Paronychia

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Paronychia

- Nail disease that is an often tender bacterial or fungal infection of the hand or foot, where the nail and skin meet at the side or the base of a finger or toenail. (*infection of the periungual tissues*)
- Paronychia develops along the nail margin (lateral and/or proximal nail fold).
- The infection can start suddenly (acute paronychia) or gradually (chronic paronychia).

**Epidemiology**
- Most common hand infection in the United States
- *Sex:* ♀ > ♂ (3:1)
Predisposing factors include:

- poor peripheral circulation,
- wet work,
- working with flour,
- diabetes,
- vaginal candidosis
- and over-vigorous cutting back of the cuticles
In acute paronychia, the causative organisms are usually *Staphylococcus aureus* or streptococci and, less commonly, *Pseudomonas* or *Proteus* species. Organisms enter through a break in the epidermis resulting from a hangnail, trauma to a nail fold, loss of the cuticle, or chronic irritation (e.g., resulting from water and detergents). Biting or sucking the fingers can also predispose people to developing the infection. In toes, infection often begins at an ingrown toenail. Recurrent acute paronychia may be related to herpes simplex virus infection.

**Symptoms and Signs:**

- Classic signs of inflammation: pain, hotness, swelling, redness, pus.
Chronic paronychia:

- combination of circumstances (Multifactorial) like chronic exposure to moist environments or skin irritants, poor peripheral circulation, working with flour, diabetes, vaginal candidosis and over-vigorous cutting back of the cuticles can allow a mixture of opportunistic pathogens (yeasts, Gram-positive cocci and Gram negative rods) to colonize the space between the nail fold and nail plate producing a chronic dermatitis.

- *Candida* is often present, but its role in etiology is unclear; fungal eradication does not always resolve the condition. The condition may be an irritant dermatitis with secondary fungal colonization.

Symptoms and Signs:

- red and tender with repeated bouts of inflammation and often becomes fibrotic.
- No pus accumulation so there is no fluctuation
- There is often loss of the cuticle and notable separation of the nail fold from the nail plate
Differential diagnosis

- In atypical cases, consider the outside chance of an amelanotic melanoma.
- Paronychia should not be confused with a dermatophyte infection in which the nail folds are not primarily affected

Investigations & Diagnosis

- Test the urine for sugar,
- check for vaginal and oral candidosis,
- Pus should be cultured

Dx: Clinical evaluation
Treatment

Generals rules:
- Manicuring of the cuticle should cease.
- The hands should be kept as warm and as dry as possible,
- the damaged nail folds should be packed several times a day with an imidazole cream.
- Highly potent topical corticosteroid creams applied for 3 weeks also help.

Acute Paronychia:
1. If caught early and without fluctuation: elevation and warm soaks 3–4 times daily.
2. Antibiotics (e.g., amoxicillin-clavulanate) if infection is extensive.
3. Drainage of pus if abscess is present.

Chronic Paronychia:
1. Avoid skin irritants, moisture, and mechanical manipulation of the nail
2. Topical steroids (e.g., methylprednisolone)
3. If there is no response, and swabs confirm that Candida is present, a 2-week course of itraconazole should be considered; topical (e.g., miconazole) and oral (e.g., fluconazole) if severe
Complications if left untreated

1. Felon
2. Septic tenosynovitis
3. Osteomyelitis
4. Sepsis
5. Nail dystrophy (Secondary ridging, thickening, and discoloration of the nail)
6. Nail loss
7. Chronic Paronychia can sometimes convert into acute paronychia
Figure 1. Typical clinical examination findings of digit with pyogenic flexor tenosynovitis from local inoculation. Note fusiform swelling and flexed posture with surrounding erythema.