

Paronychia (Infection Beside the Nail)

Overview

- In chronic paronychia, *C. albicans* involvement was found in the outer epidermis with mycelium, but without involvement of the dermis [1].
- *Candida albicans* was recovered in approximately 15% of paronychia cases [3].
- Untreated paronychial infection can cross the eponychium to the contralateral paronychial fold, course anteriorly into the pulp tissue, and decompress into the periosteum and distal tuft, causing osteomyelitis and necrosis [5].

Anatomy & Pathophysiology

MICROBIOLOGY & HISTOPATHOLOGY

- In chronic paronychia, *C. albicans* involvement is present in the outer epidermis with mycelium, but there is no involvement of the dermis [1].

SURGICAL ANATOMY & PATHOLOGY

- In recalcitrant cases of chronic paronychia, surgical treatment may include en bloc excision of the proximal nail fold or eponychial marsupialization, with or without nail plate removal [2].

Clinical Presentation

- *Candida albicans* was recovered in about 15% of paronychia cases [3].
- In a patient with habitual nail biting, an untreated paronychial infection crossed the eponychium to the contralateral paronychial fold, coursed anteriorly into the pulp tissue, and decompressed into the periosteum and distal tuft, causing osteomyelitis and necrosis [5].

Investigations

- In chronic paronychia, *C. albicans* involvement was found in the outer epidermis with mycelium, but no involvement of the dermis was observed [1].
- A careful physical examination is essential to direct care and future testing, as diagnostic tests such as imaging and serum laboratory studies can be expensive, time-consuming, and often nonspecific [27].

Treatment

OPERATIVE

- In recalcitrant cases of chronic paronychia, surgical treatment may include en bloc excision of the proximal nail fold [2].
- In recalcitrant cases of chronic paronychia, surgical treatment may include eponychial marsupialization [2].
- Surgical treatment for recalcitrant chronic paronychia may be performed with or without nail plate removal [2].
- The eponychial folding flap demonstrated statistically superior outcomes in terms of apparent nail-plate exposure compared to rectangle recession after fingertip amputation [15].
- The mean difference in apparent nail-plate exposure between the eponychial folding flap and rectangle recession was 0.61 mm (95% CI, 0.35–0.87 mm; $P < .001$) [15].
- The eponychial folding flap demonstrated statistically superior aesthetic satisfaction compared to rectangle recession after fingertip amputation [15].
- The eponychial folding flap demonstrated statistically superior postoperative pain outcomes compared to rectangle recession after fingertip amputation [15].
- The application of the eponychial flap allowed a nail lengthening ranging from 28.5 to 80% of the exposed nail body [9].

NON-OPERATIVE

- In chronic paronychia, *C. albicans* involvement is present in the outer epidermis with mycelium [1].
- In chronic paronychia, *C. albicans* involvement does not extend to the dermis [1].
- The nail should be retained whenever possible because it can be used as a splint and simultaneous waterproof dressing in many finger tip injuries [12].
- Retaining the nail eliminates most of the pain attributable to exposure of the nail bed in many cases [12].

Complications

- In recalcitrant cases of chronic paronychia, surgical treatment may include en bloc excision of the proximal nail fold or an eponychial marsupialization, with or without nail plate removal [2].

Recovery

- The eponychial folding flap demonstrated statistically superior outcomes in terms of apparent nail-plate exposure compared to rectangle recession, with a mean difference of 0.61 mm (95% CI, 0.35–0.87 mm; $P < .001$) [15].
- The eponychial folding flap demonstrated statistically superior outcomes in terms of aesthetic satisfaction compared to rectangle recession [15].
- The eponychial folding flap demonstrated statistically superior outcomes in terms of postoperative pain compared to rectangle recession [15].

Key Evidence

- [L4] Each lesion studied had *C. albicans* involvement with mycelium in the outer epidermis but no involvement of the dermis. [1] ([10.1001/archderm.1962.01590090066015](https://doi.org/10.1001/archderm.1962.01590090066015))
- [L4] In recalcitrant cases, surgical treatment may be resorted to, which includes en bloc excision of the proximal nail fold or an eponychial marsupialization, with or without nail plate removal. [2] ([10.4103/0019-5154.123482](https://doi.org/10.4103/0019-5154.123482))
- [L4] *Candida albicans* was recovered in about 15% of the cases. [3] ([10.1016/0266-7681\(93\)90063-1](https://doi.org/10.1016/0266-7681(93)90063-1))
- [L5] This patient with habitual nail biting developed a paronychia infection, which untreated, crossed the eponychium to the contralateral paronychia fold, coursed anteriorly into the pulp tissue, and finally decompressed into the periosteum and distal tuft, causing osteomyelitis and necrosis. [5] ([10.1016/s0363-5023\(05\)80062-0](https://doi.org/10.1016/s0363-5023(05)80062-0))
- [L4] The application of the eponychial flap allowed a nail lengthening ranging from 28.5 to 80% of the exposed nail body. [9] ([10.1016/s0363-5023\(03\)80451-3](https://doi.org/10.1016/s0363-5023(03)80451-3))
- [L5] The nail should be retained whenever possible because it can be used as a splint and simultaneous waterproof dressing in many finger tip injuries, and in many cases eliminates most of the pain attributable to exposure of the nail bed. [12] ([10.1016/s0266-7681\(84\)80030-3](https://doi.org/10.1016/s0266-7681(84)80030-3))
- [L4] The eponychial folding flap demonstrated statistically superior outcomes in terms of apparent nail-plate exposure (mean difference 0.61 mm; 95% CI, 0.35–0.87 mm; $P < .001$), aesthetic satisfaction, and postoperative pain, without compromising scar quality or functional recovery. [15] ([10.1016/j.jhsg.2026.101101](https://doi.org/10.1016/j.jhsg.2026.101101))

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