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)-β-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 patients. 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)-β-d-glucan, and growth on cultures. *Purpureocillium lilacinum* is also resistant to amphotericin B.
fluconazole, and itraconazole: agents often used to treat blastomycosis, highlighting the importance of definitive diagnosis. This case illustrates the importance of incorporating all available clinical, laboratory, pathological, and microbiological data when approaching infections in immunocompromised hosts.

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