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Case Report

Candidal Onychomycosis in 22 Years Old Saudi Female

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Abstract

We present a case of a 22-year-old, otherwise healthy, Saudi female who presented to our dermatology clinic with a nail lesion lasting nearly two months. Physical examination revealed single, unilateral total nail dystrophy with subungual hyperkeratosis of the ring finger, associated with a hyperpigmented plaque with fine white scales. Surprisingly, culture isolated Candida albicans, leading us to initiate treatment with itraconazole, dosed as 200 mg BID for one week, followed by a three-week break, in a pulse-dosing regimen. The nail showed dramatic improvement with this regimen during each monthly visit.

Keywords: Onychomycosis; Candida albicans; Nail infection

Background

Onychomycosis (OM) is a chronic nail disorder frequently encountered by healthcare providers [1]. This condition is persistent and not self-limiting; its main signs include nail thickening, brittleness, discoloration, and separation of the nail plate [1]. Yeasts account for only 2–10% of fungal nail infections [2]. Predisposing factors for OM include trauma, diabetes, immunosuppression, nail psoriasis, old age, exposure to humid environments, and occupations involving frequent travel and frequent handwashing [3].

Objective

To report a rare case of C. albicans nail infection in an immunocompetent 22-year-old Saudi female, a condition that is not commonly seen.

Case Presentation

We present a case of a 22-year-old, otherwise healthy, Saudi female who presented to our dermatology clinic with a nail lesion lasting nearly two months. She denied any history of recent nail trauma, manicure, hepatitis, or travel to areas where hepatitis is endemic. She has no pets, does not consume alcohol, and engages in no recreational drug use. No family members reported similar issues, and there was no history of tinea manuum, cruris, or psoriasis. Physical examination revealed single, unilateral total nail dystrophy with subungual hyperkeratosis of the ring finger, associated with a hyperpigmented plaque with fine white scales, with no involvement of other fingers or toenails. The skin, hair, and mucous membranes were clear with no signs of inflammation. Initial potassium hydroxide (KOH) examination showed fungal elements but no specific fungal culture results. Assuming a dermatophyte infection, the most common cause of OM, we prescribed terbinafine 250 mg PO daily for three months, with adjuvant topical therapy, but observed no improvement. Subsequently, specific fungal cultures were performed, which surprisingly isolated Candida albicans. Consequently, we initiated itraconazole treatment with a 200 mg BID dose for one week, followed by a three-week break, in a pulse-dosing regimen. The nail showed dramatic improvement with each monthly visit. The patient was monitored closely for potential adverse effects, including hepatotoxicity, and her liver function was regularly assessed. She responded well to the treatment, and her nail condition improved significantly.

Discussion

Although not life-threatening, OM poses a significant public health problem, accounting for more than 50% of all nail infections [4]. Unfortunately, reports on the incidence of OM in Saudi Arabia are sparse. OM can be caused by dermatophytes, non-dermatophytes, and yeasts [4]. Molecular biology has shown that multiple fungal organisms can cause OM [5]. While Candida yeasts are relatively harmless, they often present with an underlying systemic disease [6].

A review of the literature shows that various Candida species can cause onychomycosis [7]. Diagnosing onychomycosis depends on patient history, clinical examination, direct microscopic investigation, mycological culture, and histopathology. Initially, we suspected onychomycosis caused by dermato-

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phytes, given their commonality based on history and clinical examination. However, it is crucial to recognize that nearly half of nail infections are not mycotic, necessitating mycological testing for accurate diagnosis [8].

Typically, onychomycosis presents with asymptomatic, dry, hyperkeratotic tinea pedis [9]. In addition, Candida organisms usually require an immunocompromised host or risk factors such as repeated nail trauma, diabetes, immunosuppression, nail psoriasis, old age, exposure to humid environments, and occupations involving frequent travel and frequent handwashing3. In this case, we present Candida albicans onychomycosis without risk factors. Most reported cases involve one or two risk factors, while our patient was immunocompetent and reported no risk factors.

Tests typically used to confirm onychomycosis in a clinical setting include potassium hydroxide (KOH) preparations, our first step in investigating the patient's lesion. When the patient did not respond to the antifungal treatment, we utilized fungal cultures. Although fungal cultures are specific, they are not very sensitive and were not chosen initially to reduce costs. Additionally, fungal cultures grow slowly, adding time and expenses to the workup.

Restoring immune defenses, eliminating fungi, using appropriate drug therapy, and improving nail hygiene by addressing predisposing factors are critical in managing candidal onychomycosis.

Conclusion

Candida onychomycosis rarely occurs in immunocompetent adults. Proper history and physical examination are essential for making the correct diagnosis. Culture is the definitive method for identifying the causative microorganism. Nail hygiene and antifungal treatments are the mainstays of treatment.

Patient Consent: Written informed consent was obtained from the patient for publication and accompanying images. A copy of the written consent is available for review by the Editor-in-Chief of this journal upon request.

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