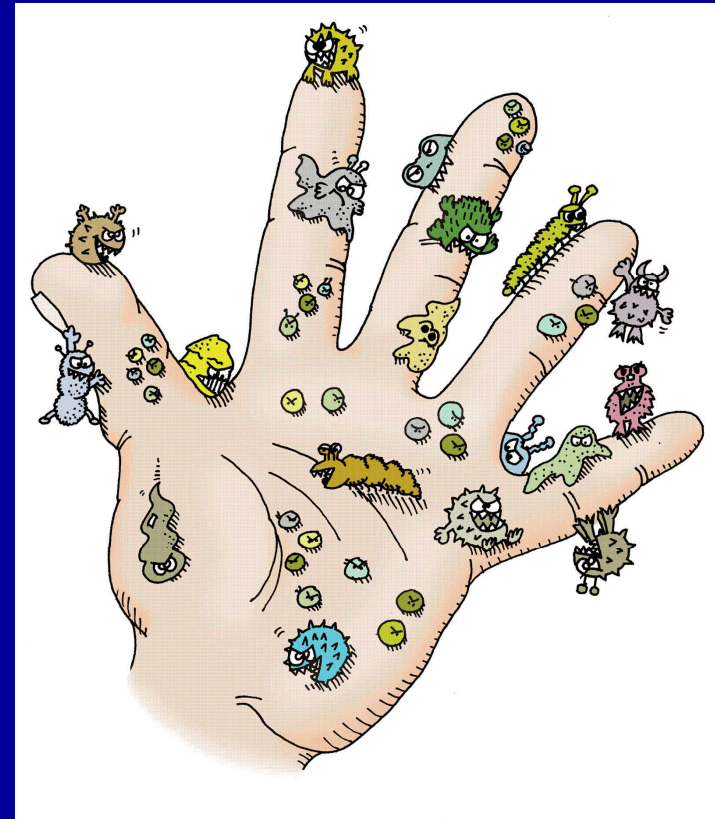


Hand Infections



Introduction

- Common
- Minor
 - Complete resolution
- Severe
 - Significant long-term compromise of hand function

Causes

- Bacterial
- Neglected minor wounds
- Inadequate / delayed treatment of primary injury
- IVDA, DM, Immunocompromised

Bacteriology

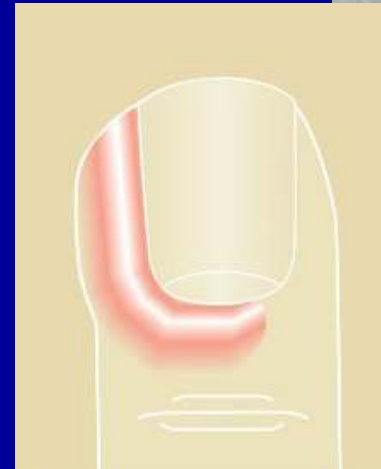
- Staph aureus
- Strep viridans, beta-haemolytic strep, mycobacterium tuberculosis
- IVDA / bites – anaerobes
- Human bites – Eikenella corrodens
- Cat / dog bites – Pasteurella multocida
- Marine / fish tanks – mycobacterium marinum

Principles of Management

- Early Diagnosis
- Non-operative
 - Splintage
 - Wrist ext 15-30, MCP flex 70-90, IP ext
 - Elevation
 - Antibiotics
- Surgery
 - Incision & drainage
 - Anatomy
 - nail, digital NV bundles, deep palmar spaces
- Intensive hand therapy

Paronychia

- Penetrating, nail biting
- Nail / nail fold
- Pain, swelling, erythema
- Staph aureus (oral flora)
- I & D
 - +/- nail removal
- Chronic
 - Immersion
 - Fungal (candida)
 - Antifungal +/- nail excision



Carbuncle

- Dorsum of hand
- Infected hair follicle
- I & D



Felon

- Pulp space infection / abscess
- Penetrating injury
- *S. aureus*, strep, anaerobes
- Compartments & septa
- Infection → ↑ pressure → pain & tenderness → fat & skin necrosis
- I & D (border, rupture septa)



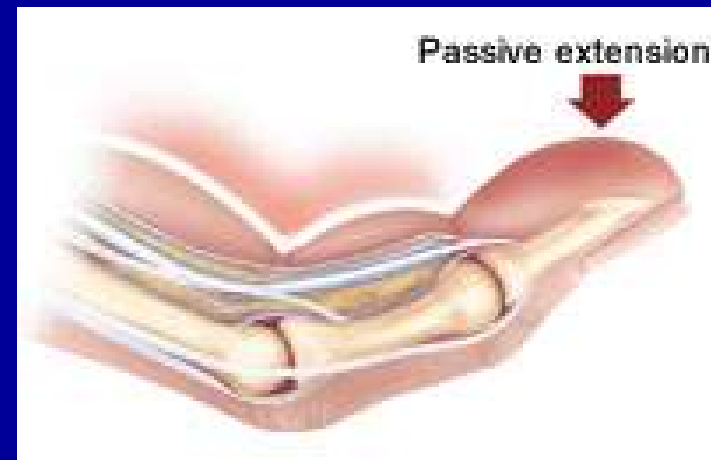
Flexor tendon sheath infection

- Pyogenic Flexor Tenosynovitis
- Serious
- Disability – stiffness
- Penetrating injury, “minor” volar laceration
- Staph aureus



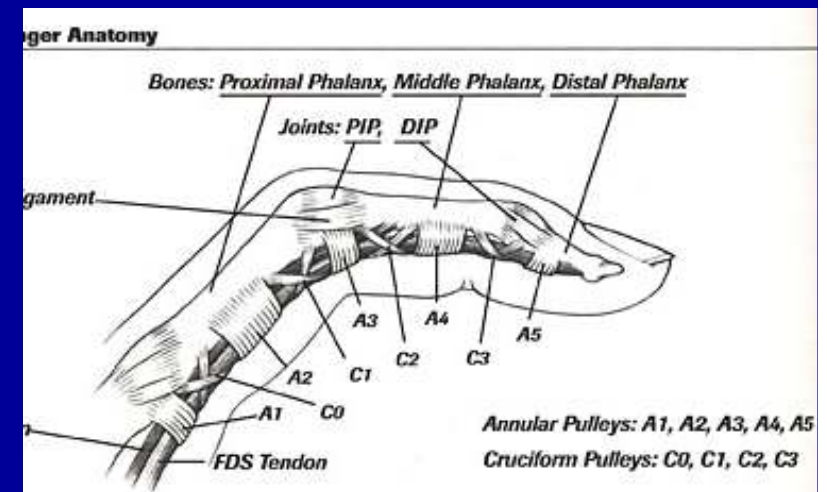
Kanavel Signs

- 1912
- Fusiform swelling entire digit
- Finger held semi-flexed
- Tenderness along tendon sheath
- Severe pain on passive extension



Flexor tendon sheath infection

- Scarring, adhesions & stiffness
- Pressure →
 - ↓ tendon blood supply → tendon necrosis
- Surgical decompression
 - DIPJ & A1 pulley
 - Irrigate through sheath
- ABx, Splintage, physio



Interdigital Infection

- Web space skin – can spread:
 - Web space
 - Via lumbrical canal → deep palmar area

- I & D web space



Palmar space infection

- Direct penetration
- Spread from more distal sites
- S aureus, strep

- Deep palmar space
- Swelling may be dorsal
- Unwell, pain (palmar pressure)
- Uncommon
- May point as abscess
 - Thorough exploration - look for deeper extension
 - Digital nerves, vessels

Septic arthritis

- Penetrating injury
- Swelling, effusion, erythema
- Reduced movement – painful
- Arthrotomy, washout, debridement

Osteomyelitis

- Pain, erythema, swelling
- Staph, strep
- Children – haemophilus influenzae
- Debridement
 - Remove sequestrum & devitalised bone

Bites

- Human “Bite” – MCPJ
 - Fist vs teeth
- Polymicrobial, anaerobic
- Gram -ve anaerobes
- Eikenella Corrodens
- Rapid swelling & erythema

- Joint irrigation
- Splintage
- ABx
 - penicillin, metronidazole



Animal bites

- Wound debridement
- Penicillin V
- Cats / dogs
 - *pasteurella multocida*
 - Gm –ve bacillus
 - penicillin sensitive



Strep Cellulitis

- Strep Pyogenes
 - Infection not localised
 - Unwell
 - Pain, marked swelling whole hand
 - Ascending lymphangitis
-
- Splintage, elevation, iv penicillin
 - 24-48 hrs – look for pus collection

Summary

- Well treated
 - rapid & complete resolution & restoration of function
- Poorly managed
 - Delayed / prolonged / incomplete recovery
 - Permanent incapacity





Discussion