



## Plaques on dorsal hands & arms

This patient's slow-growing lesions hadn't responded to topical steroids or antifungals. Careful consideration of her work environment led us to a curious diagnosis.

A 45-YEAR-OLD WOMAN sought treatment for plaques that she'd had on the top of her hands for 6 months (FIGURE 1). These plaques had been getting larger, and new papules and plaques were now developing on the dorsal arms. She'd first noticed the lesions after unpacking some crates from overseas while working at a hardware store. She'd applied unspecified types and dosages of topical

steroids and antifungals, but her condition hadn't improved. We performed a punch biopsy of a lesion on her arm.

- WHAT IS YOUR DIAGNOSIS?
- HOW WOULD YOU TREAT THIS PATIENT?

FIGURE 1

### Verrucous plaques on the dorsal hand



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**Diagnosis: Chromoblastomycosis**

The punch biopsy revealed pseudoepitheliomatous hyperplasia with intraepidermal microabscesses (FIGURE 2), which was consistent with chromoblastomycosis. Two additional biopsies taken from plaques on the patient's arm grew *Phialophora verrucosa*, confirming the diagnosis. We assumed she contracted chromoblastomycosis from her exposure to the overseas crates at her job, but we could not confirm this. However, there were no other likely sources of infection.

Chromoblastomycosis is a subcutaneous fungal infection that is endemic to tropical and subtropical climates but sporadically occurs elsewhere. It is caused by inoculation from soil contaminants. The characteristic plaques begin as small pink papules and may slowly progress to thick verrucous and somewhat scaly plaques or nodules.<sup>1</sup> The plaques usually first appear on the lower legs and feet, but may occur on the upper limbs and trunk. They typically progress locally, although they may spread to distant areas, including the face, by self-inoculation. These plaques may cause minimal symptoms or significant morbidity, including lymphedema and elephantiasis.<sup>1,2</sup>

**Differential Dx includes BCC and sarcoidosis**

**Superficial basal cell carcinoma (BCC).**<sup>3</sup> Like chromoblastomycosis, BCC has a similar history of slow-growing scaly plaques. With BCC, there is usually a solitary plaque, although it may be large. Biopsy would distinguish BCC from chromoblastomycosis.

■ **Sarcoidosis.**<sup>3,4</sup> The plaques of sarcoidosis are less scaly than those of chromoblastomycosis and biopsy would show granulomatous process. Sarcoidosis may also be associated with respiratory symptoms, elevated angiotensin converting enzyme, or hilar nodules on chest x-ray.

■ **Plaque-type porokeratosis.**<sup>4</sup> Porokeratosis is an inherited or acquired solitary lesion that is annular, round, and thin with raised edges; it often develops on the lower legs. What triggers its appearance is unknown, though trauma and photodamage have been suggested. In some variants, it may appear similar to chromoblastomycosis.

■ **Cellulitis.** In cellulitis, the advancing edge of erythema changes over days instead of months to years (as chromoblastomycosis does). Possible systemic symptoms of cellulitis include pain, fever, swelling, or malaise.

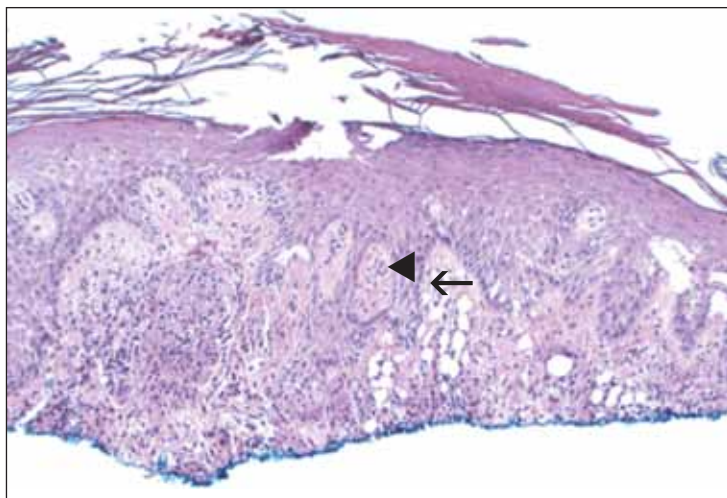
■ **Cutaneous tuberculosis.**<sup>3</sup> Although rare, cutaneous tuberculosis, which often presents as firm, shallow ulcers with a granular base, may be associated with significant discomfort. It can persist for up to a year, is more likely to form an abscess and drain, and is associated with lymphadenopathy after several weeks.

■ **Sporotrichosis.**<sup>3</sup> The appearance of sporotrichosis is similar to that of chromoblastomycosis, with hematogenous spread that may mimic autoinoculation. Biopsy and tissue culture would differentiate sporotrichosis from chromoblastomycosis.

**Tissue culture clinches the Dx**

Diagnosis of chromoblastomycosis is often delayed because of the slow-growing nature of the plaques, its few initial symptoms, and the rarity of the condition in nonendemic regions.<sup>1,2</sup> A skin scraping may demonstrate hyphae or spores. On histology, clusters of brown spores ("copper pennies") are pathog-

**FIGURE 2**  
**Microabscesses and hyperplasia are characteristic of chromoblastomycosis**



Microabscesses (black triangle) and pseudoepitheliomatous hyperplasia (black arrow) are characteristic histologic findings of chromoblastomycosis.

nomonic.<sup>5</sup> A biopsy and tissue culture establish the diagnosis. The most frequent organisms identified include *Phialophora*, *Fonsecaea*, and *Cladosporium*.<sup>1</sup>

### More than one type of treatment may be necessary

Chromoblastomycosis is often extremely difficult to treat; frequent recurrences may require multimodal therapy.<sup>6,7</sup> Treatment options include pharmacotherapy, surgery, and destructive therapy.

■ **Systemic antifungals** are the mainstay of therapy because topical antifungals do not penetrate deep enough in the skin. Several regimens have been presented in the literature. A common starting point is oral terbinafine<sup>8</sup> 250 to 500 mg/d and itraconazole<sup>9</sup> 200 mg to 400 mg/d for 6 to 12 months. Another medication used to treat chromoblastomycosis is intralesional or intravenous amphotericin B dosed variably with or without 5-flucytosine until the plaques clear.<sup>10</sup> Based on small trials, treatment efficacy with antifungals ranges from 70% to 90%.<sup>6,7</sup> Treatment often is limited by medication interactions and adverse effects.

■ **Surgical therapy.** A solitary plaque or smaller plaques may be removed with good outcomes. However, plaques may be so large that surgical removal is impractical or disfiguring.<sup>5,11</sup>

■ **Destructive therapy.** Cryotherapy with liquid nitrogen or electrocautery may be used to destroy plaques. This approach may be used with or without pharmacotherapy.<sup>11</sup>

■ **Our patient.** Because chromoblastomycosis is rare in North America, we consulted with a dermatologist who worked in an endemic area. Our patient was also seen by an infectious disease specialist. For 9 months, she took oral terbinafine 500 mg/d and itraconazole 200 mg/d. Initially, the patient experienced modest improvement in the largest plaques, but they didn't clear completely. Smaller lesions cleared with cryotherapy but new lesions developed on her ears. The patient's lesions finally cleared after 12 months of therapy; 2 repeated cultures were also negative. **JFP**

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➤ Antifungals are the mainstay of therapy for chromoblastomycosis, but due to frequent recurrences, multiple types of treatment are often necessary.

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