Non Healing Chronic Ulcer of Leg – A Case of Chromoblastomycosis

M K Padmaprasad

Department of Dermatology, Sree Gokulam Medical College, Venjaramoodu, Kerala, India*

ABSTRACT

Published on 28th March 2013

Chromoblastomycosis is chronic deep mycotic infections which is prevalent mainly in the tropical climate areas affecting the low socioeconomic group especially people working in open fields or near the tropical forests. The disease presents with mixed clinical features and sometimes as chronic non- healing ulcers. A 65-year-old man presents with an ulcer on the left dorsum of the foot of 14 years duration and is diagnosed as Chromoblastomycosis. He has been successfully treated with systemic itraconazole and topical ketoconazole cream.

Keywords: Chromoblastomycosis, Leg ulcer, Medlar bodies, Itraconazole

*See End Note for complete author details

INTRODUCTION

Chromoblastomycosis (Chromomycosis) is a chronic localised fungal infection of the skin and subcutaneous tissue which produces raised scaly lesions usually on lower extremities. The lesions are usually warty or cauliflower-like in appearance with pathognomonic muriform cells, also called "copper- penny" or sclerotic bodies found on histologic examination. This disease of tropical and subtropical distribution is produced by inoculation of the infecting fungi in association with minor trauma. Though spontaneous resolution had been reported it is difficult to eradicate the disease even with prolonged treatment. Systemic itraconazole is very useful in effectively eradicating the disease.

CASE REPORT

A 65-year-old man was referred to our clinic with a non healing ulcer on the left dorsum of foot. The ulcer was of 14 year duration. He was treated by more than a dozen general surgeons during this period. He was referred to us from the surgery clinic of our institution. He was a farmer from a village, working in the fields near forest. On examination he had a large oval ulcer about 7.5x 5 cm on the dorsum of the left foot, the margins were partially rolled out and had large flaky scales covering the ulcer with floor showing cauliflower-like granulomatous appearance. There was serous oozing from the floor of the ulcer and palpation showed minimal tenderness (see Figure 1).

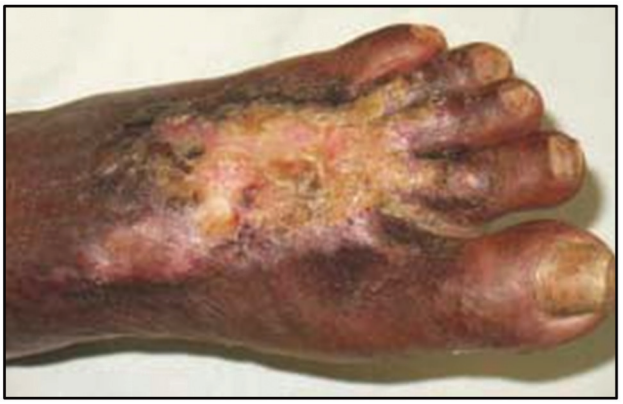

Figure 1. **Ulcer with rolled out margin covered with yellow waxi scales**

He gave history of having taken several courses of antibiotics parentally and orally. The treatment records confirmed it and he had different topical antibiotic and steroid creams, but had not experienced any significant improvement. Routine laboratory assessments such as blood count, erythrocyte sedimentation rate, kidney and liver function test, serum electrolytes, tests for collagen vascular diseases and tuberculosis were within normal limits. A wedge biopsy has been taken from the ulcer near the margin with a clinical diagnosis of possibility of deep mycosis and malignancy in a chronic ulcer.

Histological examination showed hyperkeratotic epidermis with marked hyperplasia and papillomatosis. Papillary and deep dermis showed numerous small abscesses with giant cells containing groups of round brown fungal bodies-the muriform cells, also called sclerotic, copper-penny or Medlar bodies (see Figure

Corresponding Author:
Dr M K Padmaprasad, Department of Dermatology, Sree Gokulam Medical College, Venjaramoodu, Kerala, India.
E-mail : mkpadmaprasad@gmail.com

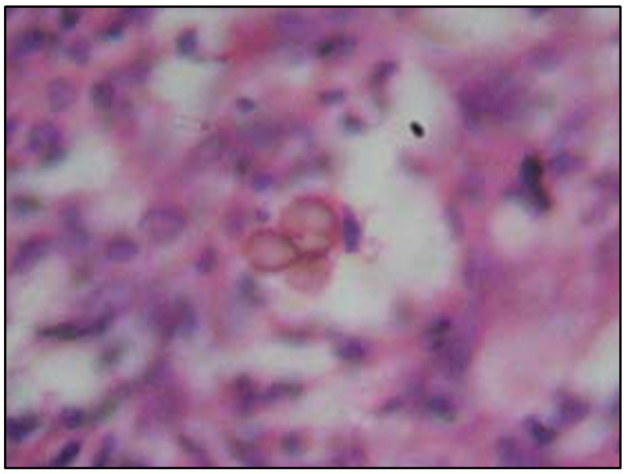

Figure 2a. **Sclerotic bodies of Chromoblastomycosis**

2-a). They are found intracellularly in macrophages and extracellularly in abscesses. The epidermis showed in some areas pseudoepitheliomatous hyperplasia, foci of polymorphonuclear cells and dermis showed microabscesses. (see Figure 2-b & Figure 2-c).

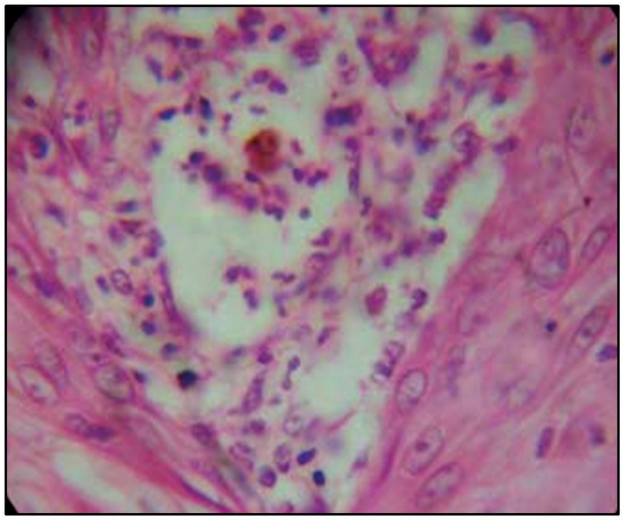

Figure 2 b. **Copper penny- medlar body in a micro abscesses (high power view) (Hematoxylin & Eosin)**

Standard mycological culture media (sabouraud's dextrose agar) with and without cyclohexamide were used and culture incubated for 4 weeks. The characteristic dark coloured moulds were identified. With these findings the diagnosis of Chromoblastomycosis was established. Systemic evaluation for detection of any other site of involvement was done. CT scan of brain, chest , abdomen and pelvis were performed and x-ray of bones were done to exclude hematogenous spread.

DISCUSSION

Chromoblastomycosis or Chromomycosis should be suspected in a person with chronic scaly, friable lesions

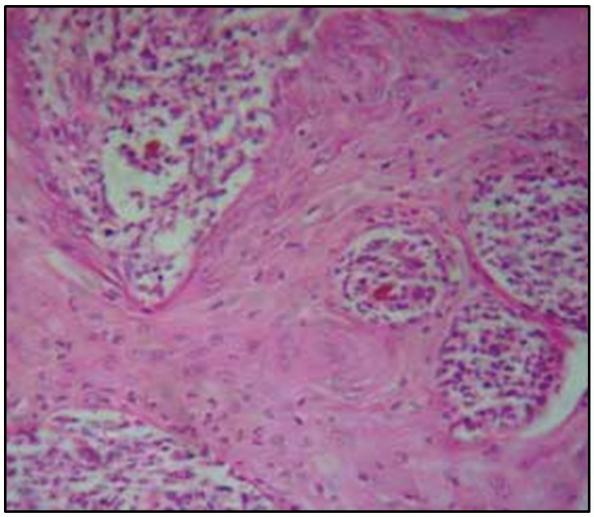

Figure 2 c. **Multiple dermal abscesses with fungal bodies in a mixture of Nuetrophils, Macrophages**

and non-healing ulcers of extremities especially in individuals staying in rural tropical areas. Microscopic examination of skin scrapings can provide rapid diagnosis because of the characteristic muriform cells seen in potassium hydroxide mounts. This can be also seen in standard skin punch biopsy specimens stained with hematoxylin and eosin.

It is a chronic localised fungal infection of the skin and subcutaneous tissue usually on lower extremities. Infection is caused by several dark walled (dematiaceous) fungi found in the soil in association with cacti, thorny plants and other live or decaying vegetations. Fonsecaeapedroso is the most common cause of this disease. Other organisms are Cladosporiumcarrionii, Cladophiallophora, Phialophoraverrucosa, Rhinocladiellaaquaspersa. The disease is prevalent in Brazil, Mexico, Srilanka and Japan. In India it is prevalent in the plains of north and south India and also in the foothills and adjoining plains of Nilgiri mountains. It is now reported to occur throughout the world although most cases are reported in tropical and subtropical regions.

Though spontaneous resolutions have been reported rarely, most Chromoblastomycosis cases are chronic indolent ulcers. If it is caused by the most common agent, F. Pedrosoi, it is difficult to eradicate with prolonged therapy. Multiple modalities have been tried including surgery, local physical treatment and antifungal agents. No single fully successful treatment strategy has been identified. Surgical removal of small lesions, local application of liquid nitrogen, topical heat, photocoagulation, curettage or electrocautery, topical use of 5-flurouracil have been tried.

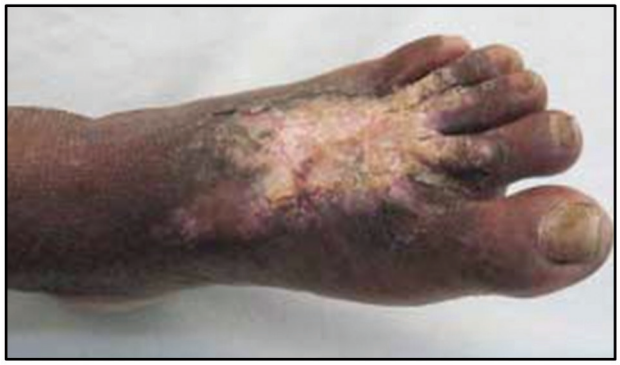

Figure 3. **Same ulcer 4 weeks after treatment and Eosinophils (Hematoxylin & Eosin)**

Now the best therapy appears to be systemic itraconazole or terbinafine with adjunctive cryotherapy. Other antifungal agents like Amphotericin B (IV or intralesional), 5-flurocytocine, ketoconazole and fluconazole have been tried alone or in combination. Our patient was given itraconazole 100 mg b.i.d and topical ketoconazole cream b.i.d which has produced 95% healing of the ulcer within a period of 2 months (Figure 3). It has been reported in a study that the drug may be continued for 4-8 months. In one study terbinafine at a dosage of 500mg daily was given for 8-12 months and mycological clearance was obtained in 86% of patients. In vitro studies have shown minimum inhibitory concentration (MIC) of voriconazole for F.Pedrosoi and F.Compactais lower than those with itraconazole. Posaconazole 800 mg per day in divided doses for2-6 months has been used successfully in another group of patients. No effective vaccines are available against Chromoblastomycosis. This case is reported to highlight the fact that many chronic leg ulcers treated for other infective causes should be screened properly to exclude Chromoblastomycosis. Proper protective clothing, footwear and early treatment of lesions are the only available preventive measures against this disease.

END NOTE

Author Information

Dr M K Padmaprasad, Department of Dermatology, Sree Gokulam Medical College, Venjaramoodu, Kerala, India. E-mail: mkpadmaprasad@gmail.com

Conflict of Interest: None declared

Cite this article as: M K Padmaprasad. Non Healing Chronic Ulcer of Leg – A Case of Chromoblastomycosis. Kerala Medical Journal. 2013 Mar 28;6(1):21-23

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