



## A Case Report of Eumycetoma Presenting as Paraplegia

Authors

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### Abstract

*Mycetoma is a chronic granulomatous disease, which is endemic in tropical countries. It is caused by Actinomycetes or fungi. This infection results in chronic granulomatous inflammatory response in the deep dermis and subcutaneous tissue, which can extend to the underlying bone. We report a case of 36 yr old male who presented to us with complaints of low back ache and weakness of both lower limbs. On further evaluation, MRI showed thoracic epidural mass. The mass was excised and histopathology showed Eumycetoma.*

**Keywords:** Paraplegia, Epidural mass, Eumycetoma.

### Introduction

Mycetoma is a chronic progressive infectious disease involving skin and subcutaneous tissue. Mycetoma has worldwide distribution and endemic in tropical and subtropical regions. The organisms are usually present in the soil as saprophytes in different forms. They are implanted into the host tissue after traumatic inoculations of causative organism.

Mycetoma can be caused by true fungi or by filamentous bacteria and hence it is classified as eumycetoma and actinomycetoma. The foot is the most affected site and this is seen in 70% of patients. The hand is the next commonest site which occurs in 12% of patient. Less frequently knee, arm, head and neck, thigh, chest and the perineum are involved<sup>[9]</sup>.

Here we report an isolated case of eumycetoma of spine. The disease was identified after surgical excision and biopsy.

### Case Report

A 36 yr old male, non smoker and non alcoholic presented with complaint of low back ache since 1 month and weakness of bilateral lower limbs since 1 week. Low back ache was dull aching, non radiating, aggravated on doing work and relieved on taking rest. Since 2 weeks he developed weakness in bilateral lower limbs associated with numbness of bilateral lower limbs. Later he developed bladder symptoms such as hesitancy and urgency for the last one week. No history of trauma, fever, cough, difficulty in breathing. Not a known hypertensive, diabetic and no history of contact with tuberculosis patient.

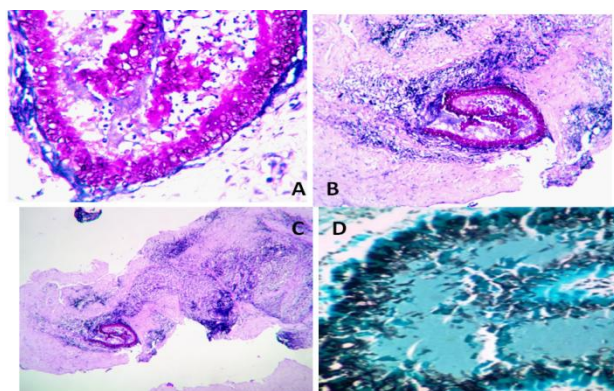
On examination, patient was conscious and well oriented. His BP was 130/80mmhg, pulse 88/min regular. No cranial nerve involvement. Upper limbs power was normal while lower limbs was 0/5. Reflexes were absent, Bilateral plantar reflex was extensor. Sensations diminished below umbilicus.

Investigations done showed haemoglobin 13gm%, total count 7500, ESR was 25. cerebrospinal fluid (CSF) analysis showed protein 40mg/dl, glucose 60mg/dl, lymphocytes 2-3/H.P.F. Magnetic resonance imaging (MRI) showed anterior and posterior epidural lesion appearing Hyperintense on T1 and hypointense on T2 at D9-D10 level causing mild to moderate spinal canal stenosis compressing on the spinal cord at respective level [Figure 1]. There is intra substance altered signal intensity within the cord most likely edema.

The mass was excised and histopathology showed fungal elements of *Madura mycosis* [figure 2]. Post operatively no complications. Patient was started on antifungal therapy with Itraconazole and other supportive treatment. Physiotherapy was advised. Power gradually improved over 1 month from 0/5 to 2/5 in both lower limbs and had residual neurological deficits.



**Figure 1:** Hyperintense on T1 and hypointense on T2 at D9-D10 level causing compressing on the spinal cord



**Figure 2:** A .High power view showing fungal filaments B. Low power view C. Scanner view showing collagen, fibrous tissue and granulation tissue D. GMS stain

## Discussion

In our patient, paraplegia as the initial presenting feature of *Madura mycosis* (eumycetoma) is very rare.

Mycetoma is endemic in tropics and subtropic region, although cases reported from natives of Central and South America and the Middle East between latitudes 30°N and 15°S. It generally affects people who walk Barefooted in dry and dusty environment and agricultural workers.<sup>[1,2]</sup>

The two main etiological groups of mycetoma – eumycetoma and actinomycetoma. Over 30 species have been identified to cause mycetoma<sup>[2,3]</sup>. Actinomycetoma is caused by aerobic species of actinomycetes belonging to the genera *Nocardia*, *Actinomyces* and *Streptomyces*. Eumycetoma is caused by a group of fungi with thick, septate hyphae, including *Madurella griesia*, *Madurella griesia*, *Allescheria boydii* and *Acremonium* species<sup>[1,4]</sup>.

The granules of eumycetoma are gram negative where as actinomycetoma consists of fine branching filaments, only about 1µm thick and are gram positive<sup>[8]</sup>. Eumycetoma grains are composed of 4-5µm thick septate hyphae and are demonstrated by PAS (periodic acid-Schiff) and GMS (Gomori methenamine silver) stains<sup>[6]</sup>.

Confirmation of diagnosis and exact identification of the species requires culture. Malt extract, Sabouraud's and Glucose nutrient agars are the commonest types of media used in cultures of Mycetoma organisms. The culture technique is practically difficult and time consuming with high chances of false negative<sup>[5, 7]</sup>.

Differentiation between actinomycetoma and eumycetoma is important because of the different responses to treatment. Surgery is indicated in mycetoma for small localized lesions, resistance to medical treatment or for those who have good response to medical treatment in patients with massive disease. The surgical options range from wide local and debulking excisions to amputations. Surgical debridement, followed by appropriate combination of antibiotic therapy Amikacin Sulfate and Co-trimoxazole for several

months is required for actinomycetoma, where as many other drugs such as, Rifampicin, dapsone, Sulphonamides, Gentamicin, and Kanamycin were tried as a second line of treatment for actinomycetoma in patients with resistant cases or who developed serious drug side effects <sup>[7]</sup>.

Eumycetomas patients who partially respond to antifungal therapy but can be managed by Surgery in combination with azole groups (Ketoconazole/ Itraconazole) for the duration of nine to twelve months.

### Conclusion

Eumycetoma of spine is very rare. The morbidity caused by mycetoma is enormous resulting in deformities, septicaemia, recurrences. So clinical assessment and time to opt for surgery and histological use of special stains is necessary for accurate diagnosis.

**Conflicts of Interest:** There are no conflicts of interest.

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