It Is Not as It Seems

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Question

A 65-year-old man with a 15-year history of palmo-plantar psoriasis and psoriatic onychodystrophy was admitted to our hospital for the onset of widespread itchy lesions affecting his feet. Toenails and periungual tissues also showed inflammatory changes. Topical corticosteroids and keratolytic therapy in gel formulation to be applied once daily had been prescribed for his psoriasis 4 months before. The remaining physical examination was negative. The patient was under anticoagulant treatment for 4 years for a myocardial ischemic attack. At clinical examination, he presented with multiple areas of scaly erythema with slightly elevated borders involving the

plants. Itching and burning were referred. One-month treatment with topical methylprednisolone applied twice daily and oral antihistamine was prescribed. At the follow-up visit after 1 month, the itching had disappeared, but skin lesions had advanced, extending to the back of both feet as well as demarcated, erythematous plaques surrounded by a microvesicular and desquamative border. Small pustules surrounding the erythematous areas were also evident. Toenails were all involved with white-yellow coloration (xanthonychia) and thickening of the nail plate (Fig. 1, 2). No lesions were present elsewhere on the skin.

What is your diagnosis?

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Fig. 1. Multiple erythematous areas with peripheral scaling involving the sole, a large part of the dorsum of the feet, and toenails surrounded by pustular lesions.

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Fig. 2. Multiple erythematous areas with peripheral scaling involving the sole, a large part of the dorsum of the feet, and toenails surrounded by pustular lesions.

Direct microscopy examination with potassium hydroxide (KOH) of skin samples from the sole and back of feet and toenails identified hyaline hyphae, and fungal growth was noted on Sabouraud dextrose agar cultures within 3 weeks. *Trichophyton mentagrophytes* was identified by macroscopic and microscopic examination. Such findings suggested a diagnosis of tinea incognita. Topical methylprednisolone treatment was discontinued. As systemic treatment with oral antifungal agents was not prescribed because of the anticoagulant therapy, topical treatment with 1% ciclopiroxolamine cream and nail lacquer applied twice daily on the erythematous areas and on toenails, respectively, was prescribed. Almost complete resolution of itching and lesions of soles and backs of feet was obtained after 8 weeks of treatment with negative microscopy examination. The patient is still under treatment with antifungal nail lacquer for onychomycosis.

Tinea incognita is a dermatophytic infection, representing approximately 40% of tinea, so defined for its atypical presentation because of the absence of classic characteristics of cutaneous tinea, usually caused by prolonged use of immunosuppressive treatments with steroids and other immunosuppressive agents, such as topical tacrolimus or pimecrolimus [1, 2]. Typical features of tinea incognita differ from the common dermatophytosis for the presence of less raised and scaly margins; they tend to be pustular, pruritic, extensive, and erythematous, mimicking other dermatological conditions such as eczema, impetigo, lupus erythematosus, rosacea, and psoriasis [3]. Direct microscopic examination from skin scraping and cultural exams identifying fungal structures are important to confirm the diagnosis of tinea incognita.

In our patient's case, topical corticosteroid therapy was prescribed for a personal history of plantar psoriasis, highlighting the importance of better evaluating skin manifestations following inefficacious treatment that present an unusual appearance. As in our patient, the mistreatment of tinea infection with topical steroids led to pustular lesions development, probably for the production of proinflammatory cytokines such as interleukin 8 by human keratinocytes, which induces neutrophil chemotaxis, thus resulting in neutrophil activation and pustule development [4, 5]. This case underscores the importance of considering tinea incognita in the differential diagnosis of an atypical skin rash that changes or worsens during a course of topical immunosuppressive treatment. Only a direct microscopic and cultural examination or a punch biopsy would confirm the diagnosis [6].

Statement of Ethics

This article is based on previously conducted studies and does not involve any new studies of human or animal subjects performed by any of the authors. Patients have given their consent.

Disclosure Statement

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Keywords

Psoriasis · Nail · Tinea · Tinea incognita · Ciclopiroxolamine

References

- 1 Segal D, Wells MM, Rahalkar A, Joseph M, Mrkobrada M: A case of tinea incognita. *Dermatol Online J* 2013;19:18175.
- 2 Starace M, Alessandrini A, Piraccini BM: Tinea Incognita following the use of an antipsoriatic gel. *Skin Appendage Disord* 2015;1: 123–125.
- 3 Romano C, Maritati E, Gianni C: Tinea incognita in Italy: a 15-year survey. *Mycoses* 2006; 49:383–387.
- 4 Tani K, Adachi M, Nakamura Y, Kano R, Makimura K, Hasegawa A, Kanda N, Watanabe S: The effect of dermatophytes on cytokine production by human keratinocytes. *Arch Dermatol Res* 2007;299:381–387.
- 5 Davies RR, Zaini F: Drugs affecting *Trichophyton rubrum*-induced neutrophil chemotaxis in vitro. *Clin Exp Dermatol* 1988;13: 228–231.
- 6 Paloni G, Valerio E, Berti I, Cutrone M: Tinea Incognita. *J Pediatr* 2015;167:1450-e2.