

Case Report

Case of Eumycetoma of the Hand: A Rare Occurrence

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Abstract: Mycetoma is a chronic suppurative granulomatous disorder of the subcutaneous tissues and the bones. It is characterized by localized swellings with multiple sinus tracts discharging granules that are microcolonies of the causative agent. A 32-year-old, female patient presented with a nodular lesion on right hand of 8 months duration. Histopathological examination showed fibrocollagenous tissue infiltrated by mixed inflammatory infiltrate with superimposed giant cell reaction. There were colonies of fungus that on close examination showed septae, branching hyphae along with spores. They were PAS positive and gram stain negative. A diagnosis of eumycetoma of the hand was put forth.

Keywords: Eumycetoma, Hand, Black granules

INTRODUCTION

Mycetoma is a chronic suppurative granulomatous disorder of the subcutaneous tissues and bones. It is characterized by localized swellings with multiple sinus tracts, discharging granules that are microcolonies of the causative agent. The causative agent may be by either true fungi (eumycetoma) or actinomycetes (actinomycotic mycetoma) [1]. In 1842, John Gill described the clinical features of mycetoma for the first time. He named it as 'Madura foot' after the region of Madurai in India, where it was first identified [1, 2]. The foot is most commonly affected part [1]. Here in we report a case of eumycetoma of the hand for its rarity.

CASE REPORT

A previously healthy 32-year-old female patient presented with a nodular lesion over the thenar eminence of right hand of 8 months duration. The patient gave history of injury to the right hand 6 months prior to the onset. She also complained of moderate grade fever on and off since 4 months. There was no history of tuberculosis or any other systemic illness in the past.

Examination revealed nodule over the thenar eminence of right hand without any discharging sinus. The mobility of the thumb was restricted. Haematological investigations revealed elevated white blood cell count ($12,400/\text{mm}^3$) and erythrocyte sedimentation rate ($45 \text{ mm}/1^{\text{st}} \text{ hr}$). Red blood cell count, haemoglobin, biochemistry and urine analysis

reports were within normal limits. Mantoux test was negative and chest X-ray was normal.

Patient was taken up for excision of the swelling. Intra operatively, after dissection of superficial layers, deep in thenar muscles, multiple (0.5 to 2 mm) small black granules (Fig. 1) were seen with small amount of purulent discharge. Lesion was excised and sent for histopathology and pus for culture and sensitivity.



Fig. 1: Intraoperative black colored grains seen on dissection of thenar muscle

On direct examination fungal spores were seen but there was no growth on culture. Histopathological examination showed fibrocollagenous tissue infiltrated by mixed inflammatory infiltrate with superimposed giant cell reaction. There were colonies of fungus that

on close examination showed septae, branching hyphae along with spores. They were PAS positive and gram stain negative (Fig. 2). A diagnosis of eumycetoma of the hand was put forth. The patient is on follow up for the last two months on oral Ketoconazole and is doing fine.

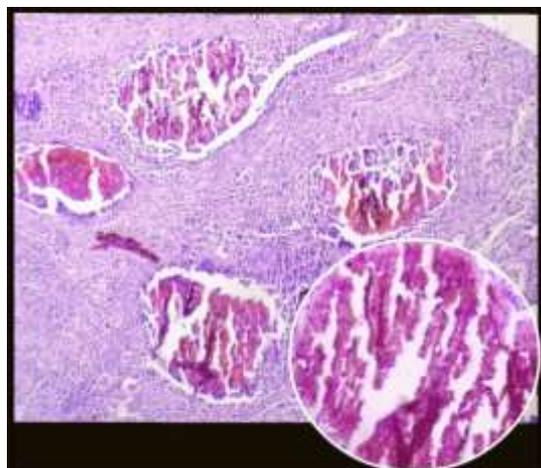


Fig. 2: Histopathological section showing several grains (microcolonies) in a fibrocollagenous tissue (H & E, 100X). Inset shows on higher magnification & PAS staining presence of fungal hyphae and spores (PAS, 400X)

DISCUSSION

Two major forms of mycetoma have been reported; fungal mycetoma or eumycetoma and bacterial mycetoma or actinomycetoma. Principally it has been reported to occur in the tropical and subtropical regions between latitude of 15° S and 30° N [3]. The most commonly affected part is foot followed by hand, knee, arm, leg, head and neck, thigh and the perineum. The rare sites of it include eyelids, testes, lymph node and middle ear cleft [4]. The inoculation of the organism occurs traumatically through soil in the form of thorn prick; trauma leads to ulceration, blunt trauma and wicks [5].

A number of species have been reported to cause the two main etiological groups of mycetoma-actinomycetoma and eumycetoma. Over 30 species have been identified as the causative agents [6, 7]. The grains discharged from the sinuses differ in size, color and consistency. These features are useful for the rapid provisional identification of the etiological agent [6]. The sizes of grains have been reported to vary from microscopic to 1-2 mm in diameter [8]. Dark or black grains are found only among the eumycetoma. The pigment is a melanoprotein or related substance [9, 10]. Sinuses develop after 6-12 months. It extends to involve the underlying fascia, muscle and bone. Lymphatic dissemination to regional lymph nodes is rare [10]. Expansion of Actinomycetomas is faster and are more invasive and more sinuses than the eumycetoma variants [6, 10].

Eumycetomas respond partially to the antifungal therapy. Surgical treatment is usually done. Surgery in combination with azole treatment have been recommended for small eumycetoma lesions in the extremities. *Madurella mycetomatis* may respond to ketoconazole; *P. boydii* (*S. apiospermum*) may respond to itraconazole, while other causative agents of eumycetoma may respond intermittently to itraconazole or amphotericin B [10, 11]. But, in all cases medical supervision is required as this condition is prone to recurrences.

CONCLUSION

In mycetoma, the foot is most commonly affected part. Here in we have reported a case of eumycetoma of the hand for its rarity.

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