SHORT COMMUNICATION

Eumycetoma: A Rare Case Presentation for Dermatologic Surgery

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INTRODUCTION

Eumycetoma is a chronic, deep fungal infection of the skin and subcutaneous tissue following ground saprophyte inoculation.[1,2] Infection often involves the legs and feet, less commonly the arms.[1,2] After inoculation, infectious grains are formed in the tissue, which are subsequently broken down by neutrophil-mediated inflammation.[3] This inflammatory response is perpetuated, causing granuloma development.[2,3] The wound may initially be small but can progress without treatment, forming large tumors with sinus tracts that may extend to bone.[2] Cases of eumycetoma in urban developed communities are rare, with most seen in resource-limited areas within tropical regions, affecting field laborers with frequent soil

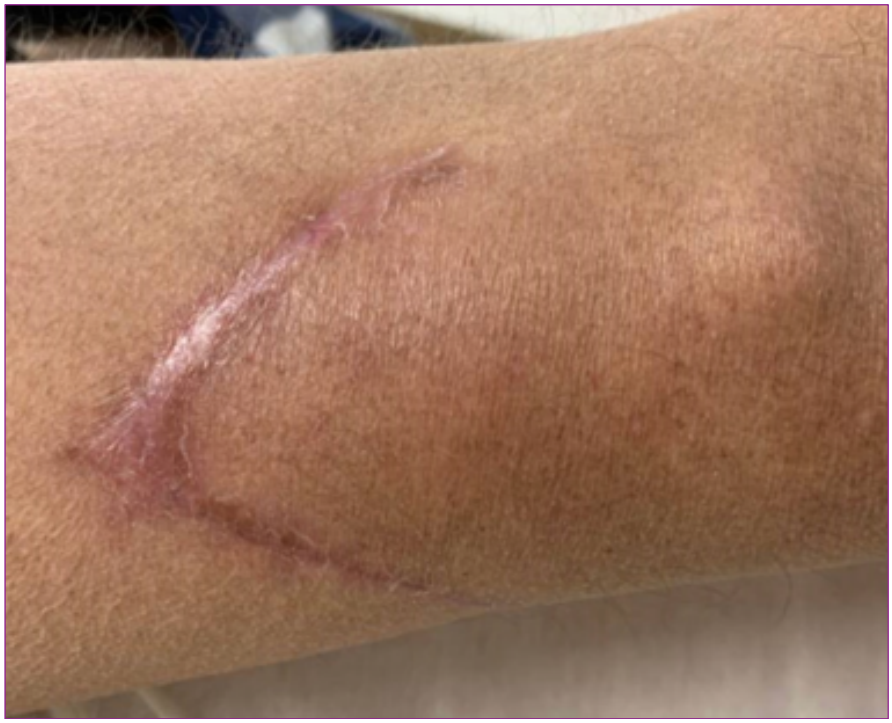

Figure 1: Photograph from primary care visit showing the tender nodule inferior to V-shaped scar, the initial site of trauma

exposure.[4] At least 44 different species capable of eumycetoma have been identified, with *Scedosporium* making up only 3.52% of cases.[4] The role of cell-mediated immunity is not fully understood, as cases have been described in both immunocompetent and immunocompromised patients.[5]

CASE REPORT

A 57-year-old Hispanic male with history of HIV (on combination antiretroviral therapy of bictegravir/emtricitabine/tenofovir alafenamide) presented to the emergency department following a right arm V-shaped laceration. Given that the patient had an up-to-date Tetanus vaccine, his wound was sutured, and he was discharged with oral sulfamethoxazole and trimethoprim and topical antibiotic ointment. Three months later, he presented to his primary care physician with a one-week history of intermittent fevers and a painful two by two-centimeter nodule below the site of trauma (**Figure 1**). Ultrasound identified a complex fluid collection, and fine needle aspiration resulted in culture-positive *Scedosporium* fungus (**Figure 2**). Two months later, voriconazole 300 milligrams (mg) twice daily was initiated for a planned six-month course; however, it was discontinued five weeks later because of elevations in liver enzymes.

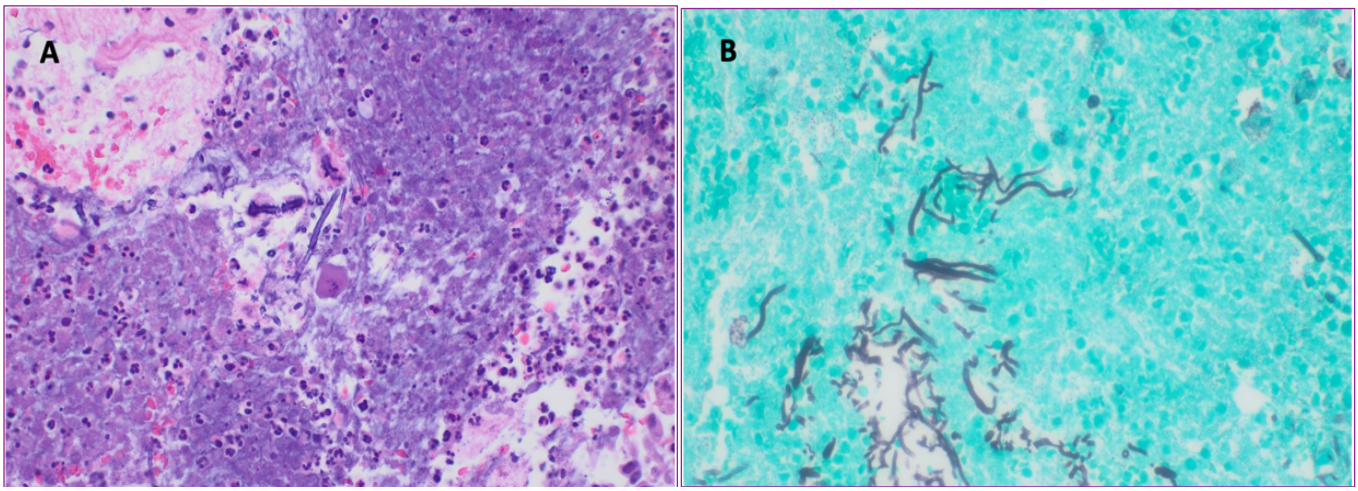

Figure 2: (A) FNA- fungal abscess, occasional spores, suppurative granulomatous inflammation and (B) GMS stain- fungal elements, culture positive for *Scedosporium* species

Posaconazole 300 mg once daily was subsequently initiated but stopped after less than a week due to significant diarrhea. Thus, he was referred for surgical excision, which was performed with minimal margin around the lesion. Final pathology confirmed suppurative granulomatous dermatitis with fibrosis and granulation tissue, reflective of a healing lesion. No remaining fungal elements were seen on staining. The lesion was not sent for culture given previous positive fine needle aspiration findings. The patient has not had evidence of recurrence eight months after excision.

DISCUSSION

Eumycetoma treatment can be challenging, but generally consists of prolonged azole antifungal therapy and surgery. Antifungal therapy choice depends on the species. Black grain species (i.e., *M. mycetomatis*, *T. grisea*, *F. senegalensis*) favor itraconazole

200 mg twice daily for twelve months, whereas yellow-to-white grain species (ie. *Scedosporium*) favor voriconazole 400 mg twice daily for the first day followed by 200 mg daily for at least twelve months with posaconazole as an alternative therapy. Surgical intervention for small, well-demarcated, uncomplicated lesions is generally done after at least six months of oral antifungal therapy, and patients are generally followed for two years before declaring cure due to recurrence risk. There is limited research on the optimal surgical approach for such lesions, though for this patient a local excision following a limited antifungal course was sufficient to remove the entirety of the lesion with no evidence of recurrence eight months after excision.

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