Distal SFA Direct Puncture for SFA CTO, Compared with Other Distal Approach Techniques

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Case

male, early seventies
risk factor: hypertension
present illness and physical examination:
  He had been suffered from a claudication of his left leg for years. A physical examination revealed pulse-less of his left lower extremity.
test results prior to catheterization:
  Left ankle-brachial index (ABI) was 0.48.
  MDCT showed chronic total occlusion (CTO) from SFA ostium to middle part.
Variety of Retrograde approach sites for SFA CTO

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An angiography showed his SFA CTO, from its proximal to middle part.
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Treasure018 guide-wire (GW) and Astate GW couldn’t penetrate whole CTO lesion, so EVT was converted to bidirectional approach.
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The distal part of SFA was selected as retro-grade approach site with sheath-less technique.
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Retrograde bare Treasure GW on Transit micro-catheter could proceed into whole CTO lesion.
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After careful gradual ballooning, three SMART stenting was done.

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Stenting could end up with an optimal result without any hemostasis of retrograde puncture site.

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Summary

• It is well-known that bidirectional approach in EVT for peripheral CTO lesion could improve its procedure success rate.
• Distal SFA was selected as a retrograde approach site in EVT for SFA CTO in this case.
• Despite of some difficulty of the penetration of the retrograde guide-wire, this procedure could end up with optimal result without any complications.
• In hemostasis of puncture site, no additional option was necessary besides SFA stenting.
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Distal SFA Direct Puncture for SFA CTO
Its advantage and disadvantage, comparing with other distal approach techniques

Advantages
• Easy to puncture by angiogram guide
  (biplane projection preferred)
  △ popliteal puncture, lie on face position
  × tibial puncture, necessity of enough vasculature and learning curve
• Less care about hemostasis and hematoma
  × popliteal puncture, difficult hemostasis and complicated with AV fistula
  ○ tibial puncture, easy hemostasis using some devices and easy care
• No care about injury of puncture point
  △ popliteal puncture, sometimes complicated with AV fistula and aneurysm
  △ tibial puncture, puncture site stenosis or occlusion

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**Distal SFA Direct Puncture for SFA CTO**
Its advantage and disadvantage, comparing with other distal approach techniques

**Disadvantage**

- Necessity of distal SFA good vasculature
- Care about puncture point and puncture angle
- Oozy bleeding from puncture site during procedure
- Difficult manipulation (penetration) of retrograde guide-wire due to poor back-up force
  - popliteal and tibial puncture, well enough back-up force using sheath canulation
  - distal SFA sheath canulation? or device development

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Distal SFA Direct Puncture technique has several advantages with less pitfalls in EVT for SFA CTO, comparing with other retrograde approach techniques.

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Whatever hard task is there,
We keep facing up to challenge for new horizon
even if terrible disaster happens.

That is our Japanese “SAMURAI” sprit.

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