

Closing the Brief Case: Dyspnea in a Profoundly Immunocompromised Man

(See page 2410 in this issue [[doi:10.1128/JCM.00049-16](https://doi.org/10.1128/JCM.00049-16)] for case presentation and discussion.)

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ANSWERS TO SELF-ASSESSMENT QUESTIONS

1. *Paecilomyces* species may display various pigmentation; however, isolates never appear:

- (a) Yellow-tan
- (b) Yellow-green
- (c) Blue-green
- (d) Pink-mauve

Answer: c. The surface color of *Paecilomyces* species recovered in culture can be variable; however, the color is never blue-green, as seen with *Penicillium* species.

2. *Paecilomyces* species have not been associated with which of the following infection(s):

- (a) Endocarditis
- (b) Catheter-related fungemia
- (c) Skin infections
- (d) Cholangitis

Answer: d. *Paecilomyces* species have been associated with endocarditis, catheter-related fungemia, and skin infections but not cholangitis. The genus has also been reported to cause nephritis, pulmonary infections, ocular infections, and subcutaneous infections.

3. Which antifungal is emerging as the most effective treatment for *Paecilomyces* species?

- (a) Amphotericin B
- (b) Posaconazole
- (c) Voriconazole
- (d) Flucytosine

Answer: b. Although *in vitro* susceptibility results have yet to be correlated with *in vivo* responses, posaconazole is the only antifungal to show good *in vitro* activity against all of

the species tested. Because of the lack of correlation between *in vitro* results and *in vivo* responses, the clinical utility of susceptibility testing is uncertain.

TAKE-HOME POINTS

- *Paecilomyces* species are frequently considered contaminants when recovered in culture, but because of the growing number of immunocompromised patients, the genus is increasingly associated with disease.
- *Paecilomyces* species have been associated with endocarditis, nephritis, pulmonary infections, and catheter-related fungemia, as well as nail, ocular, cutaneous, and subcutaneous infections.
- Although *Paecilomyces* and *Penicillium* species have similar microscopic morphologies, the surface color of *Paecilomyces* species is never blue-green, as seen with *Penicillium* species.
- *Paecilomyces* species are difficult to identify to the species level on the basis of morphological features alone, and thus, molecular methods are more commonly being used to provide identification to the species level.
- The *in vitro* antifungal susceptibility pattern of *Paecilomyces* species varies by species, but the lack of correlation between *in vitro* results and *in vivo* responses, the clinical utility of susceptibility testing is uncertain.

Citation Spec A, Santos CAQ, Pence MA. 2016. Closing the Brief Case: Dyspnea in a profoundly immunocompromised man. *J Clin Microbiol* 54:2628. doi:10.1128/JCM.00050-16.

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