

## Muscle Tuberculosis: A Diagnostic challenge

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**Abstract:** Tuberculosis is one of the potentially serious infectious disease affecting a large population of the world with a high morbidity and mortality. It can affect any organ of the body and involvement of musculoskeletal system is rare. Because of the rarity of its involvement and atypical presentation, musculoskeletal tuberculosis is often misdiagnosed leading to delay of treatment.

**Keywords:** Muscle tuberculosis, infectious disease.

### CASE PRESENTATION

We report a rare case of isolated biceps muscle tuberculosis in a 51 year old immunocompetent male. Patient presented with swelling on the right upper limb for 2 years. He had no history of cough, fever, night sweats, loss of appetite and significant weight loss. The patient did not have any history of contact with tuberculosis patient, history of trauma or intramuscular injection at the site. On examination patient was afebrile with swelling measuring 2x2 cm in size over anterolateral aspect of the proximal part of the right arm and was firm, nonmobile and non-tender. The overlying skin was normal in appearance.

Blood investigations revealed normal Haemogram, normal renal and liver function tests, normal ESR (09) and negative viral serology. On X-Ray elbow joint, shoulder joint and adjacent bones were with no pathology. Ultrasound of the right arm showed an anechoic lesion with hypoechoic rim measuring 2 x 2.1 cm seen within the biceps muscle. An echogenic eccentric focus was seen projecting within the cystic lesion likely scolex. Underlying muscles appeared normal in echotexture and integrity. In view of the above reports, Echinococcus IgG was done which was negative (5.28).

Ultrasound abdomen and MRI Brain were normal. MRI right arm showed evidence of a round to oval intramuscular lesion measuring 3.8x2.8x1.6 cm with central necrotic area noted in mid part of arm involving long head of biceps appearing mildly hyperintense on T1W1 and

hyperintense on T2W1 with mild surrounding oedema. Rest of underlying muscles were normal. Differential Diagnosis of intramuscular abscess and intramuscular haematoma were kept.

FNAC showed granulomatous inflammation with biphasic reaction and necrosis suggestive of Tubercular origin however culture sensitivity revealed no growth. Mantoux was negative. TB Interferon gold was positive. Biopsy revealed necrotising granulomatous inflammatory lesion with no evidence of malignancy seen. Based on the above investigation's patient was started anti-tubercular therapy.

## **DISCUSSION**

Tuberculosis is one of the deadliest diseases all over the world and India has the largest number of Tuberculosis cases in the world and is leading cause of mortality. Tuberculosis primarily affect lungs, but can affect other parts of the body.<sup>1</sup>

Extrapulmonary sites of infection include the bones, joints, pleura, central nervous system, the lymphatic system, skin and the genitourinary system.<sup>2</sup> Goldblatt et al reported 29 percent of active pulmonary tuberculosis cases had coexisting musculoskeletal tuberculosis.<sup>3</sup> Patients with musculoskeletal involvement, present as spondylitis, osteomyelitis, or arthritis. Muscle Tuberculosis can manifest as isolated muscle mass, isolated muscular abscess, tubercular myositis, and tubercular pyomyositis.<sup>4</sup>

Primary muscular tuberculosis is rare. Muscular tuberculosis occurs either by extension of infection from surrounding joints or direct inoculation of infection by trauma or hematogenous spread from a primary focus of infection.<sup>5</sup>

The clinical presentation of muscular tuberculosis is non specific and can result delay in the diagnosis. The mainstay treatment of musculoskeletal tuberculosis is medical which requires the administration of a minimum of four drugs and one of these drugs must be bactericidal. Isoniazid, rifampicin, pyrazinamide, and ethambutol regimen is commonly used.<sup>6</sup>

**CONCLUSION:** Muscular Tuberculosis is rare presentation but in Patients presenting with painful soft tissue swellings differential diagnosis of Muscle tuberculosis should be considered. The prognosis of tuberculous myositis is good with early appropriate medical management and surgical drainage wherever needed. If timely diagnosis is made and early treatment is initiated, morbidity is decreased significantly.

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