Veith 2015

Debate: Endo First Approach for Lower Extremity Ischemia Does Not Comprise Later Open Bypass Procedures Their Results

Craig M. Walker, MD, FACC, FACP
Clinical Professor of Medicine
Tulane University School of Medicine
New Orleans, LA
Clinical Professor of Medicine
LSU School of Medicine
New Orleans, LA
Founder, President, and Medical Director
Cardiovascular Institute of the South
Houma, LA

DISCLOSURES

Consultant/Medical/Scientific
Boards
• Abbott
• Boston Scientific
• Cardiva
• Cook Medical
• CR Bard
• Lake Regional Medical
• Medtronic
• Spectranetics

PVD Training
• Abbott
• Bard
• Boston Scientific
• Spectranetics
• Triframe Medical

Stockholders
• CardioProlific
• Cardiva
• Spectranetics
• Vasamed

Speaker’s Bureau
• Abbott
• Bard
• Boehringer-Ingelheim
• Bristol-Myers-Squibb/Sanofi
• Cardiva
• Cook Medical
• Cordis
• DSI/Lilly
• Spectranetics

Rationale for Endovascular Therapy
First in CLI

• Patients are often old and infirm. Many are not considered candidates because of overall health.
• Surgery requires
  • Inflow
  • Outflow
  • Conduit (BTK patency requires autologous vein)
  • Incision
• Active infection problematic for surgery (graft infection or sepsis)
• Extensive scarring may make surgery difficult
• Progressive disease (Interventions can be repeated easily)
• Can open multiple vessels
• Must never remove surgical options (Surgery can burn EV options)

Rationale for Endovascular Approach

• PRIMUM NON NOCERE (First do no harm)-Hippocratic oath
• Entire procedure performed via a sheath from a remote site away from infection.
• Shorter recovery time
• No extensive scar created at access sites
• Utilizing CO2 or external US intervention is possible in the most critically ill. (Better tolerated than open surgery)
• THE ARGUMENT THAT INTERVENTION TAKES AWAY SURGICAL OPTIONS IS NOT VALID WHEN PERFORMED APPROPRIATELY. BAD INTERVENTION OR BAD SURGERY TAKES AWAY TREATMENT OPTIONS.

Intervention taking away surgical options?

• Extensive wire dissection beyond the point of vascular reconstitution. (BAD TECHNIQUE)

• Stenting across common femoral or a patent popliteal artery (BAD TECHNIQUE) Surgeons do not bypass to occluded popliteal arteries.

• Embolization compromising outflow (CAN MITIGATE THIS BY UTILIZING DISTAL PROTECTION)

Tools Making Limb Salvage Interventional Therapy Possible

• Safer imaging (External US and CO2 angiography)
• Better guidewires, support catheters, dedicated crossing tools, re-entry tools.
• Better balloons and specialty balloons.
• Atherectomy devices.
• Distal protection devices
• Better stent designs and or covered stents for durability.
• Pharmacology (lytics, 2B3A, antiplatelets, anticoagulants)
• Anti-proliferative drugs on stents, balloons, or otherwise
• New access sites (pedal, transcollateral, arch reconstruction)
• OPEN MINDS
Interventional Patency is Improving

- Drug-Eluting Balloons
- Improved stent designs
- Covered stents
- Drug-eluting stents
- Possible role of atherectomy/DEB

PTA as the First-Choice Revascularization in Diabetics with CLI:

Prospective Study 993 patients between 1999 and 2003

- Conclusion:
  - PTA was safe and feasible
  - Low complication rates (3.4%)
  - High follow up rates (97.8%)
  - Low major amputation rates (1.7%)
  - 5-Year clinical primary patency rates (88%)
  - Stressed a “MULTIDICIPLINARY” approach
  - Again > 90% long term LIMB SALVAGE


Ahn, Samuel S. et. al. (J. Vasc. Surg. 2005;41: 423-433)

- Conclusion
  - 0.9% perioperative mortality
  - Overall technical success = 96.4% (N = 138)
  - Overall clinical success = 92.8% (mean follow up =14.7 months)
  - Overall 5 year primary patency = 31.4%
  - Overall 5 year secondary patency = 79.6%
  - 5 year limb salvage = 89.1%

“Contemporary” - - 2005!


Decade of LE Endovascular Interventions

Addressing Durability

- 5 prior failed surgeries on this leg including 3 pedal bypasses.
Interventional Therapy is Evolving Quickly

- Better crossing
- Safer imaging
- Better patency

- Interventional therapy should be first line therapy.
- Interventional therapy should not take away surgical options.