Popliteal Artery Aneurysm Thrombosis

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Disclosures

Disclose any financial relationships with commercial interests in the past twelve months for you and your spouse/partner.

• Consulting: Boston Scientific, Magneto thrombectomy solutions, Medtronic,
Patient History

65 year old male with severe left lower calf rest pain (Rutherford 4)

PMH:
- HTN
- Dyslipidemia
- Non-obstructive CAD
- Non-ischemic cardiomyopathy (EF 15%) on GDMT
- CKD III

SH: heavy smoker (15 py)
Evaluation

Physical Exam:
• Bilateral femoral pulses 2+
• Non-palpable pulses in the left popliteal, DP and PT.
• S4 noted. Laterally displaced PMI.

ABI with PVR:
• Reduced ABIs on left.
  • Left: 0.68
  • Right: 1.19
Duplex: Left Popliteal Aneurysm-Occluded

1.7cm

No Flow
Management Options?

A. High-risk vascular surgery despite cardiomyopathy.
B. Covered stent placement.
C. Conservative management.
Angiogram with IVUS

Occluded Popliteal Artery

Reconstitution-High Take-off of PT
Treatment

- Patient deemed high risk for surgical intervention
- Lesion crossed with 0.035 hydrophilic wire with catheter support.
- IVUS performed
- PTA using a 5.0x150mm OTW balloon.
- IVUS guided self-expanding covered stent deployment with a 7.0 mm x 150 mm covered stent.
Self-expanding covered stent deployment

Self-expanding covered Stent

Post-angiography

Post-deployment IVUS → inadequate expansion
Post Dilatation with 7.0mm balloon

Post-dilation 7.0x100mm balloon

Improved expansion

Final Angiogram

SCAI
Society for Cardiovascular Angiography & Interventions
Hospital Course and Follow-Up

- Continued aspirin & Clopidogrel
- Unlimited exercise tolerance at 1 month follow up

Patient Stent

No Endoleak
Question

• Which is Safer, Which is Better?
  a. Endovascular repair
  b. Open Surgical Repair
Endovascular repair:
- Shorter length of hospital stay
- Lower wound complication rate
- Similar secondary patency rate at 3 years

Open surgical repair:
- Higher primary patency rate at 3 years
- Less short term thrombotic complications

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Conclusions and Learning Points

• Patients with symptomatic popliteal artery aneurysm require revascularization

• Open surgical vs endovascular approach depend on:
  • clinical presentation
  • degree and timing of limb ischemia
  • patient medical comorbidities
  • vascular anatomy

• Compared to Open surgical approach, endovascular approach is:
  • Safe
  • less morbid approach
  • associated with similar long term secondary patency rate