Occupational Retronychia: A Report of a Case in a UPS Employee

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Established Facts

- Retronychia presents as ingrowth of the proximal nail plate into the nail fold.
- The most common cause of retronychia is repeated micro-trauma of the affected nail.

Novel Insights

- A thorough history, including the occupation of the patient and timeline to disease manifestation, is key to properly diagnosing retronychia.
- Retronychia should be suspected in patients with treatment-resistant nail abnormalities and a history of trauma to the affected nail.

Keywords

Retronychia · Occupational retronychia · Occupational nail disorders · Nail disorder

Abstract

Retronychia is a frequently misdiagnosed nail disorder characterized by proximal ingrowth of the nail into the proximal nail plate. Often presenting with chronic paronychia, retronychia is commonly misdiagnosed and treated ineffectively with antimicrobials. The main cause is repeated micro-trauma to the affected nail, therefore a thorough history of exposures and insults to the toenail is crucial in identifying the cause of this nail abnormality. Herein, we describe a case of a UPS employee who presented with a painful nail after

dropping a package on her foot that was unresponsive to medical treatment for 2 years. This case highlights the importance of taking a thorough history and physical examination for diagnosing retronychia.

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Introduction

Retronychia is a painful nail disorder caused by the ingrowth of the proximal nail plate into the nail fold. Both anatomical and environmental factors are thought to contribute to retronychia, such as repeated micro-trauma (e.g., running), inadvertent trauma (e.g., tight-fitting shoes), abnormally curved nails, and ischemic damage

Fig. 1. Clinically, the proximal nail fold appeared edematous and violaceous while the distal nail appeared whitish with decreased nail curvature.

[1]. The great toe is most commonly affected, and most cases have been reported in young adults and women [2, 3]. We report a case of occupational retronychia related to a workplace injury in package handler.

Case Report

A 61-year-old female presented with 2-year history of a swollen and painful left toe nail that began after she dropped a heavy box on her foot at work where she ships and handles packages. Although this had occurred more than once, she admittedly failed to wear protective shoes. She was initially treated with antifungal therapy that was ineffective. Although mycological culture confirming diagnosis should precede antifungal treatment, the presence of nail fungal infection does not exclude other concomitant disorders (e.g., retronychia). On examination, the proximal nail fold appeared edematous and violaceous while the distal nail appeared whitish with a decreased nail curvature (Fig. 1). Dermoscopy showed a hematoma within the nail bed.

After consent, the multiple nail plates were avulsed under digital block anesthesia. The patient experienced a significant clinical improvement within days of the surgical intervention. She was advised to wear protective shoes to avoid further trauma to the left great toe.

Discussion

Retronychia is a chronic nail disorder characterized by ingrowth of the proximal nail plate into the proximal nail fold [4]. Most commonly precipitated by trauma, the nail plate loses fixation to the matrix and allows new nail growth under the old nail plate. This results in multiple generations of nail plates misaligned on top of one another that embed beneath the nail fold [2].

The most significant clinical findings include interrupted nail growth, nail fold exudate formation, and paronychia with possible with granulation tissue [1–3]. Other clinical signs include yellowish nail plate discoloration, longitudinal nail over-curvature, and subungual hematoma [1]. In our case the disease was precipitated by occupational trauma, but was misdiagnosed and inappropriately treated for 2 years. The delay in diagnoses and treatment led to significant swelling and pain which impaired the patient's ability to work effectively.

Occupational nail disorders are nail conditions caused or aggravated by the working environment, and can be mechanical, physical, infectious, and/or chemical in etiology [5]. Frequent causes include repetitive trauma from occlusive or tight-fitting footwear, such as construction boots. Toenail abnormalities can be particularly distressing, especially in people with jobs requiring them to be on their feet. This may not only exacerbate the condition, but also cause more pain. The clinical presentation of retronychia is often misinterpreted and therefore underdiagnosed, especially in the setting of chronic paronychia. However, it is important to correctly identify this nail disorder to avoid recurrence and prevent prolonged unnecessary treatment. There are several criteria that are crucial for diagnosing occupational nail disorders: clinical history and symptoms consistent with work-related exposures, a temporal relationship of the occupational insult and onset of nail symptoms, and exclusion of nonoccupational exposures [5]. In this case, the patient symptoms were temporarily related to trauma of the great toe nail at work.

Statement of Ethics

The authors have no ethical conflicts to disclose. The subject gave informed consent.

Disclosure Statement

The authors have no conflicts of interest to declare.

Author Contributions

All authors participated sufficiently to take public responsibility for the paper. Nicole Nagrani, Dr. David E. Castillo, Dr. Hind Al-Mohanna, and Dr. Antonella Tosti contributed to the review of the literature and the design, writing, and editing of every portion of the case report.

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