Our Dermatology Online

Case Letter

Acute paronychia

María Gabriela Herrera Gutiérrez[1], Patricia Chang[2]

[1]General Doctor at Ministerio de Salud Pública y Asistencia, Social, Guatemala City, Guatemala, [2]Dermatologist at Paseo Plaza Clinic Center, Guatemala City, Guatemala

Corresponding author: Patricia Chang, MD, E-mail: pchang2622@gmail.com

Sir,

This was the case of a 22-year-old healthy male patient with no significant personal or family medical history who consulted for pain and redness in the left ring finger after cutting a hangnail three days ago.

On physical examination, localized dermatosis was found at the proximal–lateral external fold of the left ring finger, consisting of erythema, edema, warmth, yellowish discoloration, and fissures (Fig. 1a). Dermatoscopy revealed edema, a yellowish plaque, and fissures at the same level (Fig. 1b). The rest of the physical examination was within normal limits. The diagnosis of acute paronychia was made, and drainage of the lesion was performed, resulting in the release of purulent material (Fig. 1c). After this, the area was instructed to be washed with water and soap, and fusidic acid was applied three times a day for eight days, resolving the condition.

Paronychia is the inflammation of the tissue around the nails of the fingers or toes, which may be acute (lasting less than six weeks) or chronic (lasting more than six weeks). It occurs when the protective barrier between the nail plate and surrounding fold is disrupted, often due to either infectious or non-infectious causes. Acute paronychia is typically caused by infections, while irritants are the primary cause of the chronic cases. Treatment generally involves a combination of protective measures, medical, and/or surgical interventions [1,2].

PREDISPOSING FACTORS

The most common cause of fingernail paronychia is nail trauma, often linked to habits such as nail biting, manicures, household chores, or foreign body retention from penetrating injuries. For toenail paronychia, it is typically associated with ingrown toenails or onychocryptosis. Chemicals and irritants, such as detergents, may also contribute to the development of paronychia, especially in individuals frequently exposed to these substances [1,3].

TYPICAL SIGNS AND SYMPTOMS OF PARONYCHIA

Paronychia symptoms appear quickly, within hours or days, affecting the nail sides, fold, and cuticle. It is characterized by pain, swelling, and sensitivity along with redness and warmth in the surrounding skin. If left untreated, it may progress to an abscess around the nail folds. In severe cases, untreated paronychia may cause nails to grow irregularly, develop ridges or waves, and become yellow, green, dry, and brittle [3,4].

ETIOLOGY

Several risk factors contribute to paronychia, such as nail-related behaviors, weakened immunity, and the possibility of it resembling other conditions such as squamous cell carcinoma or metastatic cancer [3].

Microorganisms, mainly *Staphylococcus aureus*, *Streptococcus*, and *Pseudomonas*, are the most common causes. Additionally, herpes simplex virus, dermatophytes, yeasts, and other gram-negative bacteria have also been linked to the condition [4].

DIAGNOSIS

Thorough history taking and physical examination showing a swollen, tender nailfold are essential for

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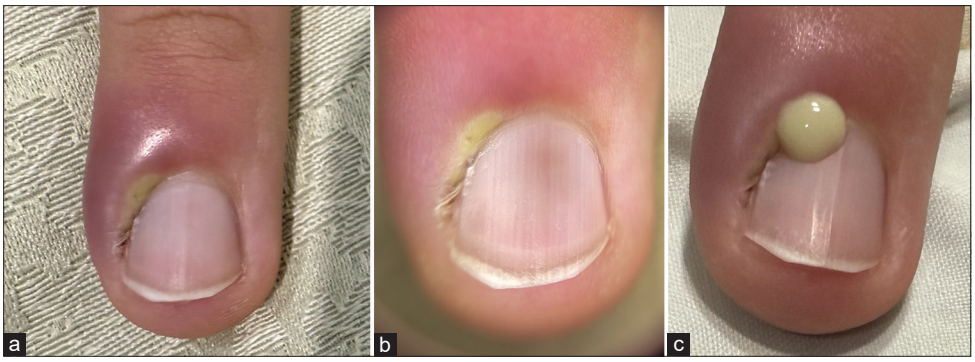

Figure 1: (a) Erythema, edema, warmth, yellowish discoloration, and fissures localized to the proximal–lateral external fold of the left ring finger. (b) Dermatoscopy showing edema, erythema, yellowish plaque, and fissures. (c) Drainage of the lesion resulting in the release of purulent material.

diagnosing paronychia. While the infection is usually easy to treat, an abscess may not always be visible. To detect an abscess, a digital pressure test may be performed by applying light pressure to the affected digit's distal area and checking for blanching, which could indicate an abscess. Radiographs and lab tests are generally not needed for diagnosing paronychia, yet Gram staining and cultures may be used to identify the bacterial cause in cases of fluctuating paronychia [3,4].

DIFFERENTIAL DIAGNOSIS

Acute paronychia typically affects only one digit, but if it spreads, further investigation into potential systemic issues is needed. The most common differential diagnoses include eczema, psoriasis, herpetic whitlow, dermatomyositis, annular granuloma, hematomas, pyogenic granuloma, and Reiter's syndrome [2].Top of FormBottom of Form

HISTOPATHOLOGY

In paronychia, some lymphocytes and a dense infiltration of plasma cells are observed in the upper dermis, with perivascular infiltration in the middle and lower dermis. The epidermis shows acanthosis beginning at the outer nail fold. In cases of acute flare-ups of chronic paronychia, the biopsy will reveal similar features, including epidermal edema and widespread dermal infiltration [3].

TREATMENT

Treatment for paronychia depends on factors such as the cause, progression, severity, and associated risk factors. Management options include conservative care, drainage, antibiotics, and the use of antibacterial solutions or ointments [3,5].

Most bacteria causing paronychia are effectively treated with clindamycin or amoxicillin-clavulanate combination antibiotics, with topical antibiotics also used, possibly alongside corticosteroids. Fusidic acid combined with betamethasone has been shown to be more effective than gentamicin ointment for treating acute paronychia [2,3].

Nd: YAG laser therapy, with its anti-inflammatory and potentially antibacterial effects, is a promising alternative for treating paronychia, showing effectiveness in reducing inflammation and improving vascular permeability [3].

CONCLUSION

Paronychia is a common and painful condition affecting the tissue around the nails, characterized by the inflammation of the lateral nail fold, often causing redness and swelling. It may be acute or chronic, with both infectious and non-infectious causes. If left untreated, it may lead to abscess formation in the nail folds, causing complications. The condition may be caused by a variety of agents, including bacterial, fungal, and viral infections.

Consent

The examination of the patient was conducted according to the principles of the Declaration of Helsinki.

The authors certify that they have obtained all appropriate patient consent forms, in which the patients gave their consent for images and other clinical information to be included in the journal. The patients understand that their names and initials will not be published and due effort will be made to conceal their identity, but that anonymity cannot be guaranteed.

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