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A Case Report – Cytodiagnosis of Actinomycotic Mycetoma

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Abstract

Mycetoma or madura foot is a localized chronic, suppurative, and deforming granulomatous infectious disease seen in tropical and subtropical areas. It is a disorder of skin, subcutaneous tissue, muscle and bones, mainly of feet, and characterized by a triad of localized swelling, underlying sinus tracts, and production of grains or granules. Etiological classification separates it into two entities that is eumycetoma caused by fungus, and Actino mycetoma caused by bacteria. Since the treatment of these two etiologies is completely different, a definite diagnosis after histopathological and micro biological examination is mandatory, though difficult. We report a case of mycetoma who presented to our hospital with the presence of this disorder.

Keywords: tumefaction, sinus, fascia, puckered

Introduction

Mycetoma is a chronic granulomatous infection of skin and subcutaneous tissues caused by actinomycetes or filamentous fungi with involvement of underlying fascia and bones. Mycetoma is defined by triad of tumefaction of affected tissue, formation of multiple draining sinuses and presence of oozing granules. Eumycetoma is more common in northern [1] India while actinomycetoma is more common in [2] southern India. The incidence is more likely seen in [3] people like farmers and field workers, who come in contact with causative agents of mycetoma, present in the soil and thorny vegetation, because of their tendency being barefooted. The disease usually begins as a small subcutaneous swelling of foot which enlarges, burrowing in the deeper tissues and tracking to the surface as multiple sinuses, discharging fluid containing granules. These granules or grains are micro colonies of causative agents and their demonstration is of diagnostic value.

Case Report

A 38 yr female presented to Dermatology Opd with chief complaints of pain, swelling and discharging sinusus over medial and plantar aspect of the left foot since 7yrs of duration. The initial lesion appeared as a single painless nodule on the medial aspect of left foot, which became painful and was followed by the

appearance of successive discharging nodules on the plantar surface of the same foot over a period of few weeks. These healed leaving puckered scars and recurred after some time. The patient took treatment from different doctors but didn't get relief. Patient was a house wife and was unaware about any incidence of trauma over the involved site.

On local examination, diffuse swelling with multiple discharging sinuses and puckered scars were present. Gross examination of the seropurulent discharge and sinuses revealed yellow granules. On palpation, tenderness was present.

The regional lymph nodes were not enlarged. On basis of clinical history and physical examination, diagnosis of mycetoma was made as biopsy report was non - conclusive. Granules discharged from multiple sinuses were collected in a sterile gauze by applying pressure and sent to laboratory. X-ray of foot revealed no bony abnormality. Microscopically, it revealed yellow granules. These were washed several times in sterile saline and then crushed between the slides and further processed for 10% KOH mount which was negative for fungal elements, this ruled out eumycetoma. Gram-stained smear showed gram- positive branching bacilli, which were narrow and not fragmenting. 1% Ziel Nelson stain Showed no AFB, this suggested Actinomycosis.

The Above findings were strongly suggestive of actinomycotic mycetoma.

The patient was treated by Inj. Amikacin 15mg/kg/day in two divided doses in cycles of 21 days for 1-3 cycles with intervals of 15 days between cycle while Cotrimaxazole was prescribed 1tab twice daily for 3 months. The patient got much improvement in skin lesions and then treatment was stopped.

Before

After

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Discussion

Mycetoma was described in 1842 for the first time at Madurai district of Tamil Nadu in India and henceforth was named Madura Foot [4]. Broadly two categories are recognised namely, eumycetoma caused by fungi and Actino mycetoma/ actinomycotic mycetoma caused by higher bacteria of the class Actinomycetes. It usually affects the foot, hand and legs with tissues becoming necrosed and swollen after infection [5]. Actinomadura genus includes three species, Actinomadura madurae, A. pelletieri and A. dassonvillie. The clinical features are almost similar regardless of whether the disease is caused by bacteria or fungus. The most common clinical types are cervicofacial, thoracic, abdominal and in women pelvic. The disease has no defined geographic boundaries and occurs throughout life, with a peak incidence in the middle decades. Males have a threefold higher incidence than females [6]. Many of the cases reported gave a clear history of the trauma. Though our patient was unable to give any such history. The management of mycetoma is highly challenging for the clinicians.

Treatment regimens consist of combination of drugs. Combination of two or more drugs is used to prevent antibiotic resistance. Our patient responded to Inj amikacin and Bactrim DS for 3 months. The patient showed good progress with diminution of local pain and size of nodule.

Conclusion

This case is reported owing to its rare occurrence and to emphasize the importance of awareness among the clinicians and clinical microbiologists that will help in the early diagnosis of the disease and initiation of early and prompt treatment and to reduce the substantial morbidity associated with this devastating infection and assessment of the prognosis of such cases.

Declaration of patient consent

The authors certify that they have obtained all appropriate patient consent form. In the form, the patient has given her consent for the images and other clinical information to be reported in the journal. She understands that her name and initials will not be published and due efforts will be made to conceal her identity, but anonymity cannot be guaranteed.

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