ORIGINAL RESEARCH PAPER

General Surgery

CASE REPORT - PHAEOHYPHOMYCOSIS IN AN NON-IMMUNOCOMPROMISED INDIVIDUAL.

KEY WORDS:

Dr. Susruta Venkatesh* Post Graduate, Institute of General Surgery, Madras Medical College and Rajiv Gandhi Government General Hospital, Chennai. *Corresponding Author.

Dr. P. Prabhakar Assistant Professor, Institute of General Surgery, Madras Medical College and Rajiv Gandhi Government General Hospital, Chennai.

Prof. Capt. S. Nedunchezhian Professor, Institute of General Surgery, Madras Medical College and Rajiv Gandhi Government General Hospital, Chennai.

Prof. P. S. Shanthi Professor, Institute of General Surgery, Madras Medical College and Rajiv Gandhi Government General Hospital, Chennai.

Phaeohyphomycosis is a group of mycotic infections caused by pigmented fungi known as dematiaceous fungi. These fungi possess melanin in their cell walls, which acts as a virulence factor by scavenging free radicals and protecting against the oxidative process. Additionally, melanin influences the formation of fungal appressoria, aiding in the penetration of host cells. Despite typically affecting immunocompromised individuals, dematiaceous fungi can cause infections even in non-immunocompromised hosts. This is a case report of Phaeohyphomycosis in an non-immunocompromised individual.

Case Report

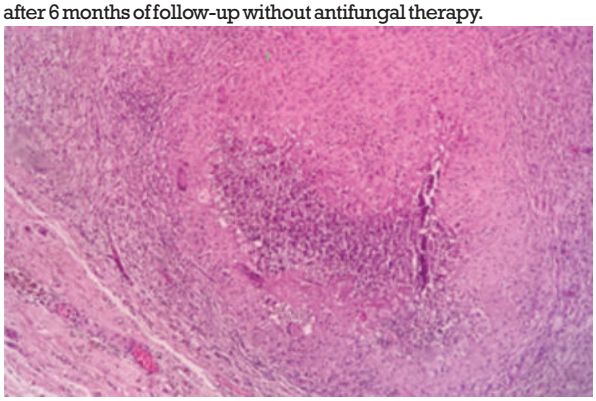
A 45-year-old male agriculturist presented with a swelling on the posterior aspect of proximal right forearm of 6 months duration. History of occasional yellowish discharge was present. There was no history of trauma, fever or intake of medication, and any other underlying systemic disease. Cutaneous examination revealed a skin-colored, nontender, firm-to-soft, cystic swelling approximately 5 cm in diameter present on the forearm. There was no lymphadenopathy. A differential diagnosis of abscess, calcinosis cutis, and deep fungal infection were considered.

Routine investigations were normal. While performing an excisional biopsy, there was purulent discharge from the biopsy site. Pus was sent for Gram stain and culture. Cyst material was sent for HPE Gram stain was negative for bacteria and on culture with Sabouraud's dextrose agar, pigmented fungi were identified and lactophenol cotton blue showed Exophiala jeanselmi species. Cyst material for HPE showed multiple granulomas and Grocott's methanamine silver (GMS) stain showed broad brownish filaments.

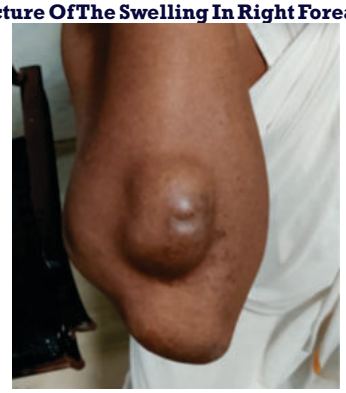
DISCUSSION

Infections caused by dematiaceous fungi can be classified into three categories: phaeohyphomycosis, chromoblastomycosis, and eumycotic mycetoma. Phaeohyphomycosis encompasses a wide range of mycoses, including superficial, cutaneous, subcutaneous, systemic, and disseminated forms. The clinical presentation of subcutaneous phaeohyphomycosis varies depending on the immune status of the host and can manifest as papulonodules, plaques, cysts, abscesses, ulcers, or sinuses. Although rare, the incidence of subcutaneous phaeohyphomycosis appears to be increasing, even in immunocompetent individuals. Subcutaneous phaeohyphomycosis is primarily caused by the fungi Exophiala jeanselmi and Exophiala dermatitidis. These fungi are widely distributed in the environment and can infect both immunocompromised and immunocompetent individuals. Traumatic inoculation of the skin and subcutaneous tissues with contaminated matter is the typical route of infection. Outdoor workers, particularly males, are more susceptible due to their occupational exposure. The condition is more prevalent in tropical and subtropical climates. The most common clinical presentation of subcutaneous phaeohyphomycosis is a solitary subcutaneous cyst or abscess, typically firm to fluctuant and sparing the overlying skin. The extremities, including the fingers, wrists, knees, and ankles, are commonly affected, although other sites such as the face, neck, and scalp may also be involved. Proper diagnosis relies on thorough clinical evaluation and differentiation from other conditions, as all dematiaceous fungi share similar morphological features. Histopathological examination and culture are essential for accurate identification.

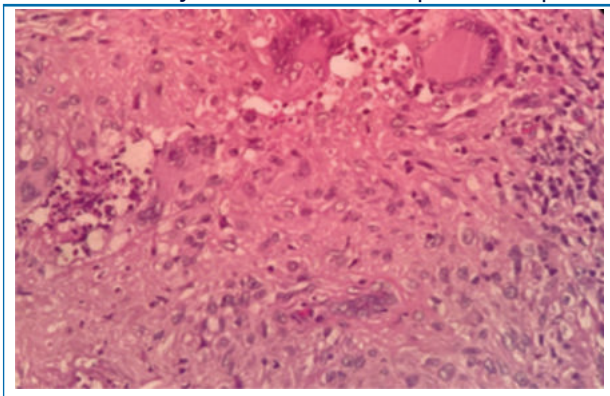
In this report, we present a case of subcutaneous phaeohyphomycosis with multiple lesions affecting both the feet and the right hand in an immunocompetent individual. Contrary to common belief, the patient's immunocompetent state did not exclude the possibility of phaeohyphomycosis. Surgical excision of the lesion was performed, and no relapse was observed even after 6 months of follow-up without antifungal therapy.



Clinical Picture OfThe Swelling In Right Forearm.



(H and E, ×10) Granuloma In The Dermis Composed Of Epithelioid Cells, Lymphocytes, And Fibroblasts.



(H and E, ×100) closer view

Granulomas with pigmented fungal growth (GMS)

REFERENCES

1. Jacobson ES. Pathogenic roles for fungal melanins. Clin Microbiol Rev. 2000;13:708–17.
2. Kwon Chung KJ, Bennett JE. Phaeohyphomycosis. Med Mycology. Pennsylvania: Lea and Febiger; 1992.
3. Rinaldi MG. Phaeohyphomycosis. Dermatol Clin. 1996;14:147–53.
4. Sharma NL, Mahajan V, Sharma RC, Sharma A. Subcutaneous Phaeohyphomycosis in India: A case report and review. Int J Dermatol. 2002;41:16–20.