Retrograde recanalization of distal SFA total occlusion through an occluded femoro-popliteal autovenous bypass

Nikolov D.*, Najdenova T.^, Kozarov V.*

* Lozenetz Hospital, Department of Vascular Surgery, Sofia, Bulgaria
^ Acibadem City Clinic, Department of Vascular Surgery, Sofia, Bulgaria

Endovascular treatment

1. Contralateral femoral access 7F
2. Unsuccessful antegrade recanalization- calcified lesion, difficult penetration of the proximal cup, blockage and detachment of the wire tip in the proximal part of the occlusion

3. Successful passage of a hydrophilic wire through the failed autovenous bypass and PTA with 2.5x150mm-suboptimal result ?? Bigger balloon? Stent?
4. Decision to use the graft as a path for retrograde access

5. Controlled antegrade- retrograde subintimal tracking(CART).
   a). Penetration of the distal cup of CTO with V18 guide wire(Boston Scientific), supported by 3.0x120mm Pacific Xtreme balloon(Medtronic).
   b). Subintimal pass of the distal wire to the proximal part of the occlusion, balloon dilatation with 12 atm.
   c). Short subintimal channel from above with 0.035 in hydrophilic Terumo wire, supported by 4x150mm balloon Admiral(Medtronic) and dilatation with 10 atm.
   d). Successful antegrade wire pass to PA.

Discussion

EVT of SFA TASK C and D lesions has 81-94% initial success. The main problem is crossing the lesion, even with the new devices. In case of antegrade failure, there are still retrograde options:

- Distal puncture
- Trans-collateral approach

Previous bypass surgery with chronic occlusion of the graft could additionally deteriorate the procedure, but sometimes could be of favor. In our case after easy pass of the guidewire through the occluded graft and delicate ballooning, we had a perfect “trans-graft” retrograde access. We chose to restore the native artery instead of optimizing the graft itself because of the poor results of long segment angioplasty.

Conclusion

In rare cases of SFA CTOs previous surgery can give additional options for endovascular treatment like trans-graft retrograde access for native vessel recanalization.

Mail address: dimn@mail.bg

Introduction

Endovascular treatment (EVT) of infrainguinal chronic total occlusions (CTOs) is challenging, especially in patients with previous surgery.

71-year-old female with
- left leg rest pain for 3 months
- distal femoro-popliteal autovenous bypass- 2 year before presentation
- CAD - PCI with DES 2 weeks ago
- Diabetes mellitus

Angiography:
- Distal SFA – proximal PA occlusion
- Stenosis of distal PA and tibial vessels
- Occluded fem-pop bypass

DUS- small chronically occluded graft, unsuitable veins for re-bypass

Result

6. Post PTA & Supera 5x120mm
   Final result

Recovered pedal pulses. Patent SFA and PA for 18 months of follow up. The graft remained patent for 3 months and occluded without clinical complains.

61 year-old female with
- left leg rest pain for 3 months
- distal femoro-popliteal autovenous bypass- 2 year before presentation
- CAD - PCI with DES 2 weeks ago
- Diabetes mellitus

Angiography:
- Distal SFA – proximal PA occlusion
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DUS- small chronically occluded graft, unsuitable veins for re-bypass