**Case Report:**

# Chromoblastomycosis- A report of a rare fungal infection from non endemic region of north India

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**Abstract:**

We report a case of 65 year old man who presented with complaints of itching and crusting over the knee. With a clinical impression of lichenoid dermatitis a skin biopsy was performed . The biopsy showed occasional ill defined granulomas and microabscesses. In view of the clinicopathologic discordance a careful scrutiny of the granulomas and microabscesses was carried out under oil immersion lens. Occasional penny shaped structures could be identified which were positive for fungal stains namely methenamine silver and Periodic Acid Schiff.(PAS). On literature search these were confirmed to be medlar bodies which are characteristic of a rare deep fungal infection namely chromoblastomycosis. The medlar bodies are often very few in histopathology specimens and are missed due to lack of awareness about this entity. The problem gets compounded when the clinical appearance suggests a different diagnosis.The case has been reported in view of its rarity and a brief review of chromoblastomycosis is presented.

Key Words : Chromoblastomycosis, medlar bodies, skin biopsy

**Introduction**

Chromoblastomycosis is a chronic granulomatous lesion of the skin and subcutaneous tissue caused by dematiaceous fungi which include Fonseacaea Pedrosoi and Cladosporium carrionii. [1] The infection has been reported from all parts of the world but it is more common in tropical and subtropical countries. Most patients are farmers and construction workers and the mode of spread is direct inoculation into the skin. The lesion can mimic squamous cell carcinoma [2] and tuberculosis verucosa cutis [3] clinically due to its warty appearance. Often the diagnosis is missed both clinically and histopathologically since the diagnostic copper pennies or sclerotic bodies are very sparse and difficult to find in the inflammatory infiltrate. Here we report a case of chromoblastomycosis in a 65 year old man who presented with complaints of itching and crusting over the right knee for six months. The case has been reported due to the rarity of the lesion and its propensity to mimic other clinical conditions.

**Case History**

A 65 year old man presented to the dermatology out patient department.with complaints of itching and crusting over the right knee .On examination the patient had multiple papules coalescing to form plaques over the right knee with yellowish crust .Excoriation was noted and a clinical impression of lichenoid dermatitis was made. Granuloma annulare was also kept as a clinical differential . A punch biopsy skin was taken from the lesional area. On histopathological examination the skin biopsy showed regular acanthosis, hyperkeratosis and mild

spongiosis in the epidermis. Several microabscesses and few ill defined granulomas were identified in the upper dermis. The characteristic globe shaped ,cigar coloured thick walled fungal sclerotic bodies (medlar bodies) were identified both intra and extracellularly.(Fig.1)

The 5-12 micrometre sized medlar bodies or muriform cells with planate division were further highlighted with fungal stains-PAS(Periodic acid Schiff) and SM (Silver Methenamine). A histopathological diagnosis of chromoblastomycosis was made.(Fig.2)

Fungal culture was advised for exact characterization of the species. The patient was put on antifungal (itraconazole) treatment and is currently under follow up.

**Discussion**

All the dematiaceous fungi that cause chromoblastomycosis are morphologically diverse on fungal culture but produce the same characteristic medlar bodies in tissue. Hence a diagnosis of chromoblastomycosis can be made on skin biopsy though species characterization needs culture studies. The muriform cells divide by internal septation and hence have vertical and horizontal lines in the same plane (planate) and rarely different planes.[4] These medlar bodies are very hardy and can be recovered even after 18 months from a culture of epidermal scrapings.[4] This explains why clinical lesions may appear after long periods of incubation period after inoculation and also explains the difficulty in achieving cure after prolonged antifungal treatment.

Medlar reported the first case of Chromoblastomycosis in 1915 from Boston, in an Italian immigrant and described the characteristic sclerotic bodies, which were thereafter named after him.[5]

The fungus is ubiquitous and is found in soil and decaying vegetation. The disease is common in rural areas where walking bare foot is common.[6] Clinical presentation vary depending on the stage of evolution ranging from small ulcers, plaques, papulonodular lesions, cauliflower like warty lesions to cicatricial forms.[7] Most of the etiologic agents produce only localised disease [8]

In a large study of 325 cases reported from Brazil there was a male preponderance with most of the patients coming from an agricultural background.[9] Unusual cutaneous sites reported include penile shaft, vulva, ala of nose.[10] Unusual distant spread has been reported from pleural cavity, ileocaecal valve, laryngotracheal area, and tonsils.[10] In an Indian review comprising of 34 patients , extracutaneous spread was seen in 24% cases.[10] A sporotrichoid pattern has been reported probably arising due to lymphatic spread of the fungus.[11]

The distribution pattern of neutrophils and macrophage subsets have been studied and reveal that the main pathological factor is persistence of the fungi in- situ.[12] There is a correlation between the clinical appearance of the lesion and the type of tissue response. The verrucous lesions are likely to have suppurative granulomas with several fungi whereas the atrophic plaque lesions usually have tuberculoid granulomas with few fungi. The data also suggests that verrucous lesions have type Th2 response whereas atrophic plaques have type Th1 tissue response.[13]

In our case the clinical appearance of atrophic plaque correlated with the histological findings of ill defined granulomas with few sclerotic bodies. Chromoblastomycosis is refractory to treatment. Treatment options include oral itraconazole,(as monotherapy or in combination with 5 Flucytosine),locally applied heat therapy, cryosurgery and combination therapy.[14]



www.ijbamr.com P ISSN: 2250-284X , E ISSN : 2250-2858

Fig 1 .A,B,C Hematoxylin and eosin .A-Granulomatous reaction .B-Microabscess formation and giant cell reaction.C- Copper penny shaped medlar bodies as seen under high power.(100x)

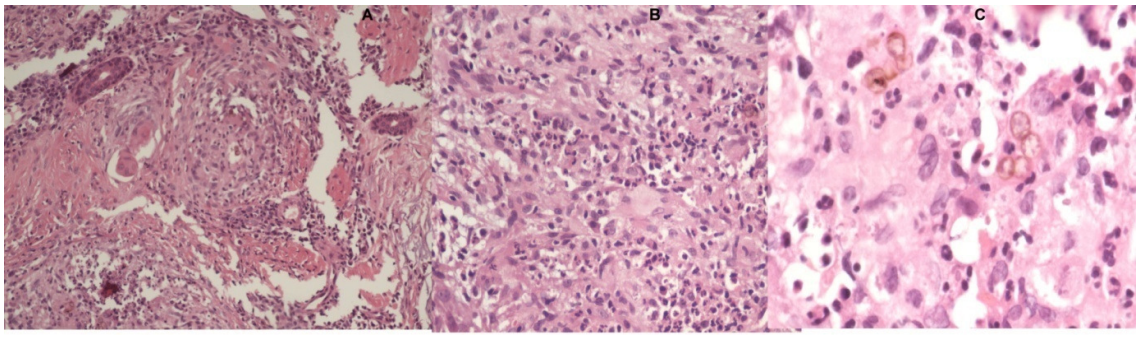
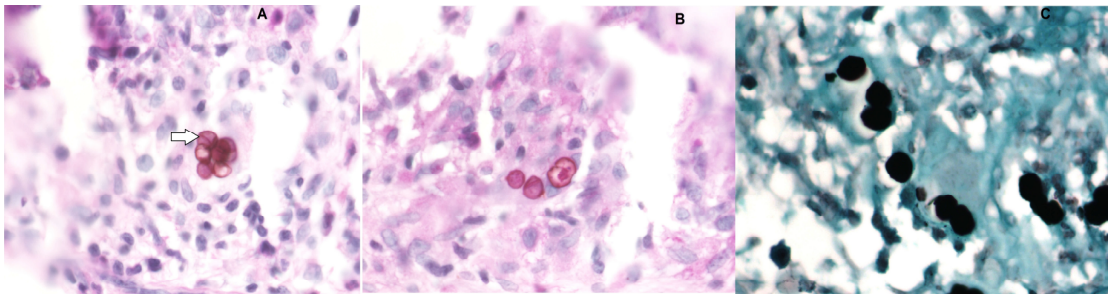



Fig 2 .A,B,C-Periodic Acid Schiff Reaction (PAS) highlighting the medlar bodies with planate division(arrow) (A and B). Methenamine silver stain confirming fungal bodies.

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