Recalcitrant Tinea Corporis as the Presenting Manifestation of Patch-Stage Mycosis Fungoides

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Mycosis fungoides is a cutaneous T-cell lymphoma. Its presence, which denotes an altered immune system, may make treatment of otherwise simple cutaneous infections difficult. In the case presented here, a patient with widespread tinea corporis poorly responsive to several oral antifungals was noted as having a background poikilodermatous slightly scaly eruption. Results of a skin biopsy during therapy with oral antifungal medications showed evidence of tinea corporis; atrophy of the epidermis; a superficial, perivascular, and interstitial lymphocytic infiltrate with numerous atypical lymphocytes; and exocytosis of atypical lymphocytes into the epidermis with formation of microabscesses—findings consistent with the diagnosis of mycosis fungoides. Treatment with PUVA (oral psoralen and UVA light) and oral itraconazole led to long-term remission of the mycosis fungoides and the associated tinea corporis. Immune suppression may have contributed to the recalcitrant nature of our patient's dermatophyte infection. Underlying cutaneous, systemic, or iatrogenic disorders associated with immune dysfunction should be considered in patients with recalcitrant dermatophyte infections.

Tinea corporis is a common skin disease. *Trichophyton verrucosum* is an unusual cause of widespread tinea corporis but is usually responsive to oral antifungal medications.[1-3] We describe a patient whose tinea corporis on several occasions had cleared rapidly after treatment with an oral antifungal agent only to reappear after the agent was discontinued (different agents had been tried). Only after the coexisting mycosis fungoides was recognized and treated did the patient's tinea corporis remit.

Case Report

A 61-year-old woman with insulin-dependent diabetes mellitus and coronary artery disease was referred in December 1992 for evaluation and treatment of a rash that had been present for 2 years. The patient had been treated intermittently with griseofulvin and ketoconazole, both of which cleared the eruption. However, relapse had occurred within weeks of cessation of therapy. When the patient presented to us, she was taking ketoconazole 200 mg/d, astemizole, and glyburide.

Erythematous annular slightly scaly plaques were widespread on the patient's trunk and upper and lower extremities (Figure 1). Potassium hydroxide preparation was positive for hyphal elements.

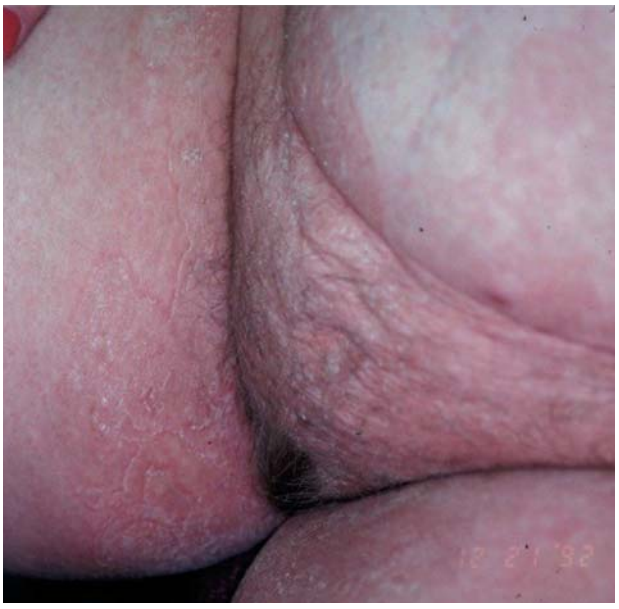

Figure 1. Widespread erythematous annular slightly scaly plaques, December 1992.

Accepted for publication July 19, 2002.

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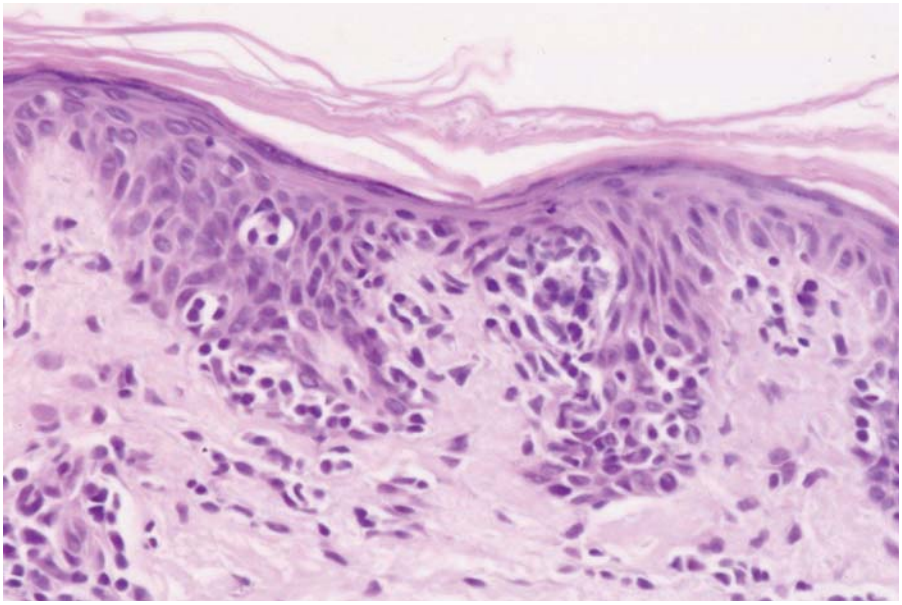

Figure 2. A few large and atypical lymphocytes (H&E, original magnification ×100).

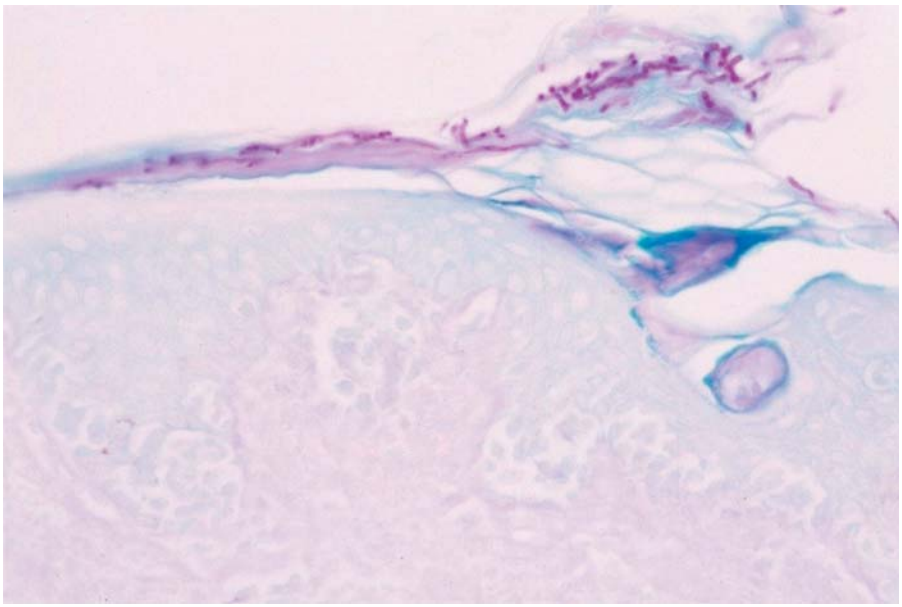

Figure 3. Numerous fungal hyphae within the stratum corneum (periodic acid-Schiff, original magnification ×100).

A generalized faint erythroderma, a scaly plantar dermatosis, and onychodystrophy also were noted. Results of fungal cultures from the groin and back showed *T verrucosum* sensitive to griseofulvin, ketoconazole, and itraconazole. Results of a complete blood cell count and differential revealed a leukocytosis of 15.5/mm^3 with 59% lymphocytes and 37% neutrophils. Serum protein electrophoresis and the CD4:CD8 ratio were both normal. The patient was negative for human immunodeficiency virus. Results of a skin biopsy showed exocytosis of lymphocytes forming microabscesses. The few lymphocytes were large and atypical (Figure 2). With periodic acid-Schiff staining, numerous fungal hyphae were evident within the stratum corneum (Figure 3). Biopsy results were interpreted as consistent with tinea corporis with atypical lymphocytes, and the dermatopathologist suggested performing another biopsy, after therapy, to exclude a T-cell lymphoma.

Astemizole was discontinued, and a 3-month treatment with oral itraconazole 100 mg twice daily cleared the body and groin lesions and improved the proximal nails. Within 4 weeks of cessation of this therapy, however, large plaques of tinea corporis reappeared (Figure 4). The patient was re-treated

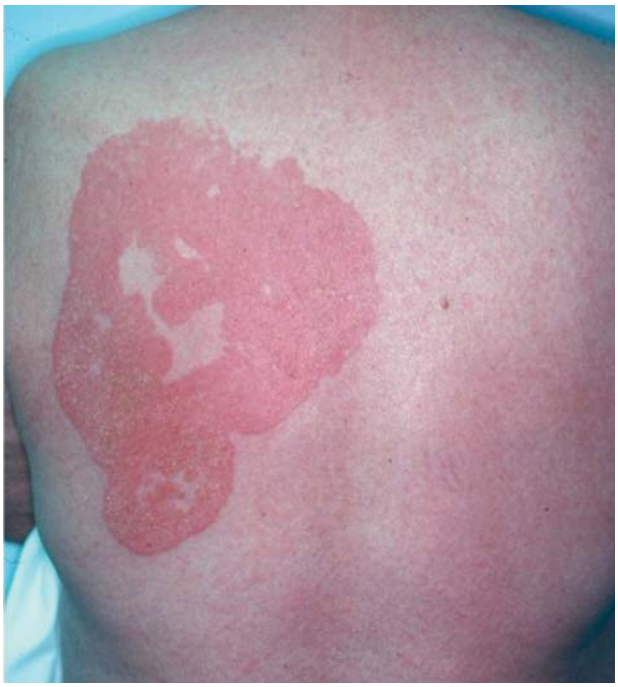

Figure 4. Annular erythema with an underlying poikiloderma, April 1993.

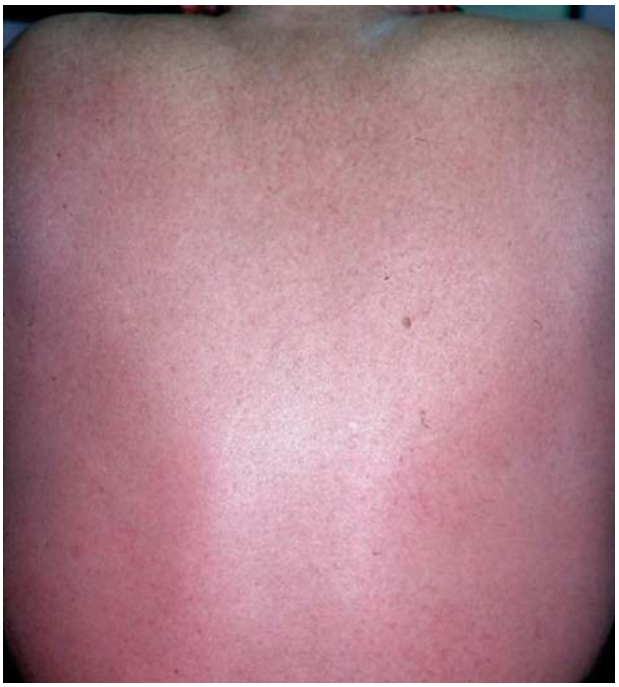

Figure 5. Lesions have cleared, December 1993.

with oral itraconazole. After one month, a skin biopsy was performed, and results were consistent with patch-stage mycosis fungoides.

Treatment with oral methoxsalen and UVA light was begun, and the itraconazole dosage was increased to 200 mg twice daily. Six months later, the skin disease was in remission (Figure 5), and the patient discontinued all therapy. She has not had a recurrence of tinea corporis, onychomycosis, or cutaneous T-cell lymphoma for more than 5 years.

Comment

T verrucosum is a zoophilic dermatophyte with worldwide distribution. Infected animals include cows, horses, and sheep.[2] Our patient lived in a rural area, but she was a homemaker, and direct contact with an infected animal could not be documented. We believe that the presence of patch-stage mycosis fungoides contributed to immunologic suppression and lack of benefit from effective therapy for the patient's mild case of diabetes mellitus. Although therapies administered before itraconazole would not have effectively treated the patient's onychomycosis, our initial 3-month therapy seemingly improved her nails, and a reservoir for tinea corporis would not explain the widespread nature of the recurrent disease. Only after skin-directed therapy for the coexisting mycosis fungoides and continued oral antifungal therapy were we able to eradicate the dermatophyte infection. Interestingly, after the infection was eradicated, the mycosis fungoides also remitted.

Tinea corporis cooccurring with mycosis fungoides is an unusual presentation. In our patient's case, host response to the dermatophyte possibly was altered by the presence of tinea corporis, but equally plausible is that the presence of the dermatophyte allowed for continued stimulation of T-cells, and only with therapy directed toward both processes could remission be achieved. We suggest that, in the treatment of patients with widespread tinea corporis recalcitrant to the usual doses of oral antifungal therapies, consideration be given to an underlying disorder (including cutaneous T-cell lymphoma) that alters host response.

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