast-Injection to Guide Distal Puncture

- Retrograde approach always the second attempt if antegrade guidewire-passage fails
- An antegrade access already exists to inject contrast medium
- Easy, precise and especially fast

Potential Access Sites BTK

Depth of the access-artery differs
Proximal anterior tibial and peroneal artery might be difficult to visualize by ultrasound

Paroneal Artery Puncture

Puncture of the peronal artery through the membrana interossea

Positioning and stabilization for distal puncture
Distal Retrograde Peroneal Access

C-arm Ipsilateral ~ 25

Posterior Tibial Artery Puncture

Left leg: C-arm RAO 80°

Posterior Tibial Artery Puncture

C-arm LAO 20°
Use different C-arm angles to be precise

Single Center Experience with the retrograde transpedal or transtibial approach

From Nov/2006 – Aug/2014
N patients 554
- Retrograde approach only in case of antegrade failure
- Successful retrograde access using fluorocopy: 449 / 554 (99.1%)
- 6 different physicians and their learning-curve

Ultrasound versus Fluoroscopic Guidance of Retrograde Puncture

- In renal failure patients ultrasound is preferred

Ultrasound versus Fluoroscopic Guidance of Retrograde Puncture

- In renal failure patients ultrasound is preferred
- In several cases calcification instead of contrast can guide fluoroscopic puncture
Distal SFA-access
Artery deep in the Thigh

Access to the distal SFA using Fluoroscopy
Right SFA: LAO 45°
Needle + artery = one line

Guidewire-Passage Using Ultrasound
It is certainly a good idea
It certainly takes longer time

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Shadowing in severe calcification

Guidewire-Passage Using Ultrasound
Longer, complex CTOs
Frequent repositioning of the
- ultrasound-probe and
- patient necessary

Guidewire-Passage Using Ultrasound
Long CTOs:
Fluoroscopy is the fast track
Dr. J. Mustapha:

„But I am so afraid of X-ray“.

Don't be afraid.....

Summary

Using ultrasound for access and guidewire-passage is a very good idea, but for use on a regular basis, it remains a dream.

Using fluoroscopy is much faster, easier and very precise.