

CASE REPORT

Chromoblastomycosis in a resident of a leprosarium

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Summary Chromoblastomycosis is caused by dematiaceous fungi. It develops after inoculation of the organism into the skin. The lesion begins as a pink, scaly papule or warty growth. We report a case of chromoblastomycosis occurring in a multibacillary leprosy patient, who had already been released from treatment (RFT). The diagnosis was confirmed by the presence of sclerotic bodies (Medlar bodies / copper penny bodies). Systemic antifungal treatment has been found effective. The case is being reported in view of the association of two diseases and the dramatic clinical response to systemic treatment with Itraconazole.

Keywords: chromoblastomycosis; sclerotic bodies; multibacillary leprosy; systemic antifungals

Introduction

Chromoblastomycosis is a chronic fungal infection of skin and subcutaneous tissue caused by pigmented fungi which produce sclerotic bodies in the tissues.¹ The infection is clinically characterised by verrucous skin eruptions, most commonly on the legs and feet. The association of chromoblastomycosis with leprosy is a rare occurrence.²

Case report

A 44-year-old man presented with a mildly itchy, rough sore over his right thigh, present for 2 years. On enquiry, the patient reported that the lesion did not respond to various topical and systemic treatments and was gradually increasing in size.

He was working as a livestock supervisor and as a midwife to cattle in a leprosarium located in Central India. Presently, he is a previously treated case of multibacillary leprosy and his treatment comprised of rifampicin, clofazimine and dapsone taken 20 years ago. He was frequently hospitalised in the past for Type 2 lepra reaction.

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Figure 1. A single erythematous scaly plaque on right thigh.

Physical examination revealed multiple atrophic, irregular shaped scars over trunk and limbs suggestive of previous episodes of necrotic lepra reaction, with a partial ulnar claw of both hands (Figure 1).

Local examination showed a dusky, oedematous, scaly, oblong plaque over the medial aspect of right thigh (Figure 2).

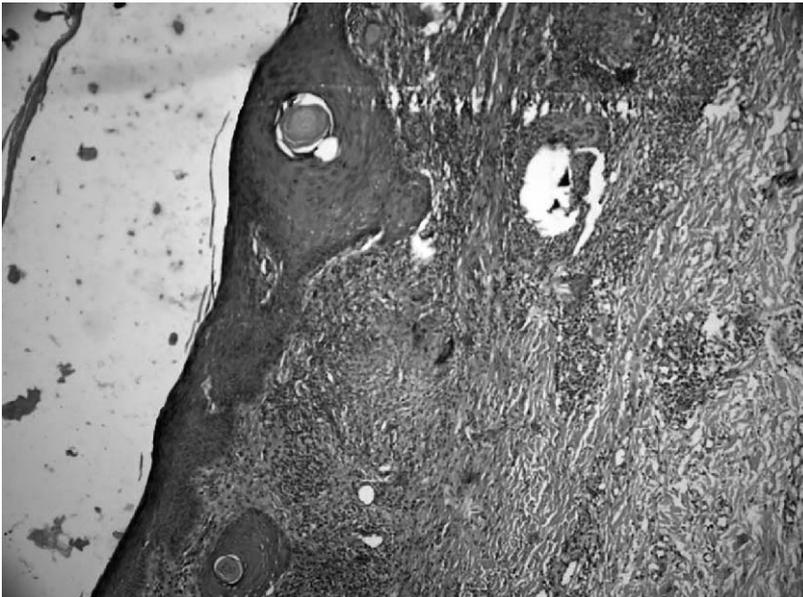


Figure 2. H& E stained section of skin biopsy showing a chronic granulomatous infiltrate of lympho-histiocytes, multinucleate giant cells with neutrophilic microabscesses (20X).

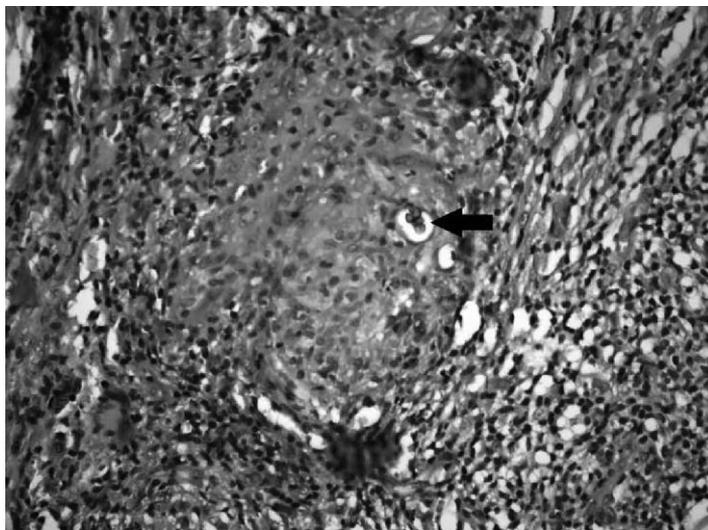


Figure 3. Photomicrograph showing medlar bodies (40X).

This plaque was non-tender, non-blanching and the local temperature was normal. There was non-tender inguinal lymphadenopathy. His ulnar and common peroneal nerves were thickened bilaterally, but were non-tender on palpation. His complete haemogram was within normal limits. The ESR was 15 mm at the end of one hour. Chest fluoroscopy was within normal limits.

Liver enzymes were mildly elevated (alanine transaminase: 44 IU/L and aspartate transaminase: 55 IU/L). A skin biopsy from the thigh lesion showed chronic granulomatous inflammation comprising of lymphocytes and histiocytes with occasional plasma cells (Figure 3).

At places sclerotic bodies (copper penny bodies) were seen confirming the diagnosis of chromoblastomycosis (Figure 4).

The patient was started on Itraconazole 400 mg/day. The clinical response has been excellent (Figure 5: One month post treatment).

Discussion

Chromoblastomycosis is caused by several genera of dematiaceous (melanin pigmented) fungi: *Phialophora verrucosa*, *Fonsecaea pedrosoi* (*F.compactum*, *Exophiala jeanselmei*, *E.spinifera*), *Wangiella dermatitidis*, *Rhinocladiella aquaspersa*, *Cladosporium carrionii*, and *Rhytidhysterion spp.* (nonsporulating).³ They are non-aggressive saprophytes found in soil, rotten wood and decaying vegetation. They reproduce by intracellular wall formation and septation, not by budding.

Chromoblastomycosis – an implantation mycosis – is widely considered as an occupational hazard³ of farming in rural areas in the tropics. Trauma with exposure to vegetative matter can pose a risk for inoculation of multiple organisms. It has been suggested that men are more likely to be affected as they are more commonly involved in agricultural



Figure 4. Post treatment photograph showing regression.

labour. The lesions commonly occur on hands, legs and feet as they are least covered¹ while doing outdoor work thus increasing the risk of traumatic inoculation of the fungi.

Our patient is working as a livestock supervisor and doesn't give any history of trauma in his professional work; moreover the lesion is at a rare site which is always covered. The disease progresses from papule to plaque to tumour gradually, presenting as a verrucous plaque¹ in our case. Autoinoculation from scratching may cause the plaque to spread to the contiguous areas, giving it an annular appearance. Thus itching, which was present in this patient, may have caused the annular presentation.⁴

The diagnosis in this patient was clinched by histopathology report which is diagnostic.

Reports from last 5 years of chromoblastomycosis associated with Hansen's disease are shown in Table 1.

This case is being reported due to occurrence of chromoblastomycosis in a person previously treated for leprosy and currently a livestock worker living in a leprosarium. The treatment of leprosy reaction by corticosteroids which are immunosuppressive might have predisposed him to acquire infection by dematiaceous fungi. The most likely explanation, however, is that the two conditions are unrelated, and that their occurrence in the same patient is coincidental.

Our patient's lesion responded very dramatically to systemic Itraconazole though chromoblastomycosis lesions are generally recalcitrant and can be difficult to treat.⁴

Table 1. Coexistent cases of leprosy and chromoblastomycosis in English literature

Author	Place	Age/Sex and occupation	Medical history	Clinical features	Response to treatment
Miyagi et al ¹	Okinawa (JAPAN) Subtropical	87 years, Female Vegetable garden worker in leprosarium	Lepromatous Hansen's disease with claw hands, stomach cancer, hypertension, multiple micro infarctions in brain,	Well demarcated, hyperkeratotic, light brown to greyish white colored plaque over dorsum of left hand	Systemic Itraconazole 200 mg/day combined with heat therapy: complete response within three months
Apte et al ²	Mumbai, India Tropical	24 years, Male	Borderline lepromatous Hansen's disease with recurrent type 2 reactions, treated with corticosteroids, azathioprine.	Verrucous papules with crusting over tattoo mark on right arm. Tattooing performed 6 months ago, lesions appeared 1 month after it.	Systemic Itraconazole 400 mg twice daily Significant improvement noted after 3 months
Basilio et al ⁴	Curitiba-PR, Brazil, Tropical	28 years, Male, building Construction worker	Multibacillary leprosy with neuritis with type 2 lepra reaction with Lucio phenomenon	Single, erythematous, hyperkeratotic plaque with black dots: over right hand: Chromoblastomycosis Nodular, non-tense, warm, erythematous lesions over thighs and trunk: Mucormycosis. Had received prolonged course of immunosuppressive treatment with corticosteroids, thalidomide	Surgical excision of chromoblastomycosis lesion and Systemic Amphotericin B for Mucormycosis were curative.
Present Case	Somnath (Chandrapur) Maharashtra Central India Tropical	44 years, Male Livestock supervisor An inmate of leprosarium	Past history of Hansen's disease with recurrent episodes of type 2 lepra reactions with bilateral partial ulnar claw,	Had received Immunosuppressive treatment	Systemic Itraconazole 400 mg/day Significant improvement after 1 month

References

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