Abstract:
Mycetoma is an uncommon chronic, granulomatous, subcutaneous, inflammatory disease caused by true fungi (eumycetoma) or filamentous bacteria (actinomyctetoma). The patient usually presents with indurated swelling in the foot with multiple discharging sinuses. Early clinical diagnosis before the appearance of discharging sinus may be difficult. We reported a case of eumycetoma in a 26 years old male who presented with multiple subcutaneous swelling in the right leg for 4 years, which was clinically diagnosed as benign soft tissue swelling.

Key words: Eumycetoma, Foot, Sinus

Case Report:
A 26 years old male presented with multiple subcutaneous swelling in the middle one third of the right leg for 4 years, gradually increasing in size. He had history of similar swelling in the same site 5 years back, which was resected and diagnosed as lipoma on biopsy. On examination the patient had 4 swellings, largest measuring 5 x 5 cms and smallest measuring 1 x 1 cms respectively, which was firm, lobulated and not mobile. A provisional clinical diagnosis of recurrent lipoma was made and the patient was sent to the pathology department for FNA.

On Fine needle aspiration, we got hemorrhagic aspirate and smears studied with H & E, PAP & MGG stains showed abundant spindle cell fragment in the background of inflammation, composed of neutrophils, lymphocytes, macrophages and giant cells. Stains for AFB and PAS were negative. Cytological diagnosis of benign spindle cell...
lesion with chronic granulomatous inflammation was given.

Subsequently the swellings were resected and send for histopathological examination. Grossly the largest lesion was nodular and cut section revealed multiple haemorrhagic areas with fibrous thickening (Fig 1). The rest of the swellings were nodular with solid grey white areas. Tissue bits were taken from all swellings and processed.

The histopathological sections studied showed to our surprise multiple fungal colonies which had brownish discoloration at the periphery surrounded by chronic granulomatous inflammation. PAS stain showed broad branching hyphae of fungi (Fig 2). Gram stain was negative. A diagnosis of Eumycetoma, probably caused by Madurella grisea was given. The patient was treated with oral antifungal agent, itraconazole and subsequent X-rays of the right leg showed no bone involvement.

**Discussion:**

Mycetoma is endemic in India that stretches in a band between the latitudes of 15° South and 30° North[5]. They are grouped as eumycetoma and actinomycotic mycetoma depending on the causal agent. The causative organisms vary with geographical distribution, as does the site of involvement [6,7]. Eumycotic mycetoma most commonly involves the lower extremities and is seen in rural areas amongst agricultural labourers or in individuals who walk barefoot in dry dusty conditions[1,8]. Minor trauma allows the pathogen to enter the skin from the soil[1]. Actinomycosis, on the other hand, affects the cervicofacial, thoracic and abdominal regions[6]. Mycetoma commonly affects young adults aged 20 - 50 years of age [1,8] predominantly males,[1,7] living in rural areas.

Mycetoma is a chronic inflammatory process of soft tissue, usually of the foot. Initially there is soft tissue swelling with induration which progresses to the formation of discharging sinuses. The lesion may be confined to the soft tissue for years before bone involvement occurs. Early diagnosis before the appearance of sinuses is difficult and requires a strong clinical suspicion[2].

Our case presented with multiple subcutaneous swelling without any sinuses, similar presentation were also been seen in case reports by Roberto [9] and Shamsadini et al [6], where the initial clinical diagnosis were benign soft tissue neoplasm and joint arthritis respectively. But in study by Shamsadini et al [6] diagnosis of mycetoma was made on FNA whereas in our study on FNA, a benign spindle cell lesion with chronic granulomatous infection was made with the differential diagnosis of neurilemmoma, benign fibrous histiocytoma, tuberculosis and subcutaneous mycosis. Stains done for AFB and fungi were negative.
In our case and case by Roberto [9], diagnosis was made only after histopathological examination of the resected mass with special stains (Gram and PAS stain.). As PAS stain confirmed the fungal septate hyphae and there were brown pigments around the colonies, the diagnosis of eumycetoma with Madurella grisea as an etiological agent was considered.

Eumycetoma is usually treated by aggressive surgical excision with medical treatment [7,8,11]. Follow up of patients with mycetoma must be long enough to detect early recurrence and to advise early treatment[5]. Since surgical excision had already been done, X-ray was taken to rule out bone involvement, and the patient was treated with antifungal therapy, followed up for 6 months with no evidence of recurrence.

Conclusion:

Diagnosis of mycetoma in the early stage is difficult. Any indurated soft tissue swelling in the lower extremity, diagnosis of mycetoma should be kept in mind and thoroughly investigated in endemic areas. Failure to diagnose early can result in disabilities and deformities.

References:


ABBREVIATIONS:

FNA – Fine Needle Aspiration
H & E – Haematoxylin & Eosin
PAP – Papanicolaou stain
MGG – May–Grunwald Giemsa
AFB – Acid Fast Bacilli
PAS – Periodic Acid Schiff