

Severe Generalized Deep Dermatophytosis Due to *Trichophyton rubrum* (Trichophytic Granuloma) in a Patient With Atopic Dermatitis

Trichophytic granuloma is a deep tissue trichophytic infection caused by parasitism resulting from dermatophytes entering into the dermis and subcutis. Most cases of trichophytic granuloma are known to occur in immunocompromised patients.

Report of a Case. A 50-year-old man presented with numerous skin nodules and tumors over his entire body. Some nodules had appeared on his arms and legs 10 months before presentation, and the involved area had gradually expanded to cover his entire body, including his face. He had a more than 30-year history of atopic dermatitis, without corticosteroid therapy. He also had tinea pedis and tinea unguium.

On physical examination, multiple dark-reddish nodules were seen scattered on his face, forming indurated plaques (**Figure**). His ears were remarkably swollen, with crusting. Nodules similar to those on the face were scattered over the whole body. None of the nodules were draining or ulcerated. The nails of the hands and feet were opaque, yellow, and thickened.

The laboratory examinations revealed leukocytosis and severe eosinophilia (white blood cell count, $16.9 \times 10^3/\mu\text{L}$; eosinophils, 71%). Serum IgG and IgE levels were also elevated (3994 mg/dL and 57 148 IU/mL, respectively). Computed tomographic scans of the chest and abdomen revealed swelling of lymph nodes of the neck, axillae, and inguinal region (≤ 2 cm in diameter). Serologic tests were

negative for human immunodeficiency virus and human T-lymphotropic virus 1 antibodies. The CD4/CD8 ratio and neutrophil function were normal. The results of tuberculin and trichophytin tests (immediate and delayed reactions) were negative. Pathologic examination, serologic investigation, and polymerase chain reaction analysis were negative for *Mycobacterium leprae*. Direct microscopic potassium hydroxide slides of the epidermal scales and the nail fragments of the feet demonstrated fungal elements.

A skin biopsy specimen from a nodule on the patient's back revealed remarkable eosinophilic infiltration, many Langhans giant cells, and granulomatous inflammation throughout the entire dermis. Periodic acid-Schiff and Grocott methenamine silver staining of the skin biopsy specimen revealed many fungal elements not only in the horny layer but also within the dermis and subcutaneous perivascular area. Culture of the scrapings taken from the involved skin and nails and from dermal portions of skin tissue samples yielded *Trichophyton rubrum*.

The diagnosis of trichophytic granuloma was made, and antifungal therapy (oral itraconazole, 200 mg/d) was initiated. The patient's skin and nail lesions improved remarkably 4 months later.

Comment. Causative fungi of trichophytic granuloma are dermatophytes, most commonly *T rubrum*. Widespread trichophytic granuloma usually occurs in patients who are receiving immunosuppressive therapy for leukemia or lymphoma, autoimmune diseases, and post-organ transplantation.^{1,2} It was reported that dermatophyte infections are more likely to become chronic in patients with atopic dermatitis because of their immunological susceptibility.³ Our patient had a habit of brushing himself with a coarse scrubbing brush for 1 hour everyday for 8 years. The severe clinical features in this case, which



Cutaneous lesions on the face. A, Dark-reddish, coalescing nodules cover most of the skin surface. B, The ears are remarkably swollen, with crusting.

involved a nonimmunocompromised host, may be attributable to the patient's use of a coarse brush and partly to his poorly controlled atopic dermatitis.^{4,5}

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The authors have no relevant financial interest in this article.
Reprints are available from Dr Tateishi.

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Correction

Duplicate Publication of Figures and Tables. The article by Lee titled "Combination 532-nm and 1064-nm Lasers for Noninvasive Skin Rejuvenation and Toning," published in the October ARCHIVES (2003;139:1265-1276), had figures, tables, and portions of the text previously published in *Seminars in Cutaneous Medicine and Surgery* (Lee MW. Combination visible and infrared lasers for skin rejuvenation. 2002;21:288-300), which should have been noted. Figures 1, 4, 7, 10, and 11 and Tables 4 through 7 are reprinted with permission from Elsevier.