Endovascular Techniques to Restore the Femoral Artery After Failed Bypass

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Potential conflicts of interest
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✓ 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

Frequent Problems for an Endovascular Treatment after Surgery / Failed Bypass
- Long lesions, often extending over the former distal anastomosis
- Flush-occlusions impossible to pass from antegrade
- Transsected SFA
- End-to-end anastomosis

Problems of SFA Flush-Occlusions
How to direct the guidewire into the CTO?

Flush-Occlusion after Surgery of the Groin
Retrograde approach via distal SFA
Retrograde dissection into the CFA

Re-Entry Device Retrograde
Re-Entry-Devices via distal SFA

Requires a 6Fr sheath
Increased bleeding-risk?

To lower the bleeding-Risk: puncture into an occlusion

PTA of a Flush-Occlusion in a CLI-Patient

- 75 years
- Severe ischemia
- Rutherford 6 left
- Previous CEA left CFA
- Bypass-attempt on peroneal artery failed
- Scheduled for major amputation

SFA-Reca from Retrograde

During TEA of the left CFA proximal 10 cm of the SFA were taken out

Recanalization of a non-existing SFA

Recanalization of a non-existing SFA

Pioneer-catheter

Recanalization of a non-existing SFA
Retrograde Recanalization of Complex Flush-CTO

- 79 years, male patient
- CLI, Rutherford 5
- Forefoot-gangrene
- Thrombendartherectomy
- Bypass right 12/2003
- Transsection of the SFA
- CRF, GFR 25 ml / min

Retrograde Recanalization After Failed Bypass

- LAO 30°
- RAO 60°
Retrograde Recanalization After Failed Bypass

Brockenbrough needle (not approved for use in PAOD!)

RAO 45°

LAO 45°

7Fr cross-over sheath

6 Fr Judkins Right Guiding Catheter

PTA from antegrade
Retrograde Recanalization After Failed Bypass

Distal reentry not possible

Retrograde Recanalization After Failed Bypass

Distal reentry not possible

Retrograde Recanalization After Failed Bypass

Retrograde puncture

Retrograde Recanalization After Failed Bypass

Positioning of a Viabahn 7.0/250mm

Retrograde Recanalization After Failed Bypass

Retrograde SFA-Recanalisation in „Flush“-Oclusions

- 42 SFA-(Apop)-occlusions,
  - Antegrade GW-passage into the CTO failed
- 34 cases after CEA of the groin
- 19 cases after bypass (all occluded)
- 13 cases after transection of the proximal SFA
  - Success-rate 97.6 % (41/42)
  - Duration of the procedure (mean): 144 min (46-310)
Long-Term Results after PTA of SFA Flush-CTOs

Patency after retrograde PTA of post-surgical flush-occlusions

Patients 42
CLI 24 (57 %)
Death with 1 year 6 (14.3 %)
Lost to follow up 2 (4.8 %)
Restenosis at 1 year 10 (23.8 %)
All long SFA or SFA + Apop CTOs !

Summary

Angioplasty of SFA flush-occlusions can be challenging
- Especially after previous surgery
- Retrograde approach using reentry-devices and other needle-systems is a successful option