Answer to Photo Quiz: *Microsphaeropsis arundinis* and *Phialophora verrucosa*

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The sample taken from the wrist was identified as *Microsphaeropsis arundinis* by sequencing the internal transcribed spacer (ITS) regions (GenBank accession no. [MH236168](#)). The sample taken from the forearm grew *Phialophora verrucosa*, identified by microscopic morphology and confirmed by ITS sequencing (GenBank accession no. [MH229984](#)). The patient was diagnosed with phaeohyphomycosis due to *M. arundinis* and *P. verrucosa*. The distinction of phaeohyphomycosis from chromoblastomycosis was made due to the lack of multiseptate sclerotic bodies on tissue samples, and pigmented conidia in the chain were noted by Fontana-Masson stain on the specimen from the forearm (see Fig. 1D in the photo quiz). Both *M. arundinis* and *P. verrucosa* might be inoculated from soil into abrasions in the skin and showed low MICs for itraconazole (0.12 and 0.25 $\mu\text{g/ml}$, respectively), which were determined by the broth microdilution method. The patient was treated with itraconazole followed by electrodesiccation and curettage of both lesions.

M. arundinis is an anamorphic fungus within the class *Coelomycetes*. This fungus has recently been recognized as an emerging pathogen in immunosuppressed individuals. Seven cases have been reported in Australia, two in Japan, and one in the United States (1). All reported cases have been skin and soft tissue infections. *M. arundinis* is ubiquitous in soil and freshwater and shows optimal growth at 28°C. Hyphae are septate, pigmented, and irregularly shaped with swollen segments (see Fig. 1A and B in the photo quiz). Itraconazole is typically effective against this infection, though the optimal duration is not clear (2).

P. verrucosa is a pathogenic, dematiaceous fungus that has been associated with chromoblastomycosis and phaeohyphomycosis as well as fungemia, prosthetic valve endocarditis, and endophthalmitis (2–5). This fungus is ubiquitous in soil, plant debris, wasp nests, and rotting wood, and cutaneous or subcutaneous infection typically occurs after direct inoculation from a wound, which may go unnoticed. *P. verrucosa* grows well over a range of temperatures, 21 to 37°C. Flask-shaped phialide with a distinct collarette (a remnant of a cell wall present at the tip of a phialide) is used to differentiate this organism from others (see Fig. 1C in the photo quiz). Infections can occur in immunocompromised or immunocompetent individuals. Successful treatment with itraconazole and terbinafine has been reported. The optimal treatment duration is not clear and varies from three to several months, depending on clinical presentation. Excision of lesions is performed when possible (2, 6). Other azoles and amphotericin B have been shown to be active *in vitro* (7).

This is the second reported case of deep cutaneous infection with both *Microsphaeropsis arundinis* and *Phialophora verrucosa* in an immunosuppressed patient.

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Data availability. Sequences were deposited in GenBank under accession numbers [MH236168](#) and [MH229984](#).

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