Sustained >1 Year Effectiveness of Interventions for CLI is Improving: The Data Prove It and Why

Prof. I. Baumgartner
Clinical & Interventional Angiology, Swiss Cardiovascular Center, University Hospital Bern

Disclosures
I have nothing to disclose

Effectiveness of Endovascular BTK Treatment for CLI

Limb Salvage @ 12 months (1999-2004, Bern)
time to major amputation - starting from diagnosis

Log Rank Statistics: Surgery vs. PTA (ns.)

Effectiveness of Endovascular BTK Treatment for CLI

Limb Salvage @ 12 months (2008-2011, Bern)
time to major amputation - starting from diagnosis

Log Rank Statistics: Surgery vs. PTA (ns.)
Improvement in Angiography

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Bifurcation of common plantar a. into medial and lateral plantar a.

Pedal-plantar loop passing from the dorsal portion to the plantar portion of foot in 1st metatarsal interspace

RadioGraphics 2011; 31:1623–1636

Optimal Balloon Angioplasty

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Long balloons, low compliance, long inflation

Maximal Revascularization

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Maximal revascularization strategy to optimize healing and minimize need for reintervention

Advanced Techniques

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Dedicated, low profile devices

- Low profile balloons
- 0.014" wire
- Long sheath
- Guide catheter
- Wire/balloon shaft support

Pedal-Plantar Loop and Extreme PTA Techniques in CLI

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Using recently introduced dedicated wires and balloon catheters

Pedal Arteries as a Target for CLI Interventions

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Lateral calcaneal branches (P)

Medial calcaneal arteries (PT)
Endovascular Solution in Case of Interrupted Plantar Arch

Name
- Loop Technique (the original)
- Pedal Arch Route recanalization
- Pedal – Plantar Angioplasty

Definition:
- Endovascular Plantar Arch Reconstruction

Technique:
- Antegrade femoral catheterization
- Approach through the Anterior or Posterior Tibial Artery
- Intraluminal or subintimal recanalization

Devices:
- very-low profile 2.0-3.0 mm Ø balloons
- 0.014 true hydrophilic wires

Angioplasty of Perforating Branches and Collaterals in CLI

Conclusion
- Contemporary outcomes improved when compared to earlier studies
- Optimized angiographic techniques
- Variety of technical skills
  - pedal arteries and collaterals as a target for CLI interventions
  - maximal revascularization
- Dedicated wires, low profile balloons and DES
- Surveillance, wound care, secondary prevention

Various Design Elements Can Affect PTA Catheter Performance

Angiosome Concept of (direct) Revascularization

shift from “vessel most suitable” for revascularization (straight line flow to the foot) to choice of most appropriate target vessel from a clinical point of view, i.e. „wound related artery revascularization“