

A Case of Sporotrichosis Caused by *Sporothrix globosa* in Japan

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Dear Editor:

Sporotrichosis is the most common subcutaneous mycosis. *Sporothrix schenckii* was once considered a single species, but a recent study has demonstrated that *S. schenckii* is actually a complex of distinct species with similar morphological features, called the *S. schenckii* complex¹. To our knowledge, this is the first case report of sporotrichosis caused by *S. globosa*, a member of the *S. schenckii* complex, in Japan.

A 77-year-old Japanese man presented to our department with a three month history of crusted erythematous nodules on the dorsum of his right hand and forearm, in a linear arrangement (Fig. 1A). The right hand was scratched

by a cat two weeks before the onset. Because sporotrichosis was suspected, a skin biopsy was performed. Histopathological examination demonstrated a mixed granulomatous reaction with focal neutrophilic microabscesses. Spores were identified in the tissue sections using periodic acid-Schiff stains (Fig. 1B). The biopsy specimen was also submitted for culturing, using enriched glucose-containing media and Sabouraud's agar, at two different conditions, 25°C~27°C and 35°C~37°C. Microscopic morphology obtained from the 25°C culture showed septate hyphae and hyaline or slightly pigmented conidia that grouped in rosettes at the tips of the conidiophores (Fig. 1C). Interestingly, there was no conversion to the

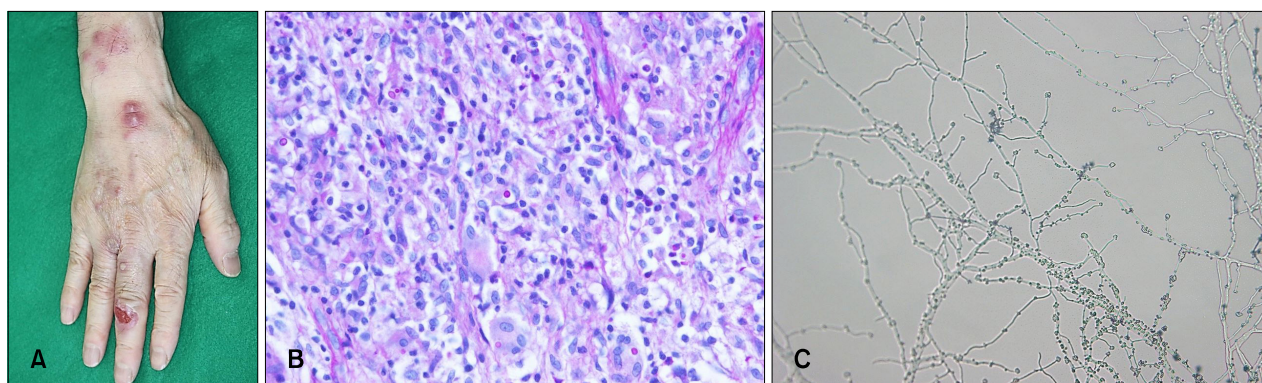


Fig. 1. (A) Skin lesion on the dorsum of right hand and forearm with multiple erythematous crusted nodules along lymphatics. (B) Periodic acid-Schiff stain ($\times 200$). (C) Microscopic morphology obtained from 25°C culture showing septate hyphae and hyaline or slightly pigmented conidia that grouped in rosettes at the tips of the conidiophores ($\times 400$).

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yeast form in the 37°C culture. Because the features was atypical of classical *S. schenckii*, we considered the causative microorganism as another member of *S. schenckii* complex. Genetic analysis of DNA by polymerase chain reaction identified this agent as *S. globosa* with 99% homology compared to the known genetic sequence. Thus, we diagnosed this case as sporotrichosis caused by *S. globosa*. Three months of oral potassium iodide (1,200 mg/day) and two months of oral itraconazol (200 mg/day) achieved the resolution of the symptom.

Recent molecular biological studies have revealed that *S. schenckii* complex comprises at least six closely related dimorphic fungi including *S. brasiliensis*, *S. globosa*, *S. mexicana*, *S. albicans*, *S. luriei*, and *S. schenckii sensu stricto*^{1,2}. Retrospective studies using strains isolated from patients with sporotrichosis revealed that many cases deemed of classical *S. schenckii* morphology were not necessarily caused by *S. schenckii* in a strict sense, but by other species of the *S. schenckii* complex. Through DNA analysis, Marimon et al.² examined 112 cases of sporotrichosis that were originally considered to be caused by classical *S. schenckii*. They found that almost half of the isolates were other *S. schenckii* complex members such as *S. globosa* and *S. brasiliensis*. A similar study was also performed in Japan, and 15 strains out of 20 cases were identified as *S. globosa*³. Our causative agent neither grew at 37°C on Sabouraud's agar nor converted to the yeast form. Referring to species identification methods proposed by Marimon et al.², these are typical features of *S. globosa*.

Thus far, it is not known that if there are differences in clinical features and treatment sensitivity between species^{4,5}. Therefore, detailed identification of causative species in each individual case of sporotrichosis may prove useful for future research and treatment.

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