



Image 1a. A solitary oval 20 cm x 18 cm scaling erythematous patch with central clearing and peripheral accentuation is present on the left calf.

CLINICAL IMAGES

Tinea Corporis: Make the Diagnosis Before You Treat

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Case Presentation

A 10-year-old presented with a six-week history of a slowly enlarging, pruritic annular patch initially thought to represent granuloma annulare. The condition failed to respond to a combination of triamcinolone acetonide 0.1% cream and clotrimazole 1% cream twice daily. There was no history of tinea pedis. She did participate in competitive youth sports. Physical examination revealed a solitary oval 20 cm x 18 cm erythematous scaling patch with central clearing on the left anteromedial calf (Image [1a](#), [1b](#)).

Tinea corporis was suspected. A potassium hydroxide preparation from the advancing, scaled border of the patch demonstrated septate hyphae confirming the diagnosis of tinea corporis (Image [2](#)). The previous topical treatments were discontinued, and ketoconazole 2% cream was applied twice



Image 1b. A closer view of the peripheral scaling of the patch.

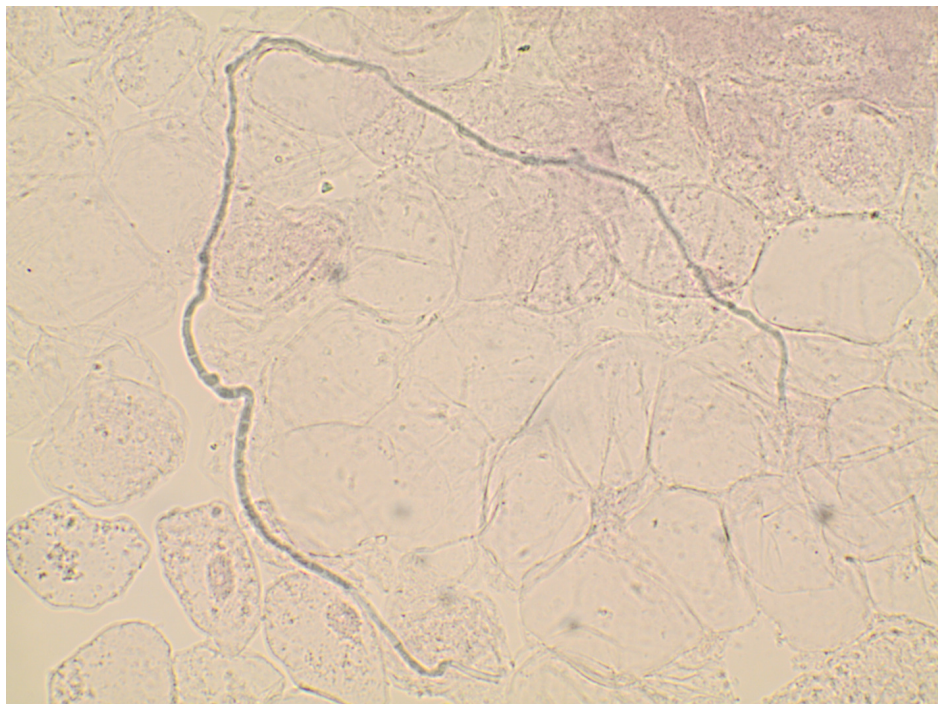


Image 2. A long septate hyphae is noted among keratinocytes cleared of their keratin with KOH 10% solution. (Chicago blue KOH 10%, 100x).

daily for one month. Excellent clearing was noted. The ketoconazole 2% cream was continued once weekly for 6 weeks to ensure the condition did not recur.

Table 1. The Differential Diagnosis of Tinea Corporis with Distinguishing Features

Condition	Distinguishing Historical Features	Distinguishing Physical Features
Herald Patch of Pityriasis Rosea	- Initial Herald Patch is generally not pruritic - Generalized rash appears in 13 weeks	- Mild erythema and scaling without large flakes and no vesicles or pustules - Peripheral accentuation of scale is not seen
Granuloma Annulare	- Plaque or plaques often present for months - Not pruritic	- No scaling is present in clearing center or elevated margin - No vesicles or pustules - May involve dorsum hands and feet
Annular Psoriasis	- May be associated with psoriatic arthritis - May have family history 50% pruritic	- White or gray, micaceous scaling - Classic distribution scalp, extensor knees, elbows, and sacrum - Pitting nails
Nummular eczema	Pruritic	- Diffuse scaling without peripheral accentuation or central clearing - Excoriations
Atopic Dermatitis	- Pruritus severe - Family or personal history of atopy	- Involvement of cheeks as infant; extensor extremities as small child; classic flexural involvement - No peripheral scaling or central clearing
Erythema Multiforme	- No pruritus - Acute eruption	- Target lesions often on palms and soles - No scaling - Concurrent oral ulcerations are common

Discussion

Tinea corporis, a common fungal infection with a lifetime risk of 10-20%, is primarily caused by *Trichophyton rubrum*, *Trichophyton tonsurans*, and *Microsporum canis*, often affecting children and young adults.^{1,2} It classically presents as an erythematous, annular, pruritic patch with central clearing and well-defined active border with leading scale.³ Pustules or vesicles may be present in some cases. The lesions vary in size and number, with larger lesions potentially coalescing into polycyclic patches.² Risk factors include personal history of dermatophytosis, contact with affected family members, pets, crowded living quarters, recreational exposure, immunosuppression, and diabetes mellitus.² It is important to always consider the differential diagnosis of annular rashes with special attention to distinguishing features ([Table 1](#)).

In this case, the diagnosis was straightforward: a slowly expanding erythematous scaled patch with central clearing. “Shotgun treatment” with combination topical steroids and topical antifungals is often ineffective. Lowering local immunity with topical steroids can lead to treatment failure and fungal resistance even when using concomitant topical anti-fungals.⁴ Furthermore, topical steroid use can produce “tinea incognito” where decreased scaling and erythema obscure the classic clinical features leading to misdiagnosis or delayed diagnosis.

When tinea is suspected, superficial skin “scraping” with a rounded #15 or #10 blade or curette will produce scale for immediate examination with KOH 10% solution or inked KOH solution (Chicago Blue or chlorazole black E).⁵ The more scale obtained, the higher is the likelihood of identifying

hyphal elements when present. The presence of septate hyphae confirms the diagnosis ([Image 2](#)).¹ When materials for a KOH are unavailable, scale can be submitted in a clean container for polymerase chain reaction (PCR) which can be resulted in several days or a fungal culture which takes 3-4 weeks. False negatives may occur. If a strong concern for tinea exists, a PCR or fungal culture should still be obtained. In contrast to topical steroids, empiric therapy with antifungals may be used while awaiting confirmation, as it would be unlikely aggravate other dermatoses.

Topical antifungals, such as fungistatic azoles and fungicidal allylamines, are utilized initially in the treatment of tinea corporis with oral medications reserved for widespread or treatment-resistant cases.² Prevention of recurrence is accomplished by 1) treatment of concomitant tinea pedis when present and 2) avoidance of exposure to environments that could lead to re-infection, such as fomites that spread infection from other athletes.

Primary care physicians should be aware of important diagnostic features and effective management approaches to correctly diagnosis tinea prior to treatment.⁶

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