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Case Report

Tinea Incognito: A Challenging Entity

Nieto-Rodríguez D*, Gómez-Fernández C and Rueda-Carnero JM
Department of Dermatology, La Paz Hospital, Spain
***Corresponding author:** Nieto-Rodríguez D, Department of Dermatology, La Paz Hospital, Paseo de la Castellana 261, Madrid, Spain

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Abstract

A 45-year-old man presented with pruritic skin lesions of atypical morphology located on his left foot referring flares of improvement after the use of topical corticosteroids with subsequent worsening after its discontinuation. A final diagnosis of dermatophytosis was reached through a skin biopsy, healing utterly after receiving antifungal therapy. *Tinea incognito* corresponds to fungi infections without the classical clinical symptoms mostly due to the improper use of topical corticosteroids, a situation that often misleads the physician. Its diagnosis may be a challenge and it requires a proper medical history, fungi cultures and occasionally, a skin biopsy. It should be borne in mind in those skin pathologies with an aberrant morphology despite several cycles of topical treatments because of the simplicity of the treatment and the high probability of recovery

Keywords: *Tinea incognito*; Skin infections; Dyshidrotic eczema

Case Presentation

A 45-year-old man with no medical history of interest, non-smoker, presented with pruritic skin lesions located on both sides of his left foot. The lesions had begun 6 months before when he was diagnosed of dyshidrotic eczema beginning a treatment consisting in potent topical corticosteroids. After that, they disappeared almost completely, but they got worse when the treatment was stopped, so he resumed it several times after with the same result.

During the physical examination, multiple erythematosus millimetric papules could be appreciated on both sides of the left foot (Figure 1), some of which converged forming plaques with minimum scaling on the surface as well as minute pustules on their periphery (Figure 2). No other dermatologic findings could be seen elsewhere.

The Diagnosis

A differential diagnosis between relapsing dyshidrotic eczema, palmoplantar pustulosis, allergic contact dermatitis and fungal infection was outlined based on the appearance of the skin lesions, its location, and the partial response to the treatments applied.

A skin biopsy was carried out showing an epidermal hyperplasia, with some polymorphonuclear neutrophils in the stratum corneum (Figure 3A). The Periodic acid–Schiff stain revealed fungi hyphae (Figure 3B), reaching a final diagnosis of dermatophytosis.

Discussion

Dermatophytoses are a group of skin infections caused by fungi of three genera –*Trycophyton, Microsporum* and *Epidermophyton.* The most common pathogens are *T. rubrum* and *T. mentagrophytes* [1]. The usual presentation corresponds to intensely pruritic erythematosus, annular plaques with a scaly border, in which some superficial pustules can be seen. When the lesion lacks these classical clinical symptoms it is known as *tinea incognito* [2].

This term was used for the first time in 1968 [3] to describe several cases in which, after the improper use of topical corticosteroids [4], the typical skin lesions caused by dermatophyte infections were modified. The classical border would be blurred and the erythema as well as other signs of inflammation would disappear, misleading both the patient and the physician into thinking that the problem is solved. However, the local immunosuppression caused by this treatment help the fungi to proliferate, worsening the situation after the discontinuation of it, because it is likely that all the symptoms reappear beyond the borders of the original plaque. Corticosteroids have been made responsible for the majority of the cases of *tinea incognito*, but there have been several reports in which calcineurin inhibitors were involved [5].

Figure 1: Multiple erythematosus millimetric papules can be appreciated on the external part of the left foot, some of them converging forming plaques.

Figure 2: At higher magnification, the plaques show minimum scaling on the surface and minute pustules on their periphery.

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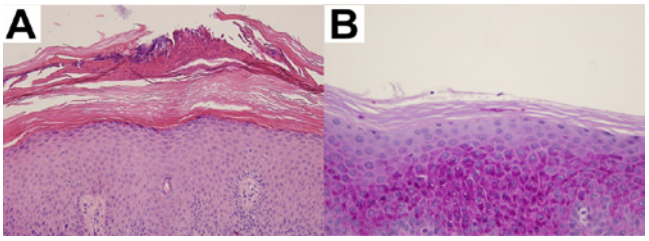

Figure 3: A. Epidermal hyperplasia, with some polymorphonuclear neutrophils in the stratum corneum. B. Periodic acid–Schiff stain revealing fungi hyphae.

When suspected, the diagnosis is made by a direct KOH examination of the scales, in which hyphae can be seen, combined with a culture of the hyphal material in Sabouraud Dextrose Agar (SDA). [6]. Occasionally, as in our case, the diagnosis is reached thanks to a skin biopsy with a Periodic-acid-Schiff stain.

The differential diagnosis includes dyshidrotic eczema, palmoplantar pustulosis and allergic contact dermatitis.

Dyshidrotic eczema is a chronic type of eczema consisting in firm, pruritic vesicles on palms and soles, along with affectation of lateral and medial parts of the digits. The flares may be related to stress, allergic or irritant contact dermatitis and hyperhidrosis and tend to resolve with topical corticosteroids

Palmoplantar pustulosis is a condition of unknown aetiology, considered as a localized variant of pustular psoriasis, in which multiple sterile pustules can be seen on palms and soles. Previous streptococcal infections have been established as a triggering factor, smoking can aggravate it, and the patients may have no evidence of psoriasis elsewhere.

Allergic contact dermatitis is related to a delayed-type hypersensitivity reaction to a substance. When it affects the feet, it usually spares toe webs, flexural creases of the toes and instep. Chromium must be thought as the main allergen and patch testing should be carried out to prove it, avoiding the substance definitively.

Although topical medications could be used, these dermatophytoses usually need systemic treatments during a two-week period, whose duration may be modified according to clinical and microbiological response. Because of its accumulation in the skin, Terbinafine, itraconazole, and fluconazole have been shown to be superior to griseofulvin [7].

Our patient received terbinafine 250mg per day during a month with complete resolution of the symptoms and persistent negative cultures.

The Takeaway

Tinea incognito is an entity whose diagnosis may become a challenge for the physician. It should be considered in those skin pathologies with an aberrant morphology with periods of improvement under corticosteroid treatment and worsening after its discontinuation. A microbiological test has to be made and, if diagnostic suspicion is high despite a negative result, a skin biopsy should be carried out to assess the diagnosis because of the simplicity of the treatment and the high chances of healing.

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