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Case Report

Chromoblastomycosis complicated with co-morbidities, curbed by cryotherapy: a case report

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ABSTRACT

Chromoblastomycosis is a chronic mycosis affecting skin and subcutaneous tissue. Treatment of chromoblastomycosis is challenging due to refractory nature of the condition and varied antifungal sensitivity of the organism. Though systemic antifungals are commonly used modality of treatment, there is no "gold standard" treatment. The array of treatment options include chemotherapy and physical methods (cryosurgery/ CO2 laser/superficial X-rays/ surgical excision), either alone or in combination. A 60 year old male farmer presented with history of congestive cardiac failure (CCF), presented with gradually increasing painful, reddish elevated skin lesions over right knee since 2 years. On examination, there was a well-defined solitary, tender plaque of size 2×3 cm with smooth surface, elevated peripheral margin. Blood investigations were within normal limits except for deranged LFT. Diagnosis of chromoblastomycosis was made based on KOH mount which revealed typical sclerotic bodies and histopathology which revealed neutrophilic abscesses, muriform cells, mixed granulomatous response. In view of his comorbidities like congestive cardiac failure and deranged liver function test, we couldn't consider the possibility of systemic drugs like Itraconazole. So, he was treated only with liquid nitrogen cryotherapy on a weekly basis for 8 weeks. Marked improvement in lesion was observed after 8 sittings. In our case, due to cardiac complications and deranged liver function test we treated the patient with cryotherapy solely and achieved marked improvement in skin lesions. Cryotherapy alone serves as an effective treatment modality when systemic antifungals can't be given.

Keywords: Chromoblastomycosis, Refractory nature, Congestive cardiac failure, Deranged LFT, Co-morbidities, Liquid nitrogen cryotherapy

INTRODUCTION

Chromoblastomycosis is a chronic infection of the skin and subcutaneous tissue, most commonly found in tropical and subtropical areas though known to occur worldwide. Saprophytic fungi of soil and plants belonging to genera Fonsecaea, Phialophora and Cladophialophora are the causative organisms, *Fonsecaea pedrosoi* being the most common agent.[1] Infection commonly is known to occur on exposed body parts through traumatic inoculation of skin with contaminated vegetable matter. Feet, legs, arms, or upper trunk are the initial sites of the lesions. Nodular and/or verrucous plaques can develop centripetal satellite lesions. Complications include secondary bacterial infection, local lymphedema, leading to elephantiasis and squamous carcinomas in some chronic lesions. Diagnosis can be made by direct microscopic demonstration of pathognomonic brown sclerotic cells (also called fumagoid or muriform cells) in skin scrapings.[2]

We report a 60 yrs old male having coronary artery disease with chromoblastomycosis treated with only cryotherapy.

CASE REPORT

A 60 yrs old farmer presented with gradually increasing painful, reddish elevated skin lesions over right knee since 2 years. On examination, there was a well-defined solitary, tender plaque of size 2×3 cm with smooth surface and an elevated peripheral margin, clinically suspected as Lupus vulgaris or Bowen's disease. The patient also had history of congestive cardiac failure and deranged liver function test.

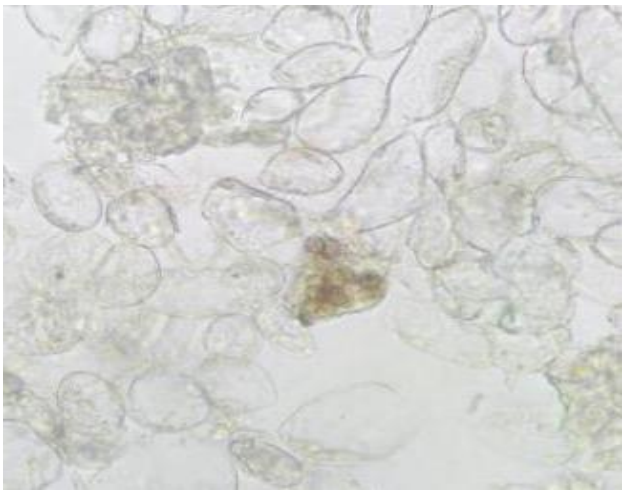

Figure 1: Brown sclerotic bodies on 20% potassium hydroxide mount.

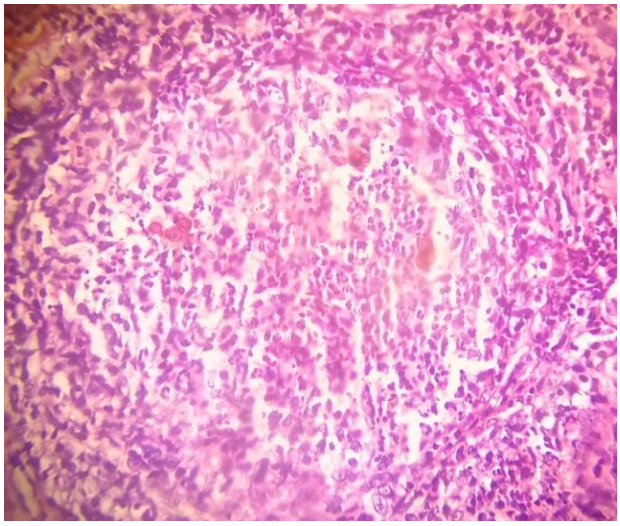

Figure 2: Muriform cells with granulomatous response on hematoxylin-eosin staining (40x).

Routine hematological investigations were within normal limits. The erythrocyte sedimentation rate was normal. Liver function test was deranged. The patient was immunocompetent and nondiabetic. Mantoux test was negative, chest X-ray was normal. Microscopy of superficial skin scrapings from the lesion showed typical brownish, round, thick-walled, sclerotic cells with the 20% potassium hydroxide mount. Punch biopsy from the margin of the lesion was taken, which showed small neutrophilic abscesses, muriform cells, mixed granulomatous response. Culture couldn't be done due to lack of facilities. The diagnosis of chromoblastomycosis was made based on histopathology and potassium hydroxide mount.

In view of his comorbidities like congestive cardiac failure and deranged liver function test, we couldn't consider the possibility of systemic drugs like Itraconazole. So, he was treated only with liquid nitrogen cryotherapy with 5-10 sec freeze and 20 sec of thawing period per cycle. Freezing was performed until a 1–2 mm white margin was formed around the site. Two such cycles were repeated per each session on a weekly basis for a period of 8 weeks and improvement was observed after 4 sittings and complete resolution of lesions occurred after completion of 8 sittings.

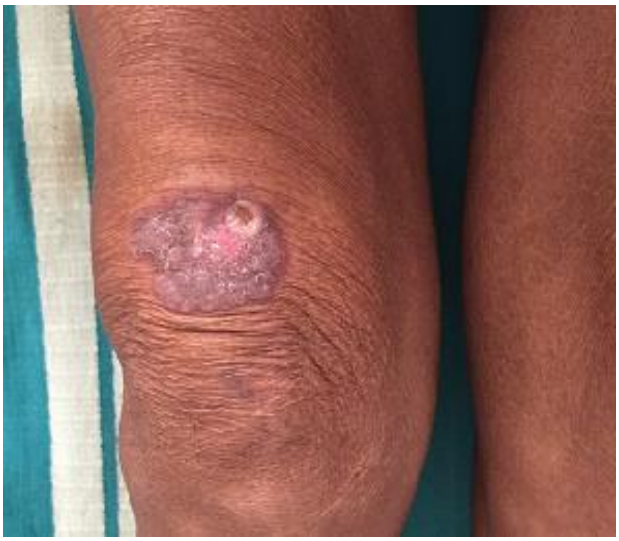

Figure 3: Before treatment.

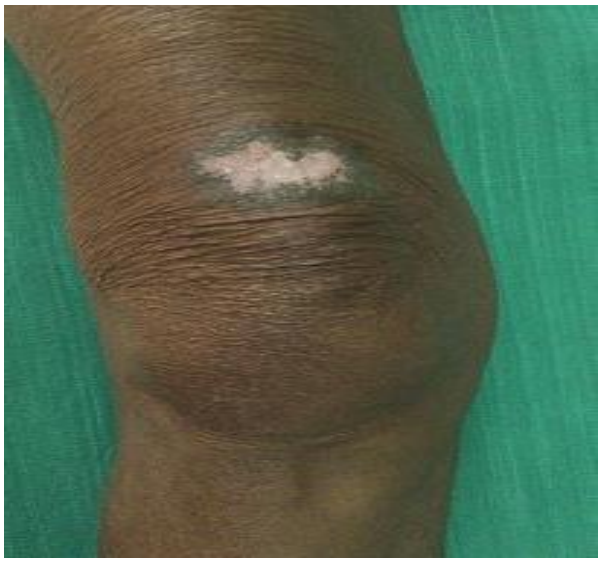

Figure 4: After treatment.

DISCUSSION

Though chromoblastomycosis is not uncommon in tropical countries, treatment of this condition is challenging and unsatisfactory due to varied antifungal sensitivity of the organisms and refractory nature of the condition. Possible complications include secondary bacterial infection with lymphadenitis and, less frequently, the development of squamous carcinoma in lesions that have been present for a very long time.[3]

There is no "gold standard" treatment for the condition. The array of treatment options include chemotherapy and physical methods (cryosurgery/CO2 laser/superficial X-rays and surgical excision), either alone or in combination. Cure rates of 75.6% and 85.7% were achieved in cases treated alone either with chemotherapy or physical methods, respectively. However, the cure rate increased to 86.36% when the above 2 modalities were used in combination.[1] Of all the physical treatments described in the literature, cryotherapy is associated with the best outcomes, with a cure rate of 40.9% when used as monotherapy.[3]

In our case, since the patient had congestive cardiac failure and elevated liver enzymes, liquid nitrogen cryotherapy was chosen as the treatment.

Several reports have documented a good response of chromoblastomycosis to itraconazole however, long duration of treatment, 18–30 months, is required.[5] Limited studies are available with crotherapy used as monotherapy for this very condition.

In a study by Castro et al conducted on 22 patients of chromoblastomycosis ,the average number of cryosurgery sessions per patient was 6.7, varying from one to 22 sessions with duration of treatment for up to 126 months.[4] Nine patients (40.9%) were considered to be cured (clinically disease-free period of at least 3 years), eight (36.4%) were under observation (clinically disease-free but less than 3 years of follow-up), two (9.1%) were under treatment (still with active lesions), and three (13.6%) were classified as unsuccessful. The average cure period was 7.5 years, varying from 3 to 16 years. Five (55.6%) of the nine cured patients had been cured for periods exceeding 9 years. Six (66.7%) of the nine cured patients were classified as having mild, two (22.2%) severe, and one (11.1%) moderate disease. They concluded that cryosurgery with liquid nitrogen is an option in the treatment of chromomycosis.[4]

CONCLUSION

In our case, due to the cardiac complications and deranged liver function test we treated the patient with cryotherapy solely and achieved marked improvement in skin lesions. Cryotherapy alone serves as an effective treatment modality when systemic antifungals can't be given.

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