Puncture of the occluded SFA is better access route for treatment of TASC D lesions

Aravinda Nanjundappa, MD, FACC, FSCAI, RVT
Professor of Medicine and Surgery
West Virginia University
Charleston, WV

DISCLOSURE

• NONE

Why to perform direct SFA access?

• Failed femoral antegrade or retrograde crossing.
• Increases success of crossing TASC D lesions.
• Reduces procedure time compared to reentry devices or pedal artery/popliteal access.
• Easy to perform and short learning curve.
• Reduced cost for equipment.

When to perform SFA puncture?

• Life style limiting claudication.
• Critical limb ischemia.
• Symptomatic occluded SFA stents/Instent restenosis.
• Ipsilateral CFA/EIA stenting

Step by step approach

• Baseline SFA angiogram via femoral retrograde or antegrade access.
• Check for adequate distal SFA access site for puncture.
• The reconstituted SFA must be above the adductor canal.
• Avoid calcified and severely diseased distal segments during the learning phase.

Patient preparation

• A detailed discussion with the patient.
• Clean and prep the above knee area in sterile fashion.
• Inform your team the plan so that there are no surprises.
• Keep the limb flexed and externally rotated.
• Conscious sedation and local anesthesia.
Equipment

- Standard femoral or retrograde access tools.
- Micro puncture for distal SFA puncture.
- Ultrasound guidance.
- Fluoroscopy to assist.
- Support catheter .035 inches or 4 French sheath.

Other tools

- 0.014, 0.018 and 0.035 inches Crossing catheters.
- Low profile balloon.
- Low profile stents.
- Self expanding Covered stent.

Access: Fluoroscopy

- Keep the image intensifier at contralateral 45 to 90 degrees.
- Puncture perpendicular to artery using road map.
- Keep the needle angle at 30 to 45.

Access: Ultrasound guided

Access

- Keep access catheter low profile
- 0.018 inches, 0.035 inches support catheters
- 4 French sheath beware of obese patient population and short sheath

Case

- 81 yr old female with significant claudication L>R despite medical treatment.
- Left ABI 0.62
- Left SFA attempted crossing from femoral approach failed at outside facility.
- Patient referred for reattempt angioplasty and stent.
Left leg angiogram TASC D SFA lesion

Distal SFA puncture

Distal SFA micro sheath placement

Support catheter from distal SFA and externalize the wire.

Cross the lesion from femoral access and confirm true crossing

Prolonged balloon inflation across the distal access site and angiogram
Case 2

- 71 yr old with right leg claudication.
- Fontaine class II b.
- Failed medical therapy.
- Works as custodian and wants to still work.

Baseline angiogram

SFA access

Access with small 0.018 inches support catheter
How do obtain access site closure

- Use small catheters for distal SFA access.
- Preferably a 035 inch compatible navicross or quick cross.
- Largest sheath maybe a 4 French.
- Balloon tamponade and rare covered stent.

Conclusion

- Direct SFA puncture is safe easy to learn.
- Increases success rates for TASC D revascularization.
- One single study 56 patients from Leipzig published so far.
- Long term data is needed.