How To Deal With Occluded Fem-pop Grafts Endovascularly: No Open Treatment Is Ever Needed

Marcelo Guimaraes, MD FSIR
Director, Vascular & Interventional Radiology
Medical University of South Carolina

Disclosures

Consultant:
- Cook Medical
- Terumo Interventional Systems
- Baylis Medical

Patents:
- Cook Medical

Advisory Board
- Terumo Interventional Systems

ALI - Treatment Algorithm

Basic principles

✓ Adequate/safe access

Micropuncture Set

Especially important in lytic therapy

✓ Guidewire Traversal Test = predictive factor of success

Arterial access for LE interventions

Alternative access for SFA recanalization

Retrograde direct puncture of the SFA/popliteal artery

- US guidance
- Micropuncture kit
Alternative access for SFA recanalization
Retrograde direct puncture of the bypass graft
- US guidance
- Micropuncture kit

Future: Radial access?

Recanalization of acute LE arterial occlusion
Techniques
• Endovascular:
  - Fibrinolytic infusion
  - Fibrinolytic infusion + Mech thrombectomy
  - Mechanical thrombectomy
  - Aspirative catheter thrombectomy

Recanalization of acute LE arterial occlusion
• Endovascular:
  - Fibrinolytic infusion: Tpa, Glycoprotein IIb/IIIa inhibitors = Reopro)
  ✓ McNamara catheter
  ✓ Ekos: US enhanced lytic therapy

Pharmacological thrombectomy
• Thrombolytics improved amputation free survival and shorter hospital stay (0-14 days)
• Surgery: revascularization more effective for ischemia of > 14 days duration
• Risk of bleeding
• Higher cost with EKOS?
• ICU cost?

Recanalization of acute LE arterial occlusion
• Endovascular:
  - Fibrinolytic infusion + Mech Thrombectomy
  Angiojet, Hydrolyser, Cleaner....
Recanalization of acute LE arterial occlusion

- Endovascular:
  - Aspirative thrombectomy catheter
  - Export, Pronto, Aspiremax, Indigo

Aspiration Thrombectomy Catheters

- Removes non-lysable debris *
- Effective in distal vessels
- Risk distal embolization
- Effectiveness limited by lumen size
- Thrombus often clogs the catheter

Post 24 hrs TPA
Post TPA

6 mm then 8 mm Angioplasty of In-stent restenosis (placed 2010)

Post TPA

Indigo system aspiration And mechanical thrombectomy

Advantages to Indigo mechanical thrombectomy for AL2 device and technique
Where would it be safer to start with?

Mechanical Thrombectomy - proximal to distal

No balloon PTA at the beginning

Distal protection in ALI?
- Poor tissue “reserve”
- Large clot burden
- Single distal run-off

Does it make sense to use FPD?
- 17 cases of ALI
- Filters (17/17) with: fresh thrombus, calcification minerals, cholesterol and fibrin
- Mean diameter largest particle 702.80 (range: 373.20–4680.00 μm; S.D. = 1155.12 μm)

Catheter Thrombectomy
Angiojet with distal protection

3 vessels run-off

7 mm stent
Catheter Thrombectomy
Angiojet with protection techniques

Thrombosed left iliac art
stent
Difficult to catheterize the fem-pop graft?

- US guidance
- Micropuncture kit

DIRECT PUNCTURE OF THE BYPASS GRAFT

Conclusions

• Careful arterial access

• Fresh clot? Lytics are unlikely to be necessary in mechanical thrombectomy

• Distal protection may reduce distal embolization

• Catheter-based treatments preserve outcomes with less overall morbidity