Management of Diabetic Foot Ulcer
Case Presentation
Initial Presentation of JD

- 56 yo M, no medical care x17 years
- Recent diagnosis of HTN and DM (insulin)
- Traumatic injury to L foot
- OSH with black L 4\textsuperscript{th} toe, edema, erythema
  - vancomycin/zosyn
  - ABI 0.55/0.47
  - bone scan: no osteo
History & Physical on Presentation

- **Past Medical History**
  - DM
  - HTN (untreated)
  - HLD

- **Past Surgical History**
  - none

- **Medications**
  - insulin
  - vancomycin/zosyn

- **Social History**
  - tob: quit 20 years ago
• **Physical Exam**

**VS:** AF, HR 70, BP 149/75

**Vascular:**
- RLE: 1+ fem, no pop, 2+ DP/PT
- LLE: 1+ fem, no pop, DS DP/PT

**Extremity:** dry gangrene L 4th toe, edema and erythema extending over dorsum of foot. No purulent discharge.
• Pertinent Labs

- CBC: WBC 12.5
- Coag: INR 1
- BMP: Cr 0.7
- A1c: 10.4
- Admitted for IV abx
- PVL Studies

- ABI 0.69/NC (0.57 in DP)
- TBI 0.55 (53)/0.32 (31)
- PVRs suggest SFA/popliteal disease
• Angiogram

Common femoral disease

SFA occlusion at adductor canal
Reconstitution of popliteal artery, occlusion of TP trunk. Reconstitution of PT in mid-calf
DP/PT filling on delayed imaging
Vein Mapping

- SF Junction: 0.74
- Prox Thigh: 0.47
- Distal Thigh: 0.74
- Knee: 0.46
- Prox Calf: 0.53
- Mid Thigh: 0.42
- Mid Calf: 0.33
- Distal Calf: 0.35
- Ankle: 0.35
• OR for
  - L femoral endarterectomy
  - L femoral to AT BPG with ipsi NR GSV
  - open L 4\textsuperscript{th} toe ray amputation and debridement
    - significant amount of purulence tracking along 4\textsuperscript{th} tendon sheath and extending to 3\textsuperscript{rd} and 5\textsuperscript{th} tendon sheaths
• Continued on IV antibiotics during hospital stay

• Multiple repeat debridements necessary but wound finally looked clean enough for discharge 14 days later

• Discharged on levaquin and augmentin
Follow-up

- **Wound**
  - wound care with silvadene
  - further debridement, L 4\textsuperscript{th} metatarsal amp
  - application of wound VAC

- **Endocrinology**
  - diabetes management
  - A1c: 10.4 (Nov) -> 6.3 (Mar) -> 6.3 (Jun)
• Readmitted for IV abx 2 weeks later after presented in clinic with 5th toe erythema

• PICC line placed for long-term IV abx (IV daptomycin, PO Flagyl, PO cipro)

• Continued VAC therapy
• Presented 1 month later with much improved appearance of wound, almost entirely covered bone
• abx discontinued at this time
• One month later underwent amputation of L 5\textsuperscript{th} toe with local rearrangement flap closure and STSG with NPWT

• Tolerated procedure well and recovered uneventfully
fully healed wound
Management of DFI with PAD requires a multi-specialty Approach

• Presentation to ER, vascular surgery consultation
• Vascular surgery evaluation
  ▫ Pulse exam
  ▫ Non-invasive vascular studies
  ▫ Imaging, usually angiography
• Surgical intervention- if indicated - with dual purpose:
  ▫ Endovascular vs. open revascularization
  ▫ Wound and infection management
    • Surgical or chemical debridement, I&D, amputation
• Treatment of acute infection and optimization of medical comorbidities
  ▫ Usually IV abx
  ▫ DM, HTN, tobacco use, CKD ...
• Close f/u with aggressive re-intervention for wound care, perfusion and continued medical optimization
• Off-loading for healing
• Maintenance of medical optimization after acute episode
Key Steps to Avoid the “Diabetic Foot Disaster”

- Don’t wait to refer a diabetic foot ulcer
  - Examine the feet without shoes or socks on
  - Perform a pulse exam
  - If no palpable pedal pulses -> refer to vascular surgeon

- Encourage meticulous home foot care and daily precautions in every diabetic patient

- Regular podiatric care is crucial (nail and callus care)

- Health maintenance
  - DM – A1c goal <6.5%
  - HTN
  - Smoking cessation
  - Weight management
Thank you