# A neglected case of facial chromoblastomycosis caused by *Rhinocladiella*

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## Abstract

Chromoblastomycosis is a chronic granulomatous fungal infection caused by traumatic inoculation of dematiaceous fungi. *Rhinocladiella* species rarely cause chromolastomycosis, which may need prolong courses of systemic antifungal treatment. Here we report a case of facial chromoblastomycosis caused by *Rhinocladiella* species in a 52 years old rural farmer.

## Introduction

Chromoblastomycosis is a chronic fungal infection commonly found in tropical and subtropical zones. It is caused by transcutaneous traumatic inoculation of the pathogenic dematiaceous fungi[1]. Genus *Rhinocladiella* which belongs to the *Chaetothyriales* order *(Ascomycota)* is a very rare cause of chromoblastomycosis[3]. The environmental niche of these fungi has not been confirmed. Here we report a case of 52 years old farmer from Mahiyanganaya, presenting with a long standing facial plaque of chromoblastomycosis caused by *Rhinocladiella* species.

## Case

A 52 years old female farmer, otherwise healthy from a rural farming area in Sri Lanka, presented for dermatology consultation with a painless violaceous plaque (6.4 cm) with scaling and well defined irregular borders at her left cheek (Figure 1). There were few black dots at the periphery of the lesion. She recalled that it started about 20 years back as an erythematous papule which she thought as an insect sting and used to scratch due to the uncomfortable tingling sensation. It was slowly enlarging throughout the years. In 2006, it was diagnosed as chromoblastomycosis from a punch biopsy, but the species identification was not performed. She was treated with itraconazole empirically for 2 years with intermittent noncompliance, without any response. Therefore, the lesion was re biopsied for histological analysis and species identification. Histology showed granulomatous reaction in the dermis and characteristic muriform cells (Figure 2).

The biopsy specimen was inoculated in Sabouraud dextrose agar supplemented with chloramphenicol and incubated at both 26C and 37C 14 days. After 14 days, restricted, black-colored, domed, velvety colony with an olivaceous black reverses was observed in all 4 culture bottles (Figures 3,4).

Since the tease mount with the lacto phenol cotton blue mount of the isolate did not show characteristic features, a slide culture was done and incubated for 14 days. After 14 days of incubation, microscopy of the slide culture revealed brown pigmented, septate hyphe with erect, dark brown pigmented, unbranched, thick-walled conidiophores. These conidiophores had scars indicating conidia implanted sites. Light brown, smooth, ellipsoidal conidia attached to distal portions of conidiophores were seen. Both macroscopic and microscopic features were compatible with *Rhinocladiella* spp. Antifungal sensitivity was done using E strip method and the isolate had following MIC values: amphotericine B 1µg/L, ketoconazole 0.75µg/L, itraconazole 0.19 µg/L, voriconazole 0.191µg/L.

Since the lesion was not responding to itraconazole, voriconazole 200 mg 12 hourly was started combined with cryotherapy. The patient was followed up for 3 months, and a significant improvement of the lesion was observed.

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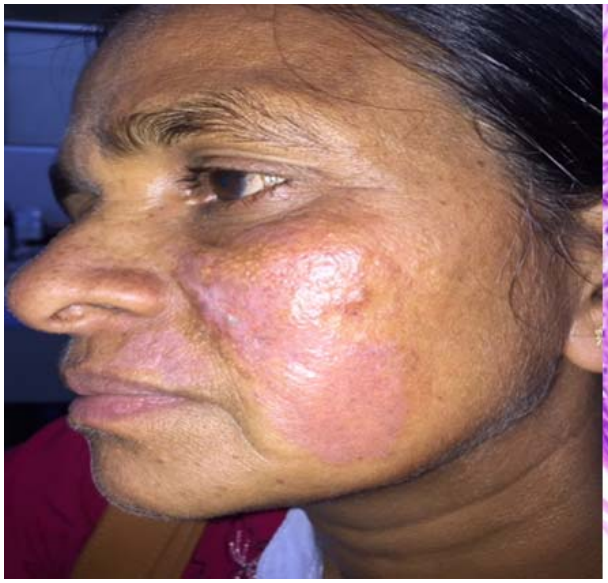

**Figure 1.**

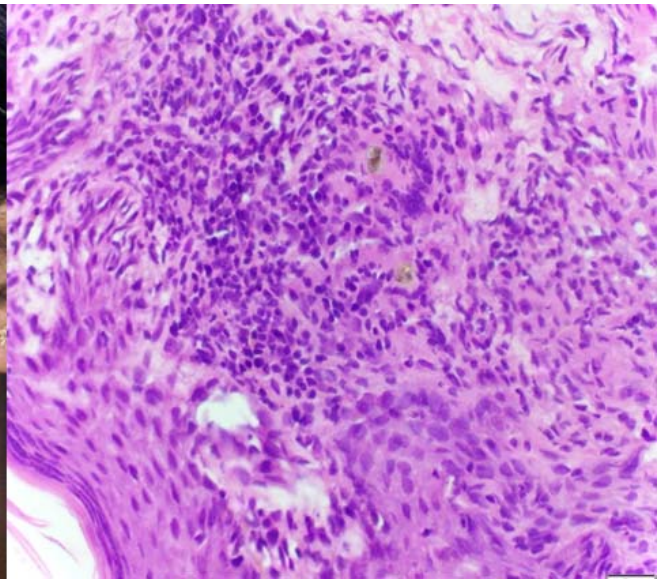

**Figure 2.**

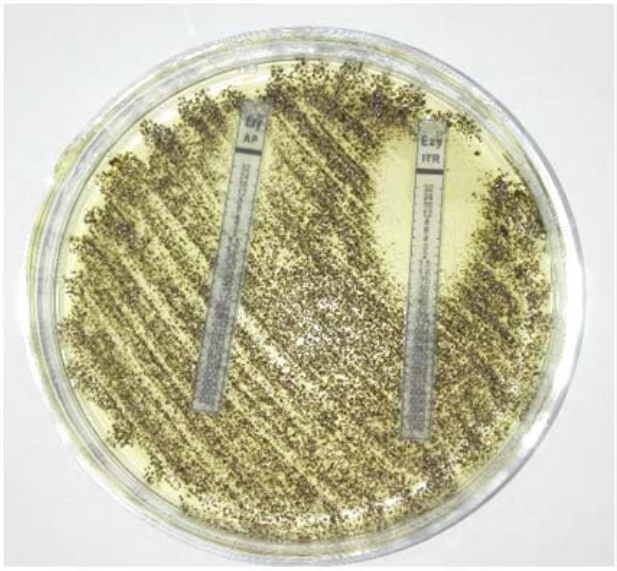

**Figure 3.**

**Figure 4.**

## Discussion

The fungi that cause chromolastomycosis belong mainly to *Fonsecaea, Cladophialophora, Phialophora, Rhinocladiella* and *Exophiala* genus[1]. They have melanin in their cell walls which is an important pathogenicity factor[1]. Their natural habitat is soil, plant thorns, decaying plant debris[1]. Therefore, it is an occupational dermatoses found in rural farmers[1]. As in this case, the earliest symptoms of this fungal infection is often ignored, enabling it to be considered as one of the neglected tropical diseases (NTD), which constitute a group of tropical and subtropical ignored infections which are endemic in low income populations in developing world[1]. If not treated early it may cause several health hazards such as inability to work, social isolation and may undergo malignant transformation[1].

Majority of lesions in literature are observed in extremities of rural workers[1]. However, in our case the lesion was seen in the face which is a rare site.

There were several case reports of *Rhinocladiella* species causing chromoblastomycosis. Although most of these cases have not been verified through molecular diagnosis, phenotypic features of the *Rhinocladiella* spp is unmistakable. *Rhinocladiella similis* was the etiological agent for chromoblastomycosis involving both foot and chest of a patient[3] and *Rhinocladiella aquaspersa* was isolated from a foot lesion[4].

The organism is susceptible to commonly used azoles[2]. Both posaconazole and terbinafine shows low MIC values and promising drug for treatment. Some case reports show that the genus might be less susceptible to itraconazole, which is the standard therapy for chromoblastomycosis[3]. This may be attributed to variable bioavailability of itraconazole therapy and patient's level of compliance to treatment. Our patient was initially treated with itraconazole for nearly 2 years with intermittent noncompliance, yet without satisfactory results. Although our isolate was sensitive to itraconazole, she did not respond to it. Chromoblastomycosis due to *Rhinocladiella* species may require prong causes of antifungal therapy[3,4]. Combination treatments with surgery or cryotherapy will be beneficial and may reduce the duration of treatment[1,3,4]. Surgical treatment methods were inapplicable for our patient because of cosmetic reasons of the involved site. Therefore, cryotherapy was chosen.

## References

1. Queiroz-Telles F. Chromoblastomycosis: a neglected tropical disease. *Rev Inst Med Trop Sao Paulo*. 2015; **57**: 46-50.

2. Cristini A, Garcia-Hermoso D, Celard M, Albrand G, Lortholary O. Cerebral Phaeohyphomycosis Caused by Rhinocladiella mackenziei in a Woman Native to Afghanistan. *Journal of Clinical Microbiology* [Internet]. American Society for Microbiology 2010; **48**(9): 3451-4.

3. Heidrich D, González GM, Pagani DM, Ramírez-Castrillón M, Scroferneker ML. Chromoblastomycosis caused by Rhinocladiella similis: Case report. *Medical Mycology Case Reports*. Elsevier BV 2017; **16**: 25-7.

4. Porras-López C, Frías-De-León MG, Arenas R, Martínez-Herrera E. Chromoblastomycosis caused by Rhinocladiella aquaspersa: first case report in Guatemala. *Anais Brasileiros de Dermatologia*. Elsevier BV 2019; **94**(5): 574-7.