



PHAEOPHYCOMYCOTIC CYST IN THE FOOT BY "EXOPHIALA"

General Surgery

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ABSTRACT

A 52-year-old male, presented to us with a swelling over plantar aspect of right foot following trauma. Clinically it was a cystic swelling diagnosed as an abscess; ultrasound showed thick walled multilocular collection with thick echogenic debris, following which complete excision of the swelling was done. A part of the swelling was sent for histopathological examination and cut section showed thick purulent material. Other part sent for culture sensitivity grew, *Exophiala*, which belongs to Dematiaceous group of fungi. Surgical excision with antifungal treatment is the management in general for fungal cyst, whereas in our case complete excision was done without antifungal treatment.

KEYWORDS

Exophiala.phaeophycomycosis.

INTRODUCTION

Exophiala is a genus of dematiaceous saprophytic mould belonging to the family Herpotrichiellaceae. The major etiologic agents of phaeophycomycosis are species of *Bipolaris*, *Exophiala*, *Curvularia*, *Chaetomium*, *Phoma*, *Exserohilum*, and *Wangiella* [1]. Around 30 different species of this genus have been isolated from different environmental sources of tropical and subtropical regions [2]. These fungi are known to cause systemic as well as subcutaneous cystic lesions [3]. The genus *Exophiala* found in the environment is known to cause subcutaneous cystic infection in immunocompetent as well as the immunosuppressed individual [4]. Subcutaneous lesions usually result due to the traumatic implantation of the fungi in to the tissue as it must have happened in the present case. Phaeophycomycosis is mainly caused by brown pigmented fungi which have melanin in the cell wall. Melanin by its scavenging effect acts over free radicals produced by the phagocytic cells and this may be the reason for infection even in immunocompetent host [5]. The lesion usually presents as an abscess or as a cystic swelling which gradually grows in size. On examination the lesion appears as a localised abscess. These lesions have to be differentiated from other cystic lesions like fibroma, lipoma or sebaceous cyst depending on the site [1]. The imaging techniques available today helps the clinician to measure the size, the extent of lesion, the tissue involved and the tissue content of the swelling. Excision of the entire lesion in total will help to resolve the infection. The tissue excised should be sent for histopathological and microbiological examination to rule out infectious and non-infectious causes. The treatment strategy in case of *Exophiala* infections involves multiple avenues like medical treatment with associated surgical excision and in case of smaller lesion may be cryosurgery or electrocautery. The abscess due to bacterial cause may involve treatment for shorter duration in comparison to the antifungal therapy. The antifungal therapy takes a longer time and has far more side effects like hepatic and renal involvement. Drugs like voriconazole, itraconazole, flucytosine, amphotericin B and posaconazole have been tried after determining the invitro susceptibility testing.

CASE REPORT

A 52-year-old male, farmer by occupation presented to outpatient Department, Dr.PSIMS&RF,chinnaoutpalli, Krishna district,Andhra Pradesh, India, in June 2019, with a swelling over plantar aspect of right foot. He developed the swelling following trauma while working in a paddy field. He has been taking oral antibiotics and analgesics. Swelling gradually progressed in size over 6 months with 8×4 cm size at presentation. On examination the swelling was subcutaneous, tense, tender and cystic in nature with multiple right inguinal lymph nodes. Patient was non-diabetic, not immunocompromised. His renal and hepatic parameters were unremarkable and haemoglobin was 12gm%. Ultrasonography showed thick walled multilocular collection with thick echogenic debris extending from the mid foot to the fore foot upto the first and second toes. Muscles and blood vessels of the area

were intact and normal. Complete excision of the swelling was done by putting longitudinal incision along the plantar aspect by raising the flaps following which primary closure was done. Patient was kept on oral antimicrobial drugs. The tissue was sent for histopathology and microbiology evaluation. Grossly specimen appeared as a multinodular cystic mass measuring 8x4x4cms. Surface is pale brown to congested. Cut section showed a multilocular cyst separated by thick septae and filled with thick bright yellow purulent material. Histopathological sections showed fibrocollagenous cyst wall lined by suppurating necrotic debris containing PAS positive pink granules and septate branching hyphae amidst granulomatous inflammation, foamy macrophages and granulation tissue, consistent with inflammatory plantar cyst secondary to fungal infection. Culture on Sabouraud's dextrose agar with chloramphenicol grew *Exophiala dermatitidis* after 2 wk of incubation. There has been no recurrence on follow up for 12 months and patient is absolutely fine.



CONCLUSION

Fungal infections can present in many ways; as in our case a subcutaneous swelling following trauma to the foot initially thought to be an abscess and proved later to be a rare fungal infection due to *Exophiala*.

Complete excision of lesion was done with no antifungal treatment and on follow-up wound healed completely with no recurrence.

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