Acute and chronic lower extremity ischemia with limited runoff: what to do?

Peter A. Schneider, MD
Kaiser Foundation Hospital
Honolulu, Hawaii
Disclosure of Interest

Peter A. Schneider

I have the following potential conflicts of interest to report:

• Noncompensated advisor: Cardinal, Abbott, Medtronic
• Royalty: Cook (modest)
• Co-founder and Chief Medical Officer: Intact, Cagent
• Board member: VIVA (nonprofit)
• Was walking on her own a week ago, but

6 concerned children

82-Year-Old Woman Arrives at Emergency Department
82-Year-Old Woman Arrives at Emergency Department

• Legs have been bothering her for a month
  – Mostly numbness (feet and lower legs), minimal pain but right foot dorsum and toes hurt most

• Neurological exam
  – Sensory: Both feet insensate
  – Motor: Right foot 0/5, left-able to move toes

• CK levels 4500, WBC 15K
82-Year-Old Woman Arrives at Emergency Department

• Over this past month:
  - Numb feet
    • evaluated by neurology, nerve conduction studies, gabapentin
  - New blisters at ankles
    • evaluated by dermatology, biopsy
  - Blisters → symmetrical ulcers
    • evaluated by rheumatology for arteritis, many negative blood tests
82-Year-Old Woman Arrives at Emergency Department

Exam

• Femoral pulses nl, no popliteal or pedal pulses
• No doppler signals. Pressure 0
• Dependent rubor and pallor on elevation. Tissue compromise dorsum of right foot and circumferential at both ankles
• New onset atrial fibrillation ➔ heparin
82-Year-Old Woman Arrives at Emergency Department

Dorsum right foot
Left posterior lower leg

Right lateral lower leg
82-Year-Old Woman Arrives at Emergency Department

• Has not required treatment for hyperglycemia recently but has had mildly elevated HgbA1c (6 range)
• Former diabetic
• Prior to that she required insulin therapy but this resolved after she underwent bariatric surgery, lost 150 pounds
Inflow
Right Leg

Posterior tibial artery
Right Leg
Chronic Occlusive Disease

AT
PT

PT runs off to foot

AT
PT

peroneal

Lossy: 20:1
Left Leg
Vascular Calcification
Left Leg

Plantar system
Left Leg
Chronic Occlusive Disease

AT

PT

peroneal
82-Year-Old Woman Arrives at Emergency Department

• What to do?
  – Lysis
    • Mechanical, pharmacological, both
  – Thrombectomy
  – Bypass
  – Hybrid of techniques
  – One leg at a time or both?

Worst of all possibilities:
*acute on chronic, dead tissue, bilateral*
Bilateral Bypass With Popliteal Thrombectomy

Left
AK pop-peroneal

Right
AK pop-PT
82-Year-Old Woman with Bilateral Acute and Chronic Ischemia

- Bilateral bypass
- Why not lysis?
  - >80, neurological compromise, tissue loss, elevated CK, new onset a-fib with recurrent embolization, bilateral, diseased runoff unlikely to result in clearance and will likely result in delay in revascularization

6 hours post-op:

Warm feet, CK levels down, moving both feet
Back on heparin
3 months later

82-Year-Old Woman with Bilateral Acute and Chronic Ischemia