



Case Report

Muscular tuberculosis of the infraspinatus mimicking a lipoma

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Abstract

Muscular tuberculosis (TB) is a rare manifestation of extrapulmonary TB and often challenging to diagnose due to its non-specific clinical features. A 35-year old housewife presented with a slow-growing swelling over her right upper back for three months with minimal pain. On examination, the swelling was soft, mobile, and fluctuant, confined to the subcutaneous and the intramuscular planes. With a clinical diagnosis of a lipoma, the patient was offered an excision of the swelling. However, intra-operatively the lesion was arising from the infraspinatus with caseous and purulent material. These findings led to a suspicion of muscular tuberculosis. The histopathology and the Gene Xpert polymerase chain reaction (PCR) were consistent with tuberculosis. The patient was started on anti-tuberculosis therapy and had a good outcome on three months follow-up.

Keywords: Muscular tuberculosis, Extrapulmonary tuberculosis, Tuberculosis mimicking a lipoma.

Introduction

Tuberculosis (TB) in all its forms continues to be a major public health concern in India. The burden is nearly 12 million globally, the largest contributor being India with 26% of the cases.⁽¹⁾

The tubercle bacillus is known to disseminate to almost every organ in the body despite involving the lung primarily. Due to its non-specific clinical and radiological features, extrapulmonary TB poses a considerable challenge in the diagnosis.⁽²⁾

Muscular TB is a rare manifestation of extrapulmonary TB and is mostly been reported in peripheral muscle groups.⁽³⁾ In this report, we describe a patient with no past history or contact with TB presenting with a swelling over the right

scapular region and was eventually diagnosed as muscular TB of the infraspinatus. Her clinical presentation, diagnostic difficulties, and management have been discussed with a review of the literature.

Consent was obtained from the patient for her case to be reported.

Case Report

A 35-year-old housewife with no known comorbidities presented with a swelling over the right upper back for three months. It was insidious in onset, slowly progressive in size, and was associated with pain on and off. There was no history of skin discoloration, ulceration, or

discharge. She had no similar swellings elsewhere in the body. She had no history of acquiring or having contact with tuberculosis. On examination, there was a swelling over the right scapular region which measured 5x4 cm and was well circumscribed. The skin over the swelling was normal. On palpation, it was soft in consistency, mobile, and had minimal tenderness. The plane of the swelling was predominantly intramuscular with a subcutaneous component. It was semi-fluctuant and showed a positive slip sign. Her general physical and systemic examinations were unremarkable.

With a clinical diagnosis of an intramuscular lipoma, she was offered excision of the lesion. Her relevant blood investigations and Chest radiograph were within normal limits. She was prepped for the surgery under local anesthesia. Intra-operatively, there was an abscess cavity within the infraspinatus muscle extending into the subcutaneous plane (Figure 1). There was no

extension on the underlying ribs or intercostal muscles. There was caseous and purulent material within the lesion. It was excised in toto with a cuff of normal muscle tissue. After thorough irrigation, the wound was closed over a drain with interrupted sutures. Her post-operative period was uneventful, and she was discharged on the second post-operative day.

On follow-up, she improved symptomatically, and the wound was healthy. The biopsy of the specimen showed granulation tissue with central necrosis edged with epithelioid macrophages, Langhan's giant cells, plasma cells, and lymphocytes (Figure 2). This was consistent with tuberculosis. Gene Xpert- Polymerase Chain Reaction (PCR) test also confirmed tuberculosis. The patient was started on Antituberculosis therapy (ATT) according to the National Tuberculosis Elimination Program (NTEP). On three months follow-up, the patient was doing well, and the wound was healthy.

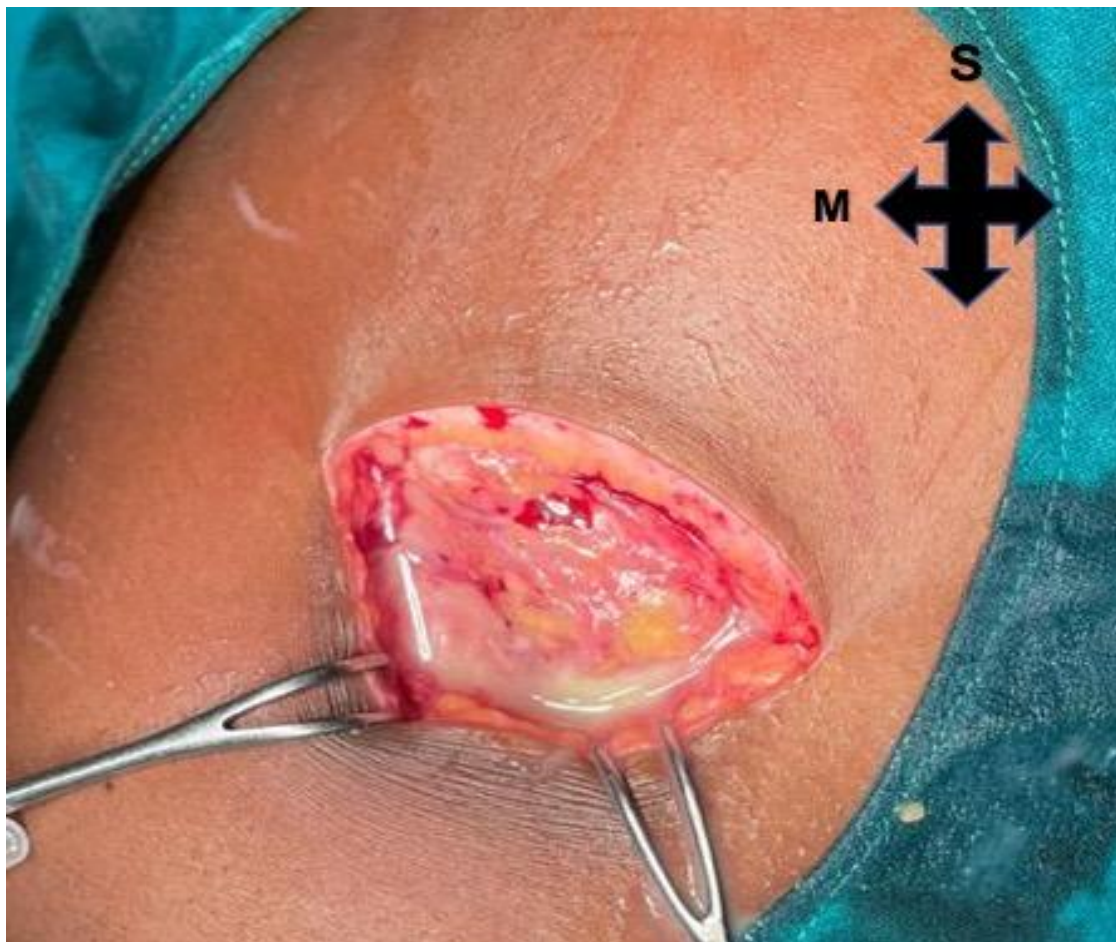


Figure 1

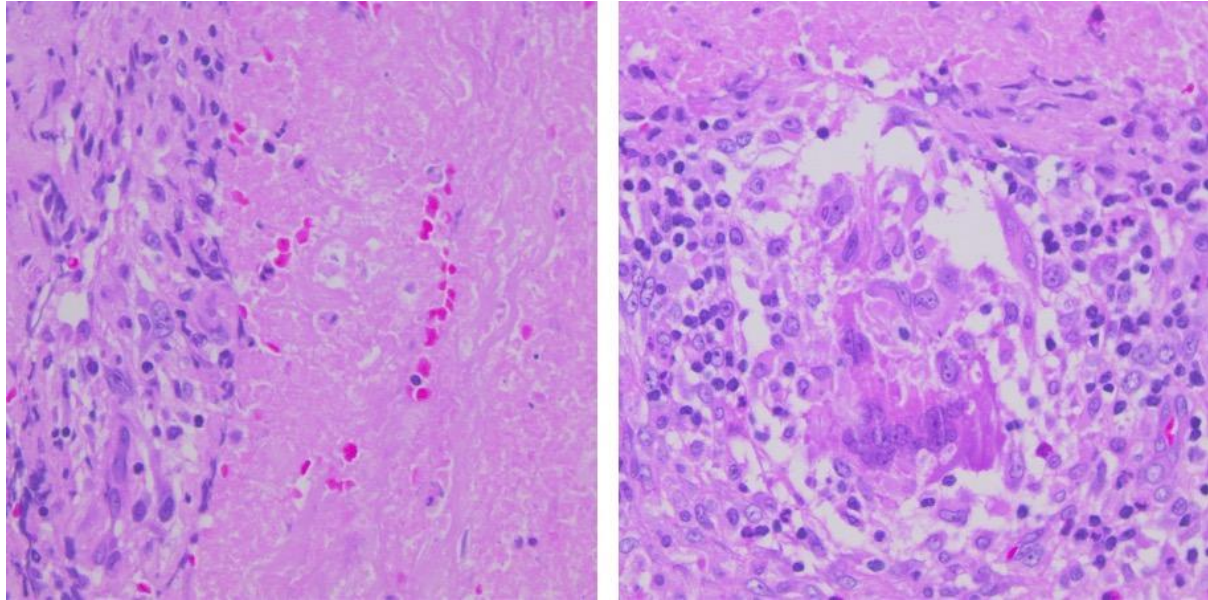


Figure 2

Discussion

This case is yet another example of the wide spectrum of manifestations of tuberculosis. Muscular TB is a rare clinical entity with very few case reports in the literature.⁽³⁾ Moreover, it is mostly reported in the peripheral muscle groups, especially in the lower limbs.⁽³⁻⁶⁾ The other common sites were the gluteus, pectorals, and the upper limbs.^(7,8) To the best of our knowledge, this is the first report of muscular TB involving the infraspinatus muscle.

The pathogenesis of muscular TB is not fully understood. Due to increased blood circulation and the presence of lactic acid in the muscles, the environment is unfavorable for Mycobacteria. However, the conditions leading to immunosuppression can trigger the spread of the latent bacillus into the muscles.⁽³⁾ There is also no common consensus as to whether the dissemination happens through the hematogenous or the lymphatic route. The infection could also be exogenous, secondary to trauma and direct inoculation into the muscle.⁽⁴⁾ Our patient did not have any of these risk factors like immunosuppression, past history of tuberculosis or trauma which is another peculiarity.

Muscular TB presents as a swelling that is of a chronic occult onset and gradually increases in size. Pain is not a constant feature and some

patients report weakness of the involved muscles. The constitutional symptoms of TB like weight loss, increased fatigue, and fever are seldom seen.⁽⁹⁾ In our patient, the location of the lesion was over the upper back which is the most common site of occurrence of a lipoma. Moreover, on examination, the other typical features like soft consistency and fluctuation were present which misled us in the diagnosis. The role of imaging in diagnosing muscular TB has not been explored. Whether pre-operative ultrasonography would help in differentiating it from the other lesions like sarcoidosis, lymphomatoid granuloma, parasitic infections, and lipoma needs to be studied. The confirmation of TB however depends on the pathological biopsy and bacteriological culture. Surgeons need to consider specific tests for TB like Gene Xpert, Mycobacteria Growth Indicator Tube (MGIT) based on the intra-operative findings. Our patient had a caseous and purulent material within the lesion that led us to suspect muscular TB.

The treatment of muscular TB depends on the site of involvement and the number of lesions.^(3,4) Surgical resection can be done in single lesions from accessible sites. However, multiple lesions cannot be completely excised. Anti-tuberculous therapy (ATT) remains a cornerstone in the management and all patients should receive it

regardless of excision. Our patient had a good response to surgery and ATT which is consistent with the literature.

Conclusion

Muscular TB involving the infraspinatus is an exceedingly rare clinical entity and can pose challenges in diagnosis. The clinical features are often non-specific and inconclusive to differentiate it from the more common lesion, lipoma. The diagnosis can be made based on intra-operative findings such as caseous material within the muscle and the absence of encapsulated fatty lesion. The treatment is surgical resection and anti-tuberculosis therapy.

Conflicts of Interest: Nil

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