

# Cutaneous Chromoblastomycosis

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## Abstract

Cutaneous and cerebral chromoblastomycosis are two clinical forms of chromoblastomycosis caused by dematiaceous (naturally pigmented) fungi.

Sporadic cases have been reported as case-reports hence, definite incidence is not known. Thirty cases have been reported in the Indian literature between 1957-1997. The highest number of cases were reported in Southern part of India.

We report a rare case of cutaneous chromoblastomycosis of thigh of one year duration in a 54 year old male. Histopathology showed characteristic sclerotic bodies. Special stains were done to highlight the sclerotic bodies. Cultural examination isolated *Fonsecaea Pedrosoi* species.

## Introduction

Although dematiaceous fungi have a worldwide distribution, it has a higher prevalence in areas of tropical and sub-tropical climate.<sup>1</sup> Chromoblastomycosis was first described in Brazil in 1914 by Max Rudolph, a German physician. He published report of six cases and isolated a dark, grey to black coloured fungus. He surprisingly, failed to describe histopathological aspect of the disease. Medlar, in 1915, described the characteristic histologic appearance of sclerotic bodies, which thereafter are named as Medlar bodies. Other synonyms include "copper-penny" bodies or "mauriform" cells.

Six species or genera are accepted to cause chromoblastomycosis - *Fonsecaea pedrosoi*, *Phialophora verrucosa*, *Cladophialophora carrionii*, *Fonsecaea compacta*<sup>1,2</sup> rare cases are caused by *Rhinocladiella aquaspersa* and *Exophiala* species.<sup>1</sup> *Fonsecaea pedrosoi* is the commonest organism isolated. Mycosis remains localized for many years and spreads centripetally to involve the whole limb.<sup>6</sup>

Lymphatic and haematogenous dissemination may occur.<sup>3,4</sup> Very rarely, lesions may proceed to development of epidermoid carcinoma.<sup>4</sup>

## Case Report

A fifty four year old, male patient referred to a dermatologist for a progressively increasing, reddish warty growth on the medial aspect of left thigh since 8 -10 days. He had an elevated nodular growth since last one year. New lesions developed at the periphery and at present are coalescing to form a large warty growth. There was no history of trauma. He had applied soframycin locally, obviously, with no relief. His physical and systemic examination did not show any abnormality.

On examination, a large tender, erythematous, shiny, warty plaque measuring 18 x 16 cms was noted with a central depression, surrounded by a peripheral studding of similar papules. Multiple satellite lesions were seen one of which was biopsied with a differential diagnosis of tuberculous verruca versus deep mycosis.

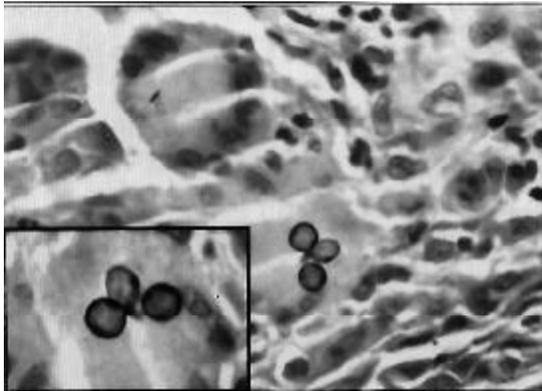
## Pathological findings

Gross examination : We received a tiny skin clipping biopsy measuring 0.8 x 0.5 x 0.3 cm.

Skin was blackish and slightly nodular.

Microscopic examination : Sections stained with H and E showed skin with evidence of extensive hyperkeratosis, acanthosis and pseudo-epitheliomatous hyperplasia. The downward proliferations showed numerous microabscesses with granulomas centralized by dark, round, brown

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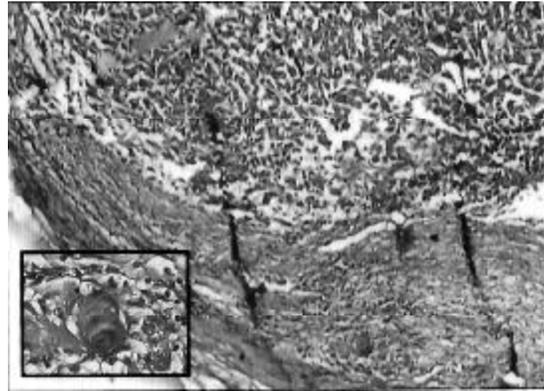
*Fig. 1 :This photomicrograph shows dermal granulomas with sclerotic bodies. The overlying epidermis shows hyperkeratosis, pseudoepitheliomatous hyperplasia and microabscess formation. H & E x10.*

coloured, septate, sclerotic bodies with budding forms within the giant cells. Upper dermis showed similar granulomatous lesions.

Special stains like GMNS and PAS stained the sclerotic bodies. Cultural examination was done. The isolated organism was *Fonsecaea pedrosoi*, which confirmed our diagnosis of cutaneous chromoblastomycosis.

### **Discussion**

Cutaneous chromoblastomycosis is a localized infection of skin and subcutaneous tissue.<sup>4</sup> Clinical forms can be nodular, plaque-like, verrucous, cicatricial or tumorous.<sup>1,3</sup> Commonest sites involved are legs, arms and buttocks.<sup>1,2,4</sup> Sporadic reports mention lesions on face, ear and breasts. Unusual sites include penile shaft, vulva and ala of nose.<sup>5</sup> In Indian literature, these unusual sites are more common probably due to unhygienic conditions.<sup>2</sup> In the present case, the lesion occurred on lower extremity on the thigh region. Mode of transmission is thought to be inoculation of soil or vegetable matter contaminated by dematiaceous fungi or traumatic injury with wood splinters.<sup>4</sup> Many patients are left undiagnosed or misdiagnosed.



*Fig. 2 :Higher magnification showing round, sclerotic bodies with chest-nut brown coloured, thick walled septate bodies. Inset shows sclerotic bodies. H & E x40.*

Primary lesions develop at the site of injury and remain localized for years.<sup>6</sup> After several years, new lesions develop by auto-inoculation or through propagation by lymphatic vessels causing elephantiasis. Haematogenous dissemination can occur and carries a grave prognosis.<sup>5,6</sup>

Grossly lesions show blackish, nodular, warty, blood spotted growth. Our case showed similar gross appearance. Histologically, skin lesions show lichenoid dermal granulomatous infiltrate. Dematiaceous fungi are seen in the form of spores, hyphae or both forms.<sup>1</sup> Phaeoid (dark coloured) hyphae are more commonly seen in cerebral forms. In cutaneous lesions, hyphal forms are confined to corneal layer. They are never seen in dermis. Sclerotic bodies are round or polyhedral, 5-12 micrometer in diameter, thick walled, chest-nut brown or golden brown in colour, usually septate with a horizontal or vertical septa inside and are seen lying singly or in clusters within dermal granulomatous areas.<sup>1,6,7,8</sup> Melanin imparts black colour to these fungi. The overlying skin shows hyperkeratosis, pseudoepitheliomatous hyperplasia and keratolytic

microabscesses.

Histology is said to be diagnostic<sup>1</sup>. Special stains may obscure natural pigment of the fungus. Cultural examination is confirmatory test. In our case, cultural examination isolated species of *Trichosporon pedrosoi*.

Squamous cell carcinoma, a rare sequel, is reported to occur in long standing cases.<sup>1,5</sup> Most characteristic feature of chromoblastomycosis is its refractoriness to treatment. Several therapeutic schemes are suggested. Surgical excision or electrocution should be avoided. Oral itraconazole as monotherapy or with oral fluconazole and cryosurgery with liquid nitrogen is recommended. Our case was similarly treated and is well till date, after six months of follow-up.

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#### **WORKFORCE BIGGEST BARRIER TO ROLL-OUT OF MALE CIRCUMCISION**

Progress towards making male circumcision for HIV prevention a reality in Africa has been slow because of cultural hurdles in a few countries, financial constraints in most, and a serious shortage of skilled practitioners throughout the continent.

The recommendation had a sound scientific basis. The results of three randomized controlled trials undertaken in Kisumu, Kenya, Rakai District, Uganda, and Orange Farm, South Africa had shown that male circumcision reduces the risk of heterosexually acquired HIV infection in men by around 60%.

**The Lancet, 2007; 370 : 1817-18.**