Lower Extremity Pathology

A-Z

Abscesses to Zebras
Case #1

- 49 y/o male
- Dense peripheral sensory neuropathy x 5 years 2° Etoh abuse
- 48 hours of forefoot swelling
- No fever or chills
- Otherwise well, b/s readings slightly increased (checks twice a day)
- WBC : 9.1
Case #1

Patient with a Plantar ulcer and midfoot or forefoot swelling:

1. Admit
2. Debridement of deep space abscess
3. NWB
4. IV Abx’s
5. Optimal glucose control
Case #2

- 65 y/o female
- Left medial 1\textsuperscript{st} MTH lesion x 18 months
- Slowing increasing in size
- Treated as a cluster plantar wart with liquid Nitrogen every 2 weeks
- Otherwise healthy individual
- No skin cancer, family + psoriasis
Case #2

Refractory lesions that are not improving i.e. decreasing in size by 50% over 4 weeks of optimal Rx requires a biopsy.

SCC:

- Arising from scars: high metastatic potential
- Mohr plus grafting
- Recurred 3 years later: repeated same Rx.
Case #3

- 74 y/o female
- 2 y painful, peripheral discolouration of toes on both feet
- Cold months: burning, itching and colour changes
- Warmer weather: almost resolves
- ABI’s: no occlusive disease
Case # 3

Chilblains (Pernio)

- Cold related injury: swelling, erosions, ulcerations
- Cryoproteinemia (occ.), lupus, dampness
- RX:
  1. Keeping hand/feet warm protected
  2. Vasodilators/Trental
  3. D/C smoking
Case #4

- 51 y/o male shipper/ ST boots
- NIDDM x 10 years, smoker 35 p/y’s
- plantar dysesthesia “forever”
- 6 week history of blood in his right shoe at the end of his shift
- Metformin, Altace, Lipitor, ASA
- BP: 139/85 RA
- A1c :7.4
Why Treat Diabetic Foot Ulcers?

Common: 15% lifetime incidence
- 14-24% of patients with ulcers → amput.
- @ 3500 major amput./year in Canada.

“Downward spiral of clinical consequences”
- 5 yr. contralateral amput. rate of 40%
- 5 yr. survival rate after amput. of 40%
DFU General Treatment Principles

- Treat the patient not the hole
  HTN, b/s, TSH, B12, encourage smoking cessation
- Treat pre-ulcerative lesions aggressively
- Neuropathic: offload the foot/extend casting
- Vascular (ABI’s < 0.5): bypass the limb
- Prevalence of 1st MTM ulcers: OM
DFU General Treatment Principles (continued)

- Tissue bacterial cultures if possible
- Treat all infections very aggressively—expect them to get bad quickly and tell the patient so
- Probe to or exposed to bone: OM
- Use of bone scans, wbc scans vs. plain Xray’s and MR’s
- Serial pictures are essential
Case #1a

- 49 y/o male
- Charcot foot and dense peripheral sensory neuropathy x 5 years 2° diabetes.
- Plantar lesion and rocker bottom foot x 8m months.
- Other foot appears normal
Case # 5

- 55 y/o male casino dealer
- NIDDM x8 years
- Nocturnal dysesthesia with sleep disturbance x 2 years
- Smoker 35p/ys, average: 8 beers a day
- A1c : 8.6, uric acid : 386, XR: normal in ER
- 3 week history of midfoot swelling, seen at ER diagnosis as gout, Rx’ed Indocid, to follow-up with Family MD
Case # 5

Charcot Foot

- Total contact casting often for prolonged periods i.e.
  - first month + NBW with crutches until swelling starts to decrease
  - partial weight bearing x 2-3 months being sure that the swelling remains minimal.

- Lis franc, medial column stabilization
- Clam-shell, custom boot placement
Case # 6

- 57 y/o female florist
- IDDM x 31 year
- Dense peripheral neuropathy doc. x 5 years
- Left trimalleolar fracture casted * with BKW cast x 8 weeks (removed April 2.07)
- April 20.07 presents with 10 day history of increased ankle pain, swelling and hindfoot deformity
  * can also happen with post IF.
Case # 7

- 74 y/o female hemodialysis patient
- Complains of pains in her feet starting 1 week after starting Warfarin.
Blue Toe Syndrome:

- Especially left 4th toe involvement
- 2° cholesterol crystal embolism (Ao. and iliac arteries)
- Warfarin > AS plaque hemorrhage > cholesterol crystal release

Rx: emergent angiogram +/- bypass/pain control

Px: poor...patient died 6 months later
Case # 8

- 29 y/o female
- Morbidly obese
- Otherwise healthy
- Spontaneous inset of slow but progressive swelling in her right leg over the past 2 years
- No family history of similar events
Lymphedema:

- **Incidence:** 2%

- **Etiology:**
  - a) Congenital: Milroy's Disease
  - b) Acquired: lymphatic malignancy, abdominal tumor, filariaris

**Rx:**

- a) underlying disease process
- b) elevation, compression, massage, pneumatic pumping,
  - 50-60mm Hg pressure garments
- c) skin integrality: bacterial, fungal treatment, lotions, debridement
Case # 9

- 54 y/o male avid skier
- IDDM x 25 y, ex-smoker x 5 y (+20p/y)
- A1c: 6.6
- One month history of painful right 1\textsuperscript{st} toe lesion
- Discomfort primarily nocturnal with elevation of foot on a pillow
Case # 9

Vascular Assessment:

Required: ↓ pp, dusky toes, delayed capillary refill, necrotic tissue, heel ulcers *

Investigations: ABI with toe pressures, duplex arterial studies, angiography

Outcome: long term salvage of threatened limb 73% even in high risk patients with aggressive ulcer debridement and revascularization when indicated (Taylor, Porter, J Vasc Surg, 1987)
<table>
<thead>
<tr>
<th>Clinical</th>
<th>Diabetic</th>
<th>Nondiabetic</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>More Common</td>
<td>Less Common</td>
</tr>
<tr>
<td></td>
<td>Younger Patient</td>
<td>Older Patient</td>
</tr>
<tr>
<td></td>
<td>More Rapid</td>
<td>Less Rapid</td>
</tr>
<tr>
<td>Male:Female</td>
<td>M=F</td>
<td>M&gt;&gt;F</td>
</tr>
<tr>
<td>Occlusion</td>
<td>Multisegmental</td>
<td>Single Segment</td>
</tr>
<tr>
<td>Vessels Adjacent to Occlusion</td>
<td>Involved</td>
<td>Not Involved</td>
</tr>
<tr>
<td>Collaterals</td>
<td>Involved</td>
<td>Usually Normal</td>
</tr>
<tr>
<td>Lower Extremities</td>
<td>Both</td>
<td>Unilateral</td>
</tr>
<tr>
<td>Vessels Involved</td>
<td>Tibials</td>
<td>Aortic</td>
</tr>
<tr>
<td></td>
<td>Peroneals</td>
<td>Iliac</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Femoral</td>
</tr>
</tbody>
</table>

Buttocks/back
Aortoiliac stenosis

Thigh
Iliofemoral stenosis

Calf
Femoropopliteal stenosis

Foot
Infrapopliteal stenosis
Case # 9 Outcome

- Yearly graft duplex assessments done
- Now 11 years post bypass and amputation still skiing but limbs now neuropathic
- Angioplasty done Sept. 07 because of duplex findings of graft occlusion (no ischemic symptoms or ulcers present)
Case # 10

- 55y/o female
- 5 week history of rapidly expanding painful ulceration over right hip
- Started after injury to this area
- PHx: ulcerative colitis (in remission)
- No medications
Case # 10

**Pyoderma gangrenosum:**
- **Etiology:** unknown
- **Onset:** 4-5\textsuperscript{th} decade, angry, purplish-red undermined border
- **50% underlying disease:** Crohns(5%), UC (1%), leukemia, chronic active hepatitis, RA
- **Dx:** exclusion, **Bx:** non-specific
- **Rx:** underlying disease
  - Small lesions: top./ intralesional c/s
  - Large lesions: prednisone, cyclosporine, MTX. Inflixinab
  - Avoid grafting
Case # 11

- 78 y/o male
- Yellowish bumps on his toes for years
- Similar findings on his fingers
Case # 11

Chronic Tophous Gout:

- Appear after a decade or more of acute gouty attacks: the small joints of hands, feet, helix of ears, olecranon, Achilles

Rx: a) prevention

b) Allopurinol: # of attacks, degree of hyperuricemia, presence of tophi.

Allopurinol in the Elderly: decrease dosage: GFR, anticoagulants

Serious Allopurinol hypersensitivity reaction: mortality: 25%
Case # 12

- 56 y/o female home telemarketer
- NIDDM x 6 y smoker 25 p/y
- Contacted by HCN re: non-healing right medial chin ulcer x 5 months, slowing increasing in size now inflamed, wishes Abx. order.
- Meds: metformin, gliclazide
- Phx: bilat. SSV stripping and distal ligations, severe varicosities have reoccurred
Case 1
Case 2
Case 3
Treatment-Based Assessment—Grade 0

Wagner Grade 0

Management Suggestions
- Debridement of calluses
- Properly fitted footwear
- Patient education

Adapted from Wagner, 1981; Boulton, 1998.

Case 4
Case 1a
Case 5
Case 7
Case 8
Fig. 6-7 Six types of graduated compression stockings widely available. (Courtesy Julius Zorn, Inc.)
Fig. 10-2  Surgical removal of the LSV through a groin and distal incision are illustrated in these diagrams. A shows an enlarged view of the groin incision placed high in the groin crease. Note that this exposes the common femoral vein and its tributaries. In B the stripper within the proximally and distally divided saphenous vein is pulled distally to, but not through, the distal incision. It is then retrieved proximally by means of a heavy ligature or 3-mm polyester umbilical tape.