

# Phaeohyphomycosis of the Foot Caused by *Phaeoacremoniumrubrigenum* in an Elderly Lady: Fungal Infection with a Tumour like Presentation

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**Abstract:** We described a rare case of phaeohyphomycosis of right foot in an elderly caused by *Phaeoacremoniumrubrigenum* which was misdiagnosed as a soft tissue tumour of right foot. Phaeohyphomycosis has a variety of presentations. The mainstay of treatment is complete surgical resection with antifungal treatment. We would like to share this interesting case as the presentation mimicking a tumour which can lead to misdiagnosis.

**Keywords:** Phaeohyphomycosis, *Phaeoacremoniumrubrigenum*

## 1. Introduction

*Phaeoacremoniumrubrigenum* is a dematiaceous fungi that can present as subcutaneous and skin lesion. However the infection is very rare. We would like to share this interesting case as the presentation mimicking a tumour and leading to misdiagnosis. From this case we hope to create the awareness that subcutaneous fungal infection is possible in a non-immunocompromised patient.

## 2. Case Report

Madam M is a 64 years old lady presented with increasing size of right foot mass for 3 years duration. The painless swelling started during her childhood described as a peanut size and started to increase in size within 3 years prior to presentation. There is no history of injury to her right foot and no associated constitutional symptoms. Upon examination at the out-patient clinic, there is a soft, subcutaneous mobile mass measuring 8x7cm at the dorsum of right forefoot. Tinel sign is negative. MRI showed a large superficial subcutaneous mass over the dorsum aspect of the right forefoot in between the 1st and 2nd metatarsal bones level which may be a mesenchymal tumour, chronic ganglion cyst or para-articular synovial cyst. She was then planned for excision of right forefoot mass. A week prior to the surgery, the patient claimed that there was redness surrounding the lesion.

Intra-operatively, there is a soft mass with surrounding erythema and a punctum at right forefoot. It was a well encapsulated mass with collection of pus. The whole mass was excised, and specimen was sent for culture & sensitivity, fungal culture, tuberculosis culture and histopathological examination. The patient was well and was discharged home. She defaulted the subsequent follow up.

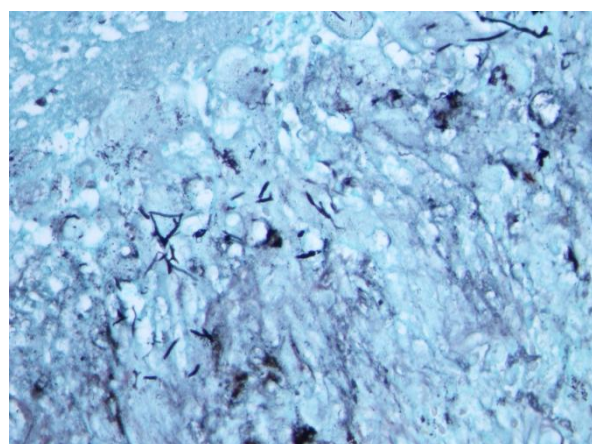
All specimens sent for cultures were negative except fungal culture which grew *Phaeoacremoniumrubrigenum*. Histopathological examination showed a dermal pseudocyst with granulomatous inflammation which is fungal associated by the evidence of occasional septated fungal hyphae with

acute angle branching with PAS and GMS. No acid-fast bacilli is identified with ZiehlNeelsen.

The patient was retrieved back to come to clinic for further follow up. Upon her review, the right foot wound has completely healed and there is no sign of recurrence of infection on right foot and elsewhere.



**Figure 1:** A soft mass with surrounding erythema and a punctum at dorsum of right forefoot.



**Figure 2:** The cyst wall shows an occasional septated fungal hyphae with acute angle branching with Periodic acid-Schiff (PAS) and Grocott-Gomori's (or Gömöri) methenamine silver (GMS) stains.

### 3. Discussion

Cutaneous fungal infection can be categorized into three groups which are chromoblastomycosis, phaeohyphomycosis, and mycetomas. Phaeohyphomycosis is caused by different darkly pigmented dematiaceous fungal genus, which differs from chromoblastomycosis and mycetoma. The dark pigment is due to presence of Melanin in the cell walls. Phaeohyphomycosis can be caused by *Phaeoacremoniumrubrigenum*; one of the fungal in genus Phaeoacremonium. *Phaeoacremoniumrubrigenum* was reported as a plant pathogen to cause various wood necrosis symptoms in pome fruit trees and grapevine infections in the Middle east and Italy. However, the first reported infection case in human was by Matsui et al. from Japan in 1999 which it infected immunocompromised patients. There are many reported cases of cutaneous phaeohyphomycosis from India, Japan and Brazil proving that the climate and geography are not the factors.

Despite cutaneous manifestation, phaeohyphomycosis can also affect the central nervous system, onychomycosis, endocarditis and endophthalmitis. It may present as subcutaneous swelling in the extremities, single or multiple lesions and worse, it may mimic carcinomatous skin lesion. Those fungi are found in soil and the lesion is trauma related. However, most of the reported cases including our patient had no history of trauma causing this lesion, and it is postulated that the trauma could be so trivial until it was not noticed by the patient. Grossly, it is always mistaken as sebaceous cyst or abscess by the presence of purulent material in a cystic lining. The diagnosis is made from histopathological examination in the presence of septated fungal hyphae.

Treatment for phaeohyphomycosis is complete surgical resection of the lesion. In the case of incomplete resection of lesion, rate of recurrence is high, hence, antifungal treatment is required. Itraconazole is the drug of choice for phaeohyphomycosis treatment. In our case, the patient did not receive any antifungal as the lesion was completely excised.

Fungal infection is mostly opportunistic and affects the immunocompromised patient. In the immunocompetent patients, we seldom overlook fungal infection as one of the diagnosis. We presented this case report to increase the awareness of the clinicians on this rare presentation of fungal infection. Fungal infection does not only present with typical skin lesion, but it also can mimic other soft tissue tumour or carcinomatous lesion. Therefore, it is important to have a high index of suspicion and to make a habit of sending tissue for histopathological examination and fungal culture as part of the investigations.

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