

Mycetoma due to *Alternaria*: A Case Report

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ABSTRACT

Introduction: Mycetoma is a chronic granulomatous infection characterized by a triad of swelling, draining sinuses and discharge of granules. The etiological agent causing mycetoma may either be a filamentous bacteria (actinomycetes) or a true fungi (eumycetes).

Case report: Here, we report a case of mycetoma foot due to *Alternaria* in a 70 years old female. She was farmer by occupation. She had swelling, discharging sinuses on plantar aspect of left foot over the period of 1 and half year. She did not remember history of injury. She had taken treatment from multiple doctors without any relief.

Conclusion: Though mycetoma is clinical diagnosis, causative agent must be isolated and identified for proper treatment. Treatment of botryomycosis, actinomycosis and eumycotic mycetoma is different. Prognosis depends on correct diagnosis and treatment accordingly. Mycetoma caused by *Madurella spp* need amputation. But Mycetoma caused by relatively opportunistic or saprophytic fungi responds well to antifungal therapy. Patient's limb was saved in our case due to proper identification and treatment.

Keywords: Mycetoma, botryomycosis, eumycetoma, actinomycosis, *Alternaria*

INTRODUCTION

Mycetoma, commonly known as 'Madura foot' is a chronic, localized, slowly progressing, granulomatous subcutaneous infection. It is characterized by swelling (tumefaction), interconnected sinus tracts which opens to the skin discharging exudates containing grains representing the etiological agent of the infection.¹ It may be caused by fungi and termed as eumycotic mycetoma or by filamentous higher bacteria, termed actinomycotic mycetoma. The most common causative agent include the fungus *Madurella mycetomatis* and the actinomycetes *Nocardia brasiliensis*, *Actinomadura madurae*, *Sreptomycetes somaliensis* and *Actinomadura pelletieri*.²

The natural reservoir of most of the etiological agents of mycetoma is soil and the infection usually follows a traumatic inoculation of the pathogen into subcutaneous tissue.³

Mycetoma is commonly found in tropical and subtropical climates. Most cases occur in Sudan, Somalia, Senegal, Mexico, Venezuela, India and Pakistan.² In India, actinomycetoma is prevalent in south, southeast Rajasthan, and Chandigarh; while eumycetomas are common in north India.⁴ Mycetoma occurs typically in young men, especially farmers, who are exposed to contaminated soil.²

Identification of causative agents of Mycetoma is very essential for proper and effective management. Eumycetoma needs adequate antifungal therapy and surgical management, while actinomycetes require antibacterial therapy.

Here, we report a case of mycetoma foot caused by *Alternaria* in a Dhule district of Maharashtra.

CASE REPORT

A 70 years old female, from a rural area in Dhule district, Maharashtra, came with the complaint of wound on left foot since one and half years. The patient had been investigated and treated at private hospitals but still there was no relief of the symptoms and also no etiological diagnosis could be reached. The patient did not give history of any trauma to the affected part. There was no history of diabetes mellitus and any other underlying diseases.

On local examination, there were swellings on plantar aspect of the left foot with discharging sinuses (Figures 1 and 2). The discharge was seropurulent with black colored granules. Laboratory test results revealed no abnormalities in the hemogram. X-ray of her left foot showed no bony lesions (Figure 3).

The black grain from the discharging wound were collected on sterile gauze pad (Figure 4) for microscopy and culture. The grains had soft consistency and different sizes and shapes.

One of the grains was taken and crushed between two glass slides and examined microscopically using 10% KOH. Brown colored septate hyphae were seen. The grains were inoculated on two sets of Sabouraud's dextrose agar (SDA) media each containing SDA with and without antibiotic. One set was incubated at 37°C and other at 25°C.

Fungal growth appeared within 48-72 hours. Colonies were grayish to black, and were floccose. The reverse side was brown to black (Figure 5).

The microscopic examination of the fungus performed by teased mount and lacto-phenol cotton blue preparation, showed light brown colored septate hyphae and conidia. Conidia were ovoid, with rounded base and short conical apex, with transverse and oblique septations and were found singly and in chains (Figure 6).

From the above macroscopic and microscopic features, the isolate was identified as *Alternaria*.

DISCUSSION

Alternaria is a dematiaceous fungus which has a worldwide distribution. It is a very large and complex genus that includes hundreds of species. Most of the species are found as saprophytes in the soil, air and variety of other environmen-

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Figure-1 and 2: Swellings on plantar aspect of the left foot with discharging sinuses



Figure-3: X-ray left foot showing no bony lesions; **Figure-4:** The black grains from the discharging wound collected on sterile gauze pad

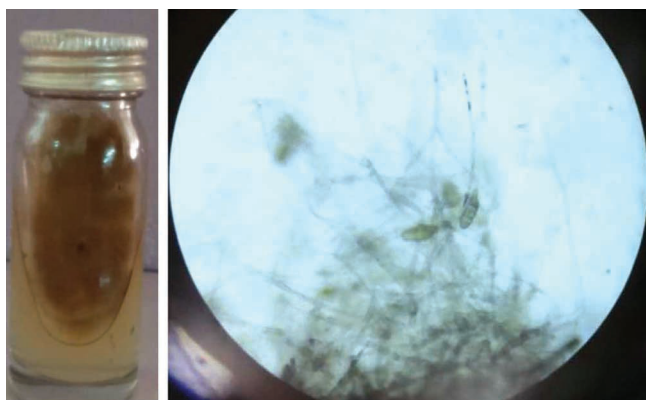


Figure-5: Grayish to black mould like growth on Sabouraud's dextrose agar, **Figure-6:** Brown colored septate hyphae and conidia, with rounded base and short conical apex and with transverse and oblique septations on lactophenol cotton blue mount

tal habitat. These are opportunistic fungi and infections tend to occur in high risk patients, such as patients undergoing immunosuppressive therapy, bone marrow or solid organ transplant, acquired immunodeficiency syndrome, cushing disease, hematologic disease.⁵

In the review made by Pastor FJ *et al.* which included all cases of alternariosis reported in the literature up to 2007, the most common clinical manifestations of Alternariosis was cutaneous and subcutaneous infections (74.3%), followed by oculomycosis (9.5%), invasive and noninvasive rhinosinusitis (8.1%) and onychomycosis (8.1%).⁶

Here, we reported a case of mycetoma foot caused by *Alternaria*. To the best of our knowledge, mycetoma caused by *Alternaria* is not reported till now. Old age and farmer by occupation only appears to be risk factors for development of mycetoma by *Alternaria* in our case.

Patient responded well to antifungal therapy.

CONCLUSION

As treatment of Mycetoma depends on causative agent, it must be identified in every case. If patients are treated accordingly, they can be either cured and unnecessary treatment trials can be avoided or doctors will not face legal complications of amputation where limb can be saved by Medical treatment.

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