

Case 7

A 59-year-old Thai female from Pathumthani

Chief complaint: Multiple linear erythematous tender nodules on left arm for two months



Present illness:

2 mo: She had noticed a small blister developed on her left forearm, which became enlarged and rapidly ulcerated. A few weeks later, there were the other migratory tender nodules, arranged in linear distribution nearby the original lesion. She had no other symptoms except weight loss 2 kgs in 2 months. She denied prior traumatic history.

1 mo: She went to a private-hospital and the excisional biopsy was done. The pathological result was ruptured cyst, and the AFB stain was negative. She was prescribed Levofloxacin 500 mg/day orally for 2 weeks, but her lesions appeared to be more progressive. So she decided to visit a dermatologist at Ramathibodi hospital.

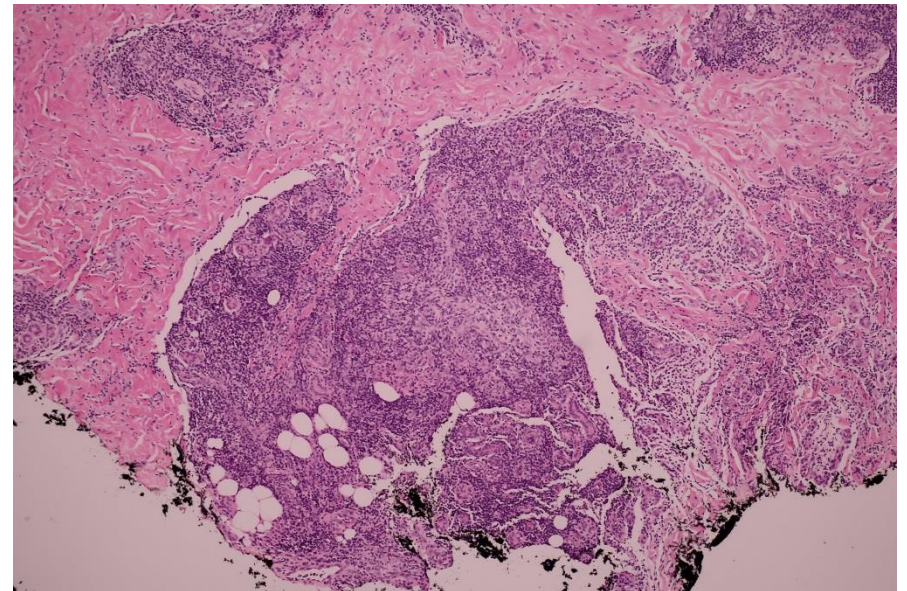
Past history: She has no underlying diseases.

Skin examination:

- Erythematous plaque with central ulceration and multiple linear erythematous tender nodules on left arm.

Histopathology: (S15-007236, 008639)

- Dense nodular and diffuse inflammatory cell infiltrate of lymphocytes, histiocytes, plasma cells and neutrophils, the subcutaneous tissue and in overlying dermis.
- Dense infiltrate of neutrophils, admixed with nuclear dust cell debris giving feature of microabscess in some foci.
- All special stains fail to demonstrate the infectious organisms.



Investigation:

- Tissue gram stain, GMS, mAFB, AFB no organism found
- Tissue culture for TB : no growth in 60 days
- Tissue culture for Aerobe : no growth in 3 days
- Tissue culture for fungus : 2/2 *Sporothrix schenckii*
- Tissue PCR for TB, 16s RNA(bacterial genes) : negative

Diagnosis: Cutaneous sporotrichosis**Treatment:**

- Oral itraconazole 200 mg/day
- Supersaturated potassium iodide (SSKI) 300 mg three times a day

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Discussion:

Sporotrichosis is a chronic granulomatous dimorphic mycotic infection caused by *Sporothrix schenckii* species complex, which comprises four species of clinical importance: *S. brasiliensis*, *S. globosa*, *S. luriei*, and *S. schenckii* (*sensu stricto*), a common saprophyte of soil, decaying wood, hay, and sphagnum moss, that is endemic in tropical/subtropical area^{1, 2}, but zoonotic transmission has been reported from insect bites, fish handling, and bites of cats, birds, dogs, rats, reptiles, and horses.^{3, 4} This etiologic agent typically gains entrance into the skin by traumatic implantation of infected soil or plant materials. Its exact incubation period remains unknown and may range from a few days to a few months, the average being 3 weeks. The majority of cases are of the fixed cutaneous or lymphangitic

cutaneous varieties, which characterized in multiple erythematous, ulcerated, crusted nodules of different size and shape situated at inoculation area then spreading along the lymphatic vessel in a linear fashion, and less commonly, hematogenous dissemination to skin or viscera occurs especially in immunocompromised hosts.⁵⁻⁷

The diagnosis is suggested by biopsy specimen and confirmed by tissue culture.⁸ This dimorphic fungi appear in yeast form in microscopic examination and in mycelial form on culture.⁶ The wet membranous colony, brown with a beige halo, was identified by morphology as *S. schenckii* on sabouraud dextrose agar (SDA). The strain was studied by molecular biology methods corroborating the identification as *S. schenckii* (*sensu stricto*).⁹

The histopathologic finding in the lesions showed different levels of suppurative granulomatous inflammation following H&E staining, which was composed of extensive necrosis surrounded by an intense inflammatory band that consisted of epithelioid cells, multinucleated giant cells, neutrophils, the yeast forms of *S. schenckii*, and many lymphocytes in the outer layer of the lesions.¹⁰

Prognosis is mainly excellent when proper treatment is instituted. Despite reports of spontaneous healing, most cases demand pharmacological treatment. Choice of therapy depends upon the location and form of the disease. Potassium iodide, especially in endemic areas of developing countries, has been described as a more affordable and equally effective option in cutaneous forms, allowing imidazole derivatives to be used as first option or alternative drug for the treatment of localized cases. In disseminated cases or in patients with AIDS, amphotericin B is the drug of choice.¹¹

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