Tinea Incognito, the Great Imitator: Case Reports

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Tinea incognito is a dermatophyte infection that differs from the typical presentation of cutaneous fungal infections due to the use of steroids or topical calcineurin inhibitors. These medications alter the cutaneous immunologic response to tinea, making the appearance difficult to distinguish from other dermatoses. Here we present two cases of tinea incognito. The first case involves a 36-year-old male with a history of psoriasis and psoriatic arthritis who was on adalimumab. He presented with a rash that did not respond to topical steroid treatment. A biopsy was performed, and it was determined to be tinea. The second case involves a 38-year-old female with a history of psoriasis who presented with a rash that did not respond to treatment with topical steroids, topical tacrolimus, or phototherapy but improved following antifungal therapy. We emphasize the urgency of recognizing tinea incognito, as intractable or worsening dermatitis may be a sign of this condition.

INTRODUCTION

Tinea incognito was first reported in 1968 to describe uncommon clinical characteristics of ringworm infection after topical corticosteroid application. Since then, the topical immunomodulators tacrolimus and pimecrolimus have also been implicated. Tinea incognito does not exhibit the same characteristics of other tinea infections, such as raised margins and prominent scaling. A typical clinical course involves initial improvement of the dermatitis with topical steroids followed by worsening. Compared to other cutaneous fungal infections, tinea incognito may be more extensive than expected, covering a greater body surface area in a centrifugal distribution.

Identifying tinea incognito can be challenging due to its variable presentation and overlap with numerous other skin diseases. The clinical picture commonly mimics eczema, systemic lupus erythematosus, and rosacea. Less often, there may be features of psoriasis, purpura, seborrheic dermatitis, lichen planus, cellulitis, and others. There has also been uncertainty among clinicians in differentiating between erythema migrans and tinea incognito. This condition presents not only to dermatologists, but to a wide range of health care providers who prescribe steroids. Therefore, it is important for clinicians to keep tinea incognito in mind, especially when topical or oral steroids are being used.

We present two cases of tinea incognito, both occurring in patients with active psoriasis. Although there have been previous reports of tinea incognito, our cases include images of this pathology on darker skin to raise awareness of how the clinical presentation may differ from images commonly featured in the literature on this topic.

CASES

Case 1. A 36-year-old male with a history of psoriasis and psoriatic arthritis, currently taking adalimumab, presented with non-pruritic brown spots in the bilateral axillae for 6 months. Physical examination revealed two brown hyperpigmented patches in the right axilla and a similar hyperpigmented patch in the left axilla (Figure 1). Triamcinolone 0.1% ointment was applied daily for 3 months, but the patient showed no improvement. Two biopsies of the right axilla were performed. Periodic acid-Schiff (PAS) stain revealed fungal hyphae in the stratum corneum, indicating dermatophytosis. Nonspecific findings in both biopsy specimens...
included parakeratosis, mild spongiosis, mild acanthosis, and exocytosis of lymphocytes to the epidermis. The dermis contained superficial perivascular lymphohistiocytic infiltrate. The patient was prescribed both oral and topical terbinafine, which resulted in resolution of the axillary dermatitis.

Case 2. A 38-year-old female with a history of psoriasis presented with an itchy rash on the bilateral medial thighs that had been present for several months. A gynecologist performed an initial skin biopsy of the rash and, although the pathology report was not available, the patient reported that the results were nonspecific. The patient experienced improvement after using clobetasol ointment for 1 week before visiting our dermatology clinic. Physical examination revealed oval hyperpigmented plaques studded with papules on the bilateral medial thighs, with no other rash on the body or onychomycosis. Photos of the affected area taken earlier on the patient’s phone appeared consistent with psoriatic plaques, and the patient was diagnosed with post-inflammatory hyperpigmentation secondary to psoriasis. Hydrocortisone 2% cream and tacrolimus 0.1% ointment were recommended with close follow-up.

The patient returned to the clinic 8 months later and presented with an itchy rash on the bilateral medial thighs and a new lesion on the lower abdomen. Physical examination revealed hyperpigmented, mildly lichenified xerotic plaques in the affected areas, which was negative for fluorescence with Wood’s lamp. Triamcinolone 0.1% ointment was prescribed, but when the patient returned 2 months later, there was no improvement, and an additional scaly rash had developed on the intergluteal cleft. Topical steroid strength was increased to clobetasol 0.05% ointment, and UVB phototherapy was initiated twice weekly.

After 2 months, the patient returned to the clinic with no subjective change. On physical examination, the rash appeared annular and more consistent with tinea compared with prior visits (Figure 2). Considering the failed psoriasis therapy, tinea incognito was strongly suspected. Potassium hydroxide (KOH) examination was performed, but the results were inconclusive. Given the persistent clinical suspicion, the patient was
prescribed oral terbinafine 250 mg daily for 2 weeks, along with terbinafine 1% cream daily for 4 weeks. Four weeks later, the pruritus resolved and the rash improved. Large annular hyperpigmented patches consistent with post-inflammatory hyperpigmentation were observed in the affected areas (Figure 3).

DISCUSSION

Tinea incognito is a dermatophyte infection that lacks the typical characteristics of tinea infection due to the use of steroids or topical calcineurin inhibitors. These therapies alter the cutaneous response to fungal infection, which is primarily contained within the keratinized epithelial skin layer. Several reports describe the phenomenon of skin lesions worsening after the use of topical or oral steroids.

This clinical presentation is common in the middle-aged population, with decreased incidence in those younger than 10 years of age and older than 80 years of age. There is a similar occurrence rate between sexes. A report on patients with tinea incognito revealed that nearly 6% had previously been diagnosed with skin conditions including atopic dermatitis, psoriasis, systemic lupus erythematosus, seborrheic dermatitis, rosacea, and bullous pemphigoid.

Tinea incognito can mimic various skin conditions ranging from eczema and systemic lupus erythematosus to folliculitis and T-cell lymphoma. It is not uncommon for patients to use over-the-counter topical steroids on a rash; in one study of 283 patients diagnosed with tinea incognito, 15.5% had treated themselves before seeking dermatology care. The ease of public access to topical steroids may be a contributing factor to the development of tinea incognito.

Studies have identified several factors that may raise suspicion of tinea incognito. These include history of steroid or topical calcineurin inhibitor use, a rash lacking typical characteristics of tinea, a positive mycological test, and improvement in the rash with antifungal therapy. One study analyzed common areas of body involvement in confirmed cases of tinea incognito. The most frequently affected location was the trunk (30.4%) followed by face (24.4%), foot (13.8%), multiples sites (13.8%), groin (9.9%), and hand (7.8%). In cases with involvement of multiple sites, the clinical features were most similar to eczema (69.2%) and psoriasis (15.4%). Clinicians should be aware that approximately one-third of patients in this study had another fungal infection elsewhere on the body that was the likely source for the tinea incognito. Therefore, performing a thorough physical examination is imperative.

Mycological examination can be a useful tool in diagnosing tinea incognito. Other important tests include KOH examination, skin biopsy with special staining, fungal cultures, and polymerase chain reaction (PCR). In one study, the most isolated pathogen was Trichophyton rubrum, which accounted for approximately 73% of tinea incognito cases. Another report highlighted that Trichophyton rubrum and Trichophyton mentagrophytes were the two most common pathogens identified for tinea incognito involving the face. Despite the variation in pathogens, the mainstay of treatment is the same.

For treatment options, oral terbinafine, itraconazole, or fluconazole are preferred due to their propensity to accumulate in the skin, unlike griseofulvin. Topical antifungals alone are not recommended but can be added to an oral regimen for additional therapy. A case series of five patients revealed that topical antifungal therapy was ineffective, whereas a few weeks of combined oral terbinafine and itraconazole therapy improved the rash in all five cases.

CONCLUSION

Tinea incognito is difficult to distinguish from other skin conditions. Careful consideration of the patient’s history may help diagnosis, as tinea incognito typically presents as a rash that initially improves with steroids or immunosuppressive topical but later worsens. Mycological testing is valuable for confirming suspected cases, and performing multiple types of tests, if possible, can be beneficial. Tinea incognito improves with oral antifungal therapy, and it is important to treat any additional areas of tinea infection, including onychomycosis, to reduce risk of recurrence.

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