

# Chromoblastomycosis Infection From a House Plant

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## PRACTICE POINTS

- Chromoblastomycosis is an uncommon fungal infection that should be considered in cases of traumatic injuries to the skin.
- Biopsies of growing or nonhealing nodules will demonstrate characteristic golden brown spherules (medlar bodies).
- In localized cases, surgical excision may be curative.

## To the Editor:

A 69-year-old woman with no history of immunodeficiency presented 1 month after a thorn from her locally grown Madagascar palm plant (*Pachypodium lamerei*) pierced the skin. The patient developed a painful nodule at the site on the left elbow (Figure 1). An excisional biopsy by an outside dermatologist was performed, which showed granulomatous inflammation within the dermis with epidermal hyperplasia and the presence of golden brown spherules (medlar bodies). The diagnosis was a dermal fungal infection consistent with chromoblastomycosis. A curative surgical excision was performed, and medlar bodies were seen adjacent to a polarizable foreign body consistent with plant material on histology (Figure 2). Because the lesion was localized, adjuvant medical treatment was not deemed necessary. The patient has not had any recurrence in the last 1.5 years since the resection.

The categorization of chromoblastomycosis includes a chronic fungal infection of the cutaneous and subcutaneous tissues by dematiaceous (pigmented) fungi. This definition is such that there are a multitude of organisms that can be the primary cause of this diagnosis. Generally, infection follows a traumatic permeation of the skin by a foreign body contaminated by the causative organism in agricultural workers. The most common dematiaceous

pathogens are *Fonsecaea pedrosoi*, *Phialophora verrucosa*, and *Cladosporium carrionii*; however, the specific causative organism varies heavily on geographic location. With inoculation by a foreign body, a small papule develops at the site of the lesion. Several years after the primary infection, nodules and verrucous erythematous plaques develop in the same area, and patients present with concerns of pain and pruritus.<sup>1</sup> Lesions usually are localized to the initial area of inoculation, generally a break in the skin by the offending foreign body, on the legs, arms, or hands, but hematogenous or lymphatic dissemination with distant transmission due to scratching also can occur. Ulceration due to secondary bacterial infection is another possible manifestation, resulting in a foul odor and less commonly lymphedema. Rarely, squamous cell carcinoma is a complication.<sup>2</sup>

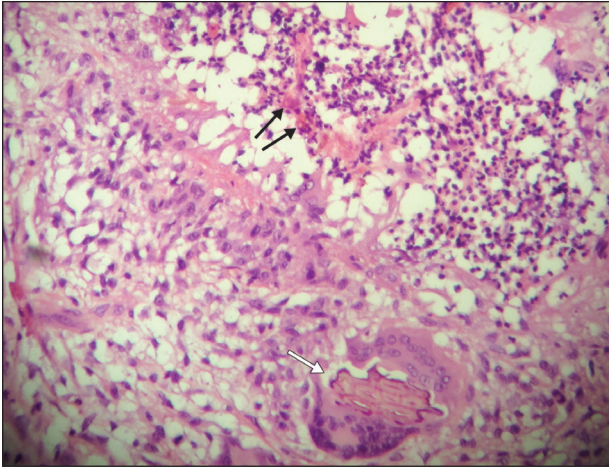


**FIGURE 1.** A red nodule on the patient's elbow 1 month after a thorn pierced the skin.

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**FIGURE 2.** Chromoblastomycosis histopathology showed a dense inflammatory infiltrate. A foreign body (white arrow) was surrounded by multinucleated giant cells consistent with plant material. Several brown spherules, or medlar bodies, were seen (black arrows)(H&E, original magnification  $\times 40$ ).

On histopathology, thick-walled sclerotic bodies termed *medlar bodies* or *copper pennies* are pathognomonic for chromoblastomycosis and represent the fungal elements. Grossly, black dots can be seen on the skin in the affected areas from the transepidermal elimination of the fungi.<sup>1,2</sup> However, there is no specificity for determining the causative organism in this manner, or even with culture, as it is difficult to differentiate the species morphologically. More advanced tests can help, such as polymerase chain reaction or enzyme-linked immunosorbent assay, where available.<sup>2</sup> Hematoxylin and eosin stain also shows epidermal hyperplasia and dermal mononuclear infiltrate.

Treatment modalities include surgical excision, cryotherapy, pharmacologic treatment, and combination therapy. Localized lesions often can be resected, but more severe infections can require pharmacologic treatment. Unfortunately, there tends to be a high risk for relapse with most antifungal modalities. The combination of itraconazole and terbinafine has been shown to offer the best medical therapy with lower risk for refractoriness to treatment by producing a synergistic effect between the 2 antifungals.<sup>2,3</sup> Many surgical treatments often are combined with oral antifungals to try to attain complete eradication in deep or extensive lesions, as seen in a case in which oral terbinafine was used prior to surgery to reduce the size of the lesion, followed by complete resection.<sup>4</sup> With localized lesions that are resectable, a wide and deep

incision often can be curative. Cryotherapy also may be coupled with surgical excision or pharmacologic therapy. Most literature suggests that cryotherapy or the use of antifungals prior to excision offers improved outcomes.<sup>2,5</sup> Prognosis tends to be good for chromoblastomycosis, particularly with smaller lesions. Complete eradication varies greatly on the size and depth of the lesion, independent of the causative pathogen.

Our patient's presentation with chromoblastomycosis is unique because of the source of infection, which was a plant grown from seeds in a local nursery in South Florida and then sold to the patient. The majority of chromoblastomycosis infections occur in agricultural workers, typically in tropical climates such as South and Central America, the Caribbean, and Mexico.<sup>1,2</sup> Historically, infections in the United States have been uncommon, with the majority presenting in patients on prolonged corticosteroid therapy or with other immunosuppressive conditions.<sup>6,7</sup> This presentation of a chromoblastomycosis infection in a 69-year-old woman with no history of immunosuppression or chronic disease can serve as a teaching point about atypical presentations of the disease. The Madagascar palm plant that was responsible for the initial lesion in our case is a member of the *Pachypodium* species of plant that is endemic to Madagascar, one of the few regions outside of Latin America that has displayed numerous cases of chromoblastomycosis. In this fashion, a domestic gardener can now become exposed to dematiaceous pathogens that normally are not found in the continental United States, and knowledge of this possible exposure source can be crucial in the diagnosis and management of similar patients.

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