

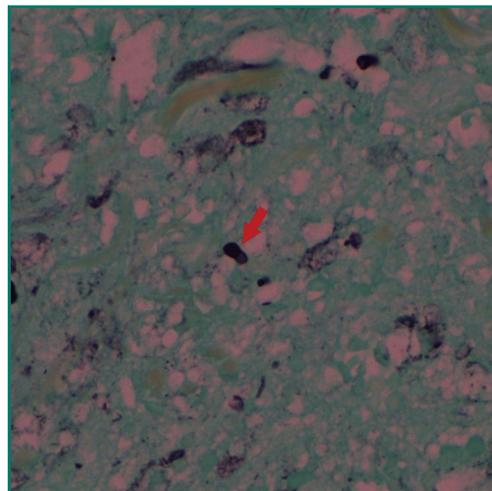
# The Blastomycosis Bluff by *Purpureocillium lilacinum*



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A 73-year-old patient with a history of rheumatoid arthritis and inclusion body myositis on long-term prednisone and azathioprine presented with a 3-month history of tender erythematous nodules on his right lower extremity (Figure 1). A skin biopsy revealed yeast forms with broad-based budding yeast (Figure 2, [arrow]). Initially, a diagnosis of cutaneous blastomycosis was made, and he was initiated on itraconazole. However, (1-3)- $\beta$ -d-glucan assay was elevated at >500 pg/mL (reference range: <80 pg/mL), and biopsy culture was returned 11 days later growing a violet-colored colony (Figure 3) identified as *Purpureocillium lilacinum* under microscopy, with phialides with swollen bases and pigmented and rough-walled conidiophore stipes (Figure 4). Review of previous biopsy identified hyphal elements in addition to yeast forms, and he was switched to voriconazole. At 2-month follow-up, he had significant reduction in pain, erythema, and there was healing of open ulcerations.

*Purpureocillium lilacinum* is a ubiquitous fungus that can infect immunocompromised



**FIGURE 2.** Skin biopsy with broad-based budding yeast (arrow) under 400 $\times$  magnification with Gomori methenamine silver stain.

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patients.<sup>1</sup> Owing to its ability to sporulate in tissues, it can be confused with *Blastomyces dermatitidis* but is differentiated by the presence of hyphal elements within tissue biopsy, elevated (1-3)- $\beta$ -d-glucan, and growth on cultures. *Purpureocillium lilacinum* is also resistant to amphotericin B,



**FIGURE 1.** Lesions present on the medial right lower extremity (91  $\times$  68 mm [300  $\times$  300 DPI]).



**FIGURE 3.** Fungal colony with a purple hue on Sabouraud dextrose agar.



**FIGURE 4.** Photomicrograph of Scotch tape preparation of fungal culture with lactophenol aniline with polyvinyl alcohol stain under 400 × magnification.

fluconazole, and itraconazole: agents often used to treat blastomycosis, highlighting

the importance of definitive diagnosis.<sup>2</sup> This case illustrates the importance of incorporating all available clinical, laboratory, pathological, and microbiological data when approaching infections in immunocompromised hosts.

**Potential Competing Interests:** The authors report no competing interests.

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