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Update on Thrombosuction for ALI:
What are the best techniques
How to do it and what are the results

Disclosures
– None

Conventional Treatment of Acute Limb Ischemia (ALI)
- Heparinisation + delayed surgery (Grade I)
- Prompt embolectomy/Bypass (Grade II)

Alternative Treatment of Acute Limb Ischemia (ALI)
- Thrombolysis (Passive clot lysis → 48h duration)
  - Only for Grade I
- Thrombosuction (Immediate clot removal)
  - For Grade I & II

Equipment
- 8F Sheath
  - Removable Valve
- 8F Aspiration catheter
  - 1 end-hole
- 6F Aspiration catheter
  - Smooth tip (crural)
- 50cc Syringe

Ann Vasc Surg, 1995;8:32-38
Eur J Vasc Endovasc Surg, 2000;20:138-45
Eur J Vasc Endovasc Surg, 2000;20:138-45
Technique

- Aspiration catheter just above the proximal end of the thrombus
- Do not cross the thrombus — Avoid distal embolisation

Technique

- Continuous aspiration — 50cc Syringe
- Catheter withdrawal
- Clot removal

Technique

- Valve disconnection for large thrombus removal

Technique

- Repeat sequence until no more thrombi can be aspirated
- Adjunct PTA/stenting if residual stenosis or remaining clots

Indication

Pt with Acute Limb Ischemia
- Fresh thrombus on DSA
- Relatively short occlusion
- Distal femoral, popliteal, crural level

Technique

- 8F Closure device
- Immediate heparinisation
Patient Demographics

- 2009-2014
- N = 302
  - Mean age, 74.6 ± 11 yrs
  - 50% male
  - 42.4% ASA II, 52% ASA III

Severity of ALI
Rutherford Classification

- Grade I (Viable) 225 (74.5%)
- Grade II (Threatened) 77 (25.5%)

Early Outcome

- Technical success 275 (91.1%)
  - Additional PTA 95 (31.5%)
  - Additional PTA & Stenting 85 (28.1%)
- 30-d Mortality 12 (4.0%)
- Additional open surgery 14 (4.6%)
  - Embolectomy 6 (2.0%)
  - Bypass 8 (2.6%)
- 30-d Major amputation 3 (1.0%)

Follow-up
Mean 28.2 ± 19 months

- New onset of symptoms 67 (22.2%)
- Reintervention 43 (14.2%)
- Major amputation 10 (3.3%)
  - AKA 5
  - BKA 5
- Related death 3 (1.0%)

Freedom from Reintervention

88.2 ± 2.2% at 1 year
77.1 ± 3.7% at 3 years

Case (1)

- 88 YO Female Pt
- ALI (right) 20 h ago
  - Grade I
- Atrial fibrilation

MRA →
Case (1)
After thrombosuction

Case (2)
• 76 YO Female Pt
• ALI 6 h ago
  – Grade I
• Atrial Fibrillation

DSA →

Case (2)

Case (3)
• 84 YO Male Pt
• ALI 2 days ago
  – Grade I

DSA →

Conclusions
• Simple equipment
• Quick treatment (vs Trombolysis)
• ↑ Technical success
• Durable in the mid-term
• Does not preclude surgery