

Unusual Presentation of Mycetoma of the Foot: A Rare Case Report

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What to Learn from this Article?

Mycetoma should be considered as a diagnosis, especially in tropical countries with barefoot walkers even in the absence of classical signs.

Abstract

Introduction: Mycetoma is a chronic granulomatous infection. It is caused by actinomycetes or fungi. It is common in tropical countries and males. Predisposing conditions include malnutrition, poor hygiene, history of trauma, wounds on barefeet, and systemic infections. Eumycotic mycetoma commonly involves lower extremities whereas actinomycosis affects the cervicofacial, thoracic, and abdominal regions. Mycetoma presents with a chronic indurated ulcerated plague with swelling and yellowish discharge of sulfur granules.

Case Report: We report a rare case of a 40-year-old male with a left foot plantar swelling of 4 months duration with no discharging sinuses, fever, and pain. There was no history of trauma or barefoot walking. Clinical and magnetic resonance imaging (MRI) findings were suggestive of a soft-tissue malignancy. The mass was excised and sent for histopathology. Histopathology reported it as a mycetoma. Complete resolution was seen after 3 months of antifungal treatment and excision of the mass. This was unusual since there were no discharging sinuses, nodules, and even MRI reported as a fibrous or muscular mass. The diagnosis was made only after a histopathological examination.

Conclusion: Mycetoma is a rare infection caused by fungal or bacterial organisms. In the absence of ulceration and sinuses, diagnosis can be difficult. Diagnosis requires a high degree of suspicion in the absence of such clinical signs. Definitive diagnosis should be made on histopathological examination. Once diagnosis is made, surgical excision with appropriate antifungals can result in complete cure without recurrence.

Keywords: Mycetoma, foot, unusual presentation, case report.

Introduction

Mycetoma is a chronic granulomatous infection. It is caused by actinomycetes or fungi. There is a granulomatous inflammatory reaction in the dermis which extends into the bone [1, 2]. There is a formation

of sinus and fistulas with discharge of sulfur granules [3]. Mycetoma is common in tropical countries [4, 5]. It is more common in males [6]. Predisposing conditions include malnutrition, poor hygiene, history of trauma, wounds on barefeet, and systemic infections[7]. It commonly

Access this article online

Website:
www.jocr.co.in

DOI:
2250-0685.666

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Journal of Orthopaedic Case Reports | pISSN 2250-0685 | eISSN 2321-3817 | Available on www.jocr.co.in | doi: 10.13107/jocr.2250-0685.666

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affects barefoot walkers in third and fourth decades of life. Eumycotic mycetoma commonly involves lower extremities whereas actinomycosis affects the cervicofacial, thoracic, and abdominal regions [8, 9].

Mycetoma presents with a chronic indurated ulcerated plaque with swelling and yellowish discharge [9]. Draining sinuses are characteristic of mycetoma.

Differential diagnosis includes botryomycosis and other fungal infections, syphilis, yaws, elephantiasis, and malignancy [1].

We report a rare case of a 40-year-old male with a left foot plantar swelling of 4 months duration with no discharging sinuses, fever, and pain. There was no history of trauma or barefoot walking. Clinical and magnetic resonance imaging (MRI) findings were suggestive of a soft-tissue malignancy. The mass was excised and sent for histopathology. Histopathology reported it as a mycetoma. This was unusual since there were no discharging sinuses, nodules, and even MRI reported as a fibrous or muscular mass.

Case Report

A 40-year-old male presented to us with a history of a left foot plantar swelling for 4 months (Fig. 1). The swelling was gradually progressive, firm in consistency, 7.5×8 cm, and non-tender. There was no lymphadenopathy. There was no history of fever, discharging sinuses, or pain. There was no history of trauma or barefoot walking.

Routine blood investigations including total counts, differential counts, ESR, and alkaline phosphatase were within normal limits. MRI showed a fibrous or muscular origin mass (Fig. 2 and 3). Working diagnosis

of a soft-tissue malignancy was made. The patient was taken up for an excision biopsy, and tissue was sent for histopathological examination (Fig. 4). Histopathological report surprisingly revealed a mycetoma of the left foot (Fig. 5). The patient was started on antifungal treatment for 3 months. They were given in cycles comprising amikacin 15 mg/kg twice daily for 3 weeks and cotrimoxazole in a dose of 1.5 mg/kg twice daily for 5 weeks; the cycles were repeated till 3 months. At 3-month follow-up, there was a complete resolution of the mass with no recurrence (Fig. 6).

This is a unique case as it did not present like a mycetoma which is characterized by ulceration, nodules, and discharging sinuses. There were no predisposing factors such as barefoot walking, malnutrition, or history of trauma. MRI was also suggestive of a fibrous or muscular mass. The diagnosis was made only after a histopathological examination.

Discussion

Diagnosis of mycetoma is usually made clinically. The triad of indurated edema, multiple draining sinuses with grain-filled purulence and location on the foot makes the diagnosis easy [10]. Differential diagnosis would include blastomycosis, botryomycosis, chromoblastomycosis, cutaneous squamous cell carcinoma, verrucous carcinoma, malignancy, and osteomyelitis.

However, in the absence of these features and history, the diagnosis can be confusing. X-rays can provide information regarding osseous involvement. MRI can provide information about soft-tissue involvement. Definitive diagnosis should be made on histopathological examination.

Talwar *et al.* [11] conducted a study on 60 cases of suspected mycetoma. Of these cases, 20 were confirmed by histopathological examination.



Figure 1: Clinical picture on presentation.

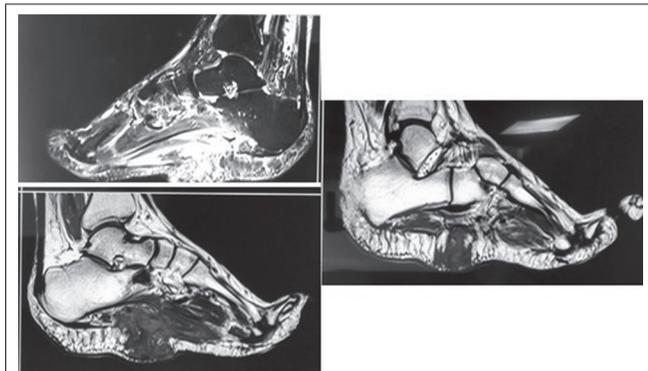


Figure 2: MRI of left Ankle.

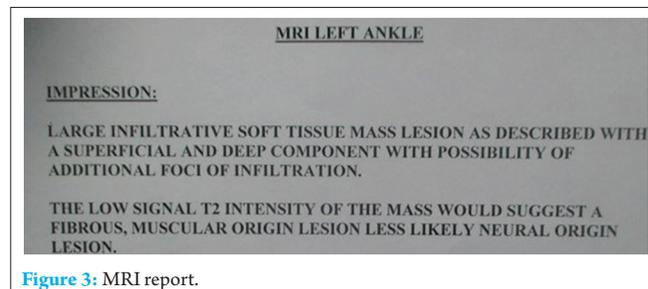


Figure 3: MRI report.



Figure 4: Excision biopsy was done.

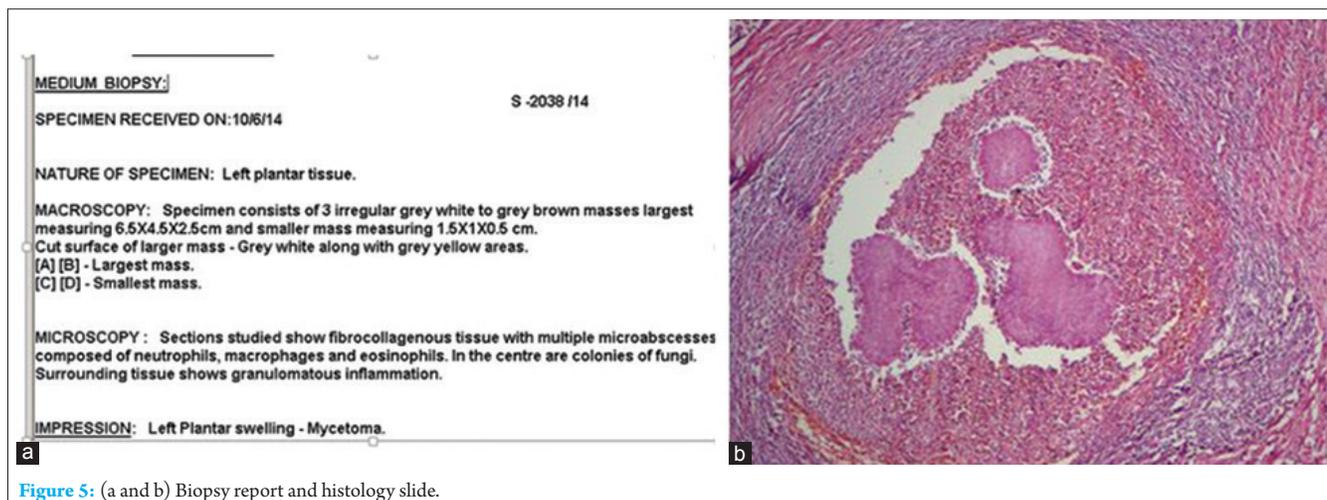


Figure 5: (a and b) Biopsy report and histology slide.



Figure 6: At 3-month follow-up.

Dogra *et al.* [12] reported a case of actinomycosis in a young female. The diagnosis was confirmed by histopathology.

Combined surgical and medical management is the mainstay of management [13, 14]. Medical management includes a combination of

streptomycin and dapsone. Dapsone can be replaced by cotrimoxazole if there is no response to therapy. Excellent response is found with Welsh regimen which consists of amikacin and cotrimoxazole [15]. Surgical excision of the mass with appropriate antifungals is preferred. Surgical excision alone leads to recurrence; therefore, antifungals should be administered for 3 months.

Conclusion

Mycetoma is a rare infection caused by fungal or bacterial organisms. In the absence of ulceration and sinuses, diagnosis can be difficult. Diagnosis requires a high degree of suspicion in the absence of such clinical signs. Definitive diagnosis should be made on histopathological examination. Once diagnosis is made, surgical excision with appropriate antifungals can result in complete cure without recurrence.

Clinical Message

Mycetoma should be considered as a possible diagnosis, especially in tropical countries with barefoot walkers even in the absence of classical signs and should be treated after confirming with appropriate investigations.

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Conflict of Interest: Nil.
Source of Support: None

How to Cite this Article

Grover A, Nagaraj P, Joseph VM, Gadi D. Unusual Presentation of Mycetoma of the Foot: A Rare Case Report. *Journal of Orthopaedic Case Reports* 2017 Jan-Feb;7(1):12-15.