Closing the Brief Case: *Scopulariopsis* Endocarditis—a Case of Mistaken Takayasu's Arteritis

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ANSWERS TO SELF-ASSESSMENT QUESTIONS

1. Which risk factor is associated with fungal endocarditis?

- A. Asian ethnicity
- B. Young age (≤ 40 years)
- C. Aortic valve replacement
- D. Female gender

Answer: C. Fungal endocarditis is most common in patients who are immunocompromised, intravenous drug abusers, recipients of prolonged antibiotic therapy, recipients of parenteral nutrition, and recipients of prosthetic heart valves and in those who have undergone reconstructive cardiac surgery. Asian ethnicity, young age (10 to 40 years), and female gender are risk factors associated with Takayasu's arteritis.

2. What histopathological features are indicative of hyalohyphomycosis?

- A. Broad, pigmented, septate hyphae
- B. Broad, hyaline hyphae with sparse septations
- C. Narrow, septate hyphae without melanin pigmentation
- D. Narrow, pigmented, septate hyphae

Answer: C. Hyalohyphomycosis is a fungal disease caused by a variety of molds that produce hyaline, septate, and mostly narrow hyphae that range from 2 to 6 μm in width. The hyalohyphomycetes group includes *Aspergillus* spp., *Fusarium* spp., *Scedosporium* spp., and others. Mucoraceous molds produce hyaline hyphae, but they are usually broader (5 to 25 μm in width) and have sparse or no septae. In contrast, phaeohyphomycoses are caused by phaeoid fungi that produce pigmented, narrow, and septate hyphae. Examples of phaeoid fungi include *Alternaria* spp., *Curvularia* spp., and *Bipolaris* spp., among others.

3. The following statement is true regarding the antifungal susceptibility profile of *Scopulariopsis brevicaulis*.

- A. Always susceptible to micafungin and posaconazole
- B. Multiresistant to broad-spectrum antifungal agents
- C. Pan-susceptible to commonly tested antifungal agents
- D. Resistant only to amphotericin B

Answer: B. Several studies have demonstrated that *Scopulariopsis* species isolated from clinical samples have high rates of resistance to broad-spectrum antifungal agents. Due to the rarity of such infections, appropriate therapy for *Scopulariopsis* infections has not been determined.

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See page 2567 in this issue (<https://doi.org/10.1128/JCM.02479-16>) for case presentation and discussion.

TAKE-HOME POINTS

- The inconsistent and nonspecific presentation of fungal endocarditis makes it a diagnostic challenge that requires a high index of suspicion for early detection and timely intervention.
- *Scopulariopsis* endocarditis is a rare disease that is challenging to treat due to its resistance to broad-spectrum antifungal agents.
- Antifungal susceptibility testing can be useful for guiding the selection of the best antifungal regimen for the treatment of *Scopulariopsis* endocarditis. However, susceptibility testing results must be interpreted with caution due to the unavailability of interpretive MIC breakpoints.