4-French Infragenual Interventions In An Outpatient Setting Are Safer And Effective: What Equipment Is Needed

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Conflict of interest
• None

Why 4F?
• Because we now have the tools
  – Balloons (0.018” and 0.014” guidewire compatible)
  – Stents (0.018” guidewire compatible)
  – Long introducer sheaths (popliteal and BTK procedures)

What is available in 4F?
• Balloons
  – Longest length 6 x 250 mm
  – Largest diameter 8 x 40 mm
• DCB
  – Up till 4 x 120 mm
• Stents (self-expanding)
  – Largest diameter 8 x 80 mm
  – Longest length 7 x 200 mm
• All material for BTK (typically <3.7F)

Why 4F stents?
• Thinner strut
  – Less material in the wall
  – Less inflammation-reduction of restenosis
  – Less fractures
• Lower radial force
  – Less trauma to internal elastic lamina
  – Less restenosis

Why 4F stents?
• Smaller access
  – Shorter compression time (6F vs. 4F is an 81% bigger hole)
  – No need for closure device (cost reduction)
  – Less puncture site related complications
    • 294 consecutive procedures, 8 minor complications (self-limiting hematoma, no surgery/transfusion)=2.7%
    – Office-based procedures
Why 4F?

• More versatility
  – Femoral (antegrade/retrograde cross-over)
  – Popliteal/pedal
    • Failed antegrade approach
    • Obesity

What can we do with 4F

• All SFA and BTK
• All iliacs < 7 mm in diameter (4F SE stents available until 8 x 80 mm)
Occlusion external iliac artery

After 4F stenting (6 mm)

Versatility

Durability/radial force

2011 2014

4EVER study

- Prospective, non-randomized, multi-center study
- 120 patients (Astron Pulsar n= 70; Pulsar-18 n=46, mixed n=4)
- Average lesion length: 7.2 cm ± 4.78

Bosiers M et al JET 2013;20:746-756
Outcomes 4EVER study

• Primary patency
  – 12 months 81.4%
  • Non-calcified lesions 82%
  • Calcified lesions 80.2%
  – 24 months 72.3%
• Freedom from TLR
  – 12 months 89.3%
  – 24 months 82.7%

Access site complications

• Relevant hematoma n=4 (3.34%)
  – 3 major haematoma requiring transfusion, 1 minor haematoma
  – No surgical repair required
  – 3 out of 4 patients were on Coumarine therapy
• Reduced manual compression time as compared to 6F (literature)

TASC D

• Single center, prospective study of long SFA stenosis and occlusion (TASC D)
• 22 patients with 22 lesions
• Mean stented length 245 mm (range 215-315)
• Average lesion length 315 mm
• At 12 months
  – Primary patency 77%
  – Freedom from TLR 86%

PEACE

• 118 patients (all-comers)
• Lesion length 111.5 ± 71.4 mm
• CTO 56.8%
• Outcomes at 12 months
  – Primary patency
    • Overall 79.5%
    • Lesions > 100 mm 78%
  – Freedom from TLR 81%

4F versus 6F

What do we need?

• Learn to work with 0.018” (or smaller) guide wire compatible devices
• Think of using these smaller bore devices
Conclusions

• 4F peripheral intervention is feasible and safe
• Low profile stents have acceptable radial force, with data to support efficacy in complex lesions