EMERGENT HAND INFECTIONS

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INFECTIONS

- Considerable morbidity
- Expeditious treatment minimizes permanent dysfunction
Necrotizing Fasciitis

Aggressive life- and limb-threatening infection with rapid soft-tissue necrosis

Bullae and subcutaneous fat liquefaction within days of onset: “dishwater pus”

Systemic findings present: hemodynamic instability, leukocytosis, fever, shock

50% of cases due to Group A *Streptococcus*

Other species:
- α- and β-hemolytic *Streptococcus*
- *Staphylococcus* sp.
- Anaerobes (*Clostridium* sp.)
- *Vibrio vulnificus*

Prompt recognition is essential to spare life and limb

Aggressive debridement of skin and subcutaneous tissues

Antibiotics

Resuscitation

Muscle typically spared
PARONYCHIA

- Infection beneath the eponychial fold
- Disruption of seal between nail plate and nail fold
- Allows entry of bacteria into eponychial space
PANONYCHIA: TREATMENT
- Provide drainage
- Fold lifted to allow drainage
- Partial nail elevation and excision if subungal extension
- Gauze maintains drainage
- Appropriate Abx

FELON
- Subcutaneous abscess of distal pulp
- Closed, poorly compliant compartment with multiple septae
- Preceded by penetrating injury
- Rapid pain and swelling
- Abscess breaks down septae
  - Invades bone
  - Skin necrosis

FELON TREATMENT
- Incisions controversial
- Avoid injury to digital vessels
- Avoid disabling scar
- Do not violate flexor tendon sheath
- Provide adequate drainage
FLEXOR TENOSYNOVITIS

- Flexor sheath - closed space extending from A1 pulley to DIP
- Thumb sheath contiguous with radial bursa
- Small finger sheath contiguous with ulnar bursa
- 50-80% of people have communicating radial/ulnar bursa

FLEXOR TENOSYNOVITIS

- Bacterial infection
- Penetrating trauma
- Hematogenous spread for gonococcus
- S. aureus most common
- Rarely mycobacteria

KANAVEL’S CARDINAL SIGNS

- Flexed resting position
- Tenderness over flexor sheath
- Severe pain on passive extension
- Fusiform swelling (“sausage digit”)
FLEXOR TENOSYNOVITIS TREATMENT

- Emergent treatment
- Delay leads to vascular compromise of tendon, necrosis, adhesions, and poor gliding – Stiffness
- Early infections (first 24-48 hrs) may be treated with IV abx, elevation, splinting
- If no improvement noted in 24 hrs, surgical treatment is necessary

PYOGENIC FLEXOR TENOSYNOVITIS

- No need for post op irrigation – results same whether you do or not
- Lille et al J Hand Surg B 2000

SKL
RADIAL AND ULNAR BURSAL INFECTIONS

If they connect (in Parona’s space), then “horseshoe abscess”

DEEP SPACE INFECTIONS IN THE HAND

- Web space
- Midpalmar space
- Thenar space
- Hypothenar space

h/o puncture wound
MIDPALMAR SPACE INFECTIONS

- Can result from penetrating wound, rupture of septic tenosynovitis, or distal palmar abscess

ANATOMY: MIDPALMAR SPACE
TECHNIQUE: I & D OF MIDPALMAR SPACE INFECTIONS
THENAR SPACE INFECTIONS
ANATOMY: THENAR SPACE

TECHNIQUE: I & D OF THENAR SPACE INFECTIONS
50 yo, diabetic man
Metal foreign body in thumb 4 days ago

Now painful & swollen
HYPOTHENAR SPACE INFECTIONS

HYPOTHENAR SPACE: hypothenar muscles
Extremely rare infection
RX: palmar longitudinal incision, from wrist crease distally 3 cm in line with ulnar border of 4th ray. Spread through hypothenar fascia
HUMAN BITES

- Surgical I&D
- IV Abx
  - Ampicillin/sulbactam
  - PCN allergy: Clindamycin and quinolone
- Repeat I&D at 48 hrs if necessary
- Wound left open to heal
- Tendon repairs done in delayed fashion
- Must cover for Eikenella corrodens (7% - 29%)
- Bacteroides – most common anaerobes