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Indian Journal of Pathology and Oncology

Journal homepage: www.ijpo.co.in

Case Report

Cutaneous chromoblastomycosis exalted to upper arm – An unusual presentation: A case report

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Abstract

Cutaneous chromoblastomycosis is a chronic fungal infection that affects the subcutaneous tissue, caused by pigmented fungi, mainly from the genera *Fonsecaea*, *Phialophora*, and *Cladophialophora*. Although it typically targets the skin, it can also involve other organs such as the lungs, intestines, stomach, and even the brain. Lower extremities and hands remains the most common sites of predilection clinically, lesion can be flat, raised papule, ulcerated or plaque like. Most of the cases are prevalent in the tropics and subtropics among people who are in close contact with soil, as the fungi can be present in soil and rotten vegetable matter as well. In cases of cutaneous chromoblastomycosis with milder clinical features a short course of itraconazole is found to be effective. The present case is of a 76 year old female presented with an annular plaque on left upper arm. The diagnosis was confirmed by visualizing pathognomic sclerotic bodies on histopathological examination. Patient was treated with Tab.Itraconazole 200 mg once daily for 2 weeks and was symptomatically better.

Keywords: Pigmented fungi, Sclerotic bodies, Itraconazole.

Received: 30-01-2025; **Accepted:** 26-02-2025; **Available Online**: 15-03-2025

1. Introduction

Implantation of dematiaceous fungi through skin injuries typically results in chromoblastomycosis. It is more common in humid tropical and subtropical regions of the Asia, and Africa and America.[1] Soil, decaying plant matter, including wood remains the main habitat of the fungi responsible for this chronic cutaneous infection. Occupational factors play a significant role in the disease, with rural, male populations involved in agricultural and outdoor work being more at risk.[2] The infection usually begins as a small, localized lesion such as a papule, nodule, or plaque at the site of injury. Chromoblastomycosis is characterized by the presence of "sclerotic bodies" or "medlar bodies" which can be identified in lab tests like potassium hydroxide (KOH) mounts or routine H& E staining.[3] Due to the similarities in clinical presentation, Diagnosis of Chromoblastomycosis is often delayed.[4] Despite being recognized for over a century, Chromoblastomycosis remains challenging to treat due to its resistance to therapy and high recurrence rate.

2. Case Description

A 76-year-old female came to the dermatology outpatient department with a solitary annular plaque, measuring 5X3 cm, on her left upper arm that had been present for three months. She developed it as a small non tender papule with a history of occasional itching. She initially took local applicants for the same, but did not heal. Patient did not give any history of trauma. On clinical examination there was a single, mildly crusted annular plaque measuring 5X3 cm (**Figure 1**) in the mediolateral aspect of left upper arm. On physical examination there were no significant regional lymphadenopathy. All of her blood tests, such as the Complete Blood Count, Erythrocyte Sedimentation Rate, and Liver Function Tests, were within normal limits. A punch biopsy was performed at the lesion site and sent for histopathological analysis. Microscopic evaluation showed pseudoepitheliomatous hyperplasia of the epidermis. (**Figure 2**) Dermis showed numerous suppurative granulomas and neutrophilic microabscessess. (**Figure 3**) The characteristic

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https://doi.org/10.18231/j.ijpo.2025.018

thick walled, round to oval, golden- brown structures suggestive of "sclerotic bodies" or "copper penny bodies" were seen in chains and clusters.(**Figure 4**, **Figure 5**) A diagnosis of chromoblastomycosis was made as copper penny bodies were easily appreciable.

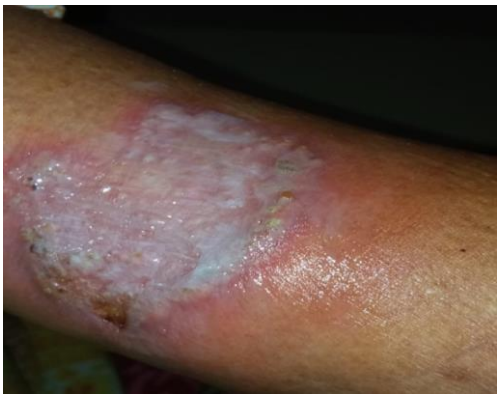

Figure 1: Annular plaque on left upper arm of the patient

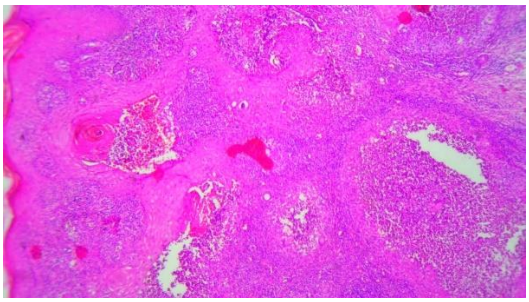

Figure 2: Pseudoepitheliomatous hyperplasia of epidermis [H&E 10X]

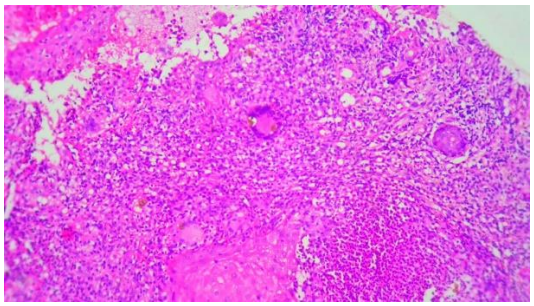

Figure 3: Dermal microabcess with multinucleated giant cells [H&E 40X]

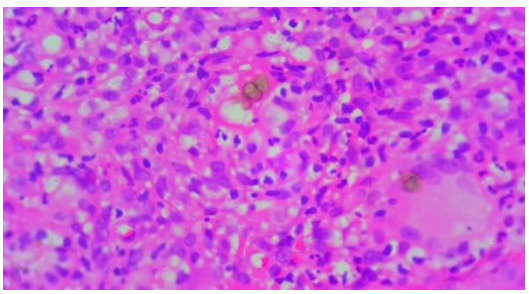

Figure 4: Copper penny bodies [H&E 100X]

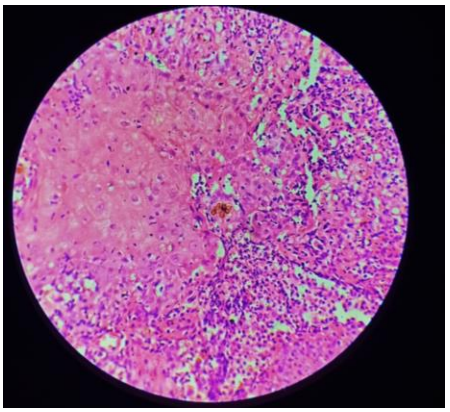

Figure 5: Copper penny bodies [H&E 40X]

3. Discussion

Chromoblastomycosis is primarily a dematiaceous fungal infection, which usually follows after inoculation through trauma that results in chronic granulomatous inflammation of skin and subcutaneous tissue. Initially it follows an indolent course and the morphologic variability is diverse. The infection typically begins as a pink or red macule or papule, which then develops into a verrucous, hyperkeratotic plaque or nodule, and may eventually form warty lesions that have the potential to ulcerate over time. Even though the tropical and subtropical areas, remains most common endemic zones, chromoblastomycosis remains a neglected disease in this regions.[5] Cutaneous chromoblastomycosis was first described in 1914, in Brazil by Max Rudolph, a German physician.[6]

Histopathological examination of chromoblastomycosis usually reveals epidermis with pseudoepitheliomatous hyperplasia and microabscesses. The dermis showing granulomatous infiltrate consisting of mononuclear cells, polymorphonuclear cells, epithelioid cells and giant cells. The etiologic agent can be seen as brownish corpuscles, usually arranged in pair, called sclerotic bodies or muriform bodies or medlar bodies. These are believed to represent an intermediate vegetative form, caught between yeast and hyphal structures. As these bodies are naturally pigmented, detection becomes easier even in unstained sections. But care must be taken to distinguish from formalin pigment and hemosiderin.

In our case, as the presence of medlar bodies were confirmed histopathologically, a diagnosis of chromoblastomycosis was made.

Pallivalappil N, et al[7] explains A 48-year-old female rubber tapper had an asymptomatic reddish plaque on her forearm for 3 years. The lesion progressively enlarged and developed pustules. Histopathology showed chromoblasts in giant cells, and fungal culture identified Fonsecaea, a dematiaceous fungus.

Bandyopadhyay A et al.[8] reported a case of 50-year-old female agricultural worker developed hyperpigmented

verrucous plaques on her arm over 1.5 years. Initially diagnosed as cutaneous tuberculosis, her condition didn't improve with treatment. Histopathology confirmed chromoblastomycosis.

After confirmation of diagnosis our patient was started on tab Itraconazole 200 mg once daily for 2 weeks and was advised for follow-up. After 6 months of treatment patient was symptomatically better. (**Figure 6**) The primary differential diagnosis for chromoblastomycosis includes both infectious and noninfectious conditions that may present similarly. Infectious diseases to consider are tuberculosis, actinomycetoma, botryomycosis, syphilis, yaws, nontuberculous mycobacterial infections, pheohyphomycosis, eumycetoma, blastomycosis, coccidioidomycosis, sporotrichosis, Majocchi granuloma, paracoccidiomycosis, as well as verruca vulgaris and papillomas. Noninfectious conditions that may mimic chromoblastomycosis or result from its complications include melanoma, squamous cell carcinoma (such as keratoacanthoma), keloid, sarcoidosis, and systemic lupus erythematosus.

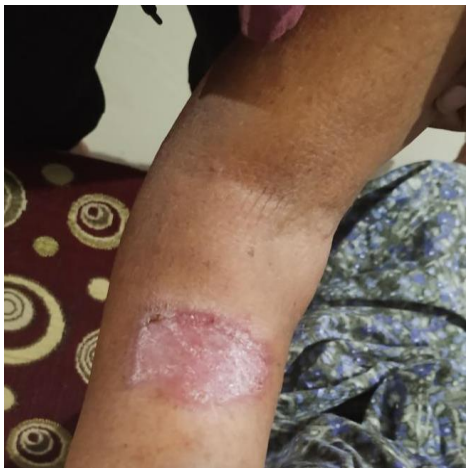

Figure 6: Lesion after treatment with itraconazole

Currently, there are no established guidelines for treating chromoblastomycosis. Given its resistant nature, especially in more severe cases, a combination of oral antifungal medications is typically recommended. Reports suggest that a combination of itraconazole and terbinafine has shown a favourable response.

Other agents found to be effective includes Flucytosine, amphotericin B, as well as Thiabendazole. Alternatives such as cryotherapy, radiation, laser therapy and electrosurgery, offer the benefit of shorter duration and also cost-effectiveness.[9] In cases of poor response to treatment, patients can develop complications such as secondary bacterial infections, lymphedema, and a rarer one being progression into squamous cell carcinoma.

4. Conclusion

This case underscores the rare manifestation of chromoblastomycosis and the effective response to itraconazole treatment. Foot and forearm being the common site, rarity of the lesion being exalted to upper arm is also notable in this case. We emphasize on always having a low degree of suspicion of deep fungal infections when susceptible individuals present with chronic skin lesions, thus enabling us in early diagnosis, prompt treatment and avoidance of complications as well as disfigurement.

5. Source of Funding

None.

6. Conflict of Interest

None.

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Cite this article: Muhammed H, Shenoy MB, Kandamuthan S, Kottol P. Cutaneous chromoblastomycosis exalted to upper arm – An unusual presentation: A case report. *Indian J Pathol Oncol*. 2025;12(1):83–85.