DOI: https://dx.doi.org/10.18203/issn.2455-4510.IntJResOrthop20233279

**Case Report**

# Tubercular cold abscess: uncommon location of a common disease

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**Received:** 07 September 2023
**Revised:** 07 October 2023
**Accepted:** 08 October 2023

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## ABSTRACT

Musculoskeletal tuberculosis is not rare to find, but presence of the disease and such extensive involvement at an unusual site without much of bone involvement is rare. Reporting a case of isolated cold abscess in a 60-year-old male with evening rise of temperature, weight loss and diffuse swelling in his leg involving almost entire anterior aspect of leg. Magnetic resonance imaging (MRI) was advised to investigate further and revealed large focal intra medullary heterogenous collection and large lobulated juxtacortical collection in tibialis anterior muscle. Hematoma/organised abscess, incision and drainage was done and sent for Z-N staining which showed acid-fast bacilli. Anti-tubercular treatment was administered- isoniazid (H), rifampicin (R), ethambutol (E), pyrazinamide (Z). Outcome was favourable and patient become symptomatic better. Drainage of the cold abscess and antitubercular coverage produced good results in this rare presentation of tuberculosis.

**Keywords:** Cold abscess, Drainage, ATT, Tuberculosis

## INTRODUCTION

Musculoskeletal tuberculosis is not rare to find, but presence of the disease and such extensive involvement at an unusual site without much of bone involvement is rare. Though pulmonary tuberculosis is the most common presentation, extrapulmonary tuberculosis is also an important entity. The sites involved in extrapulmonary tuberculosis are lymph nodes, abdomen, bones and joints including spine, genitourinary system, and central nervous system. Others may present with abscess, fistula, and cutaneous lesion.[1] A tubercular cold abscess secondary to involvement of an adjacent bone or suppuration of lymph nodes is a well-known entity; however, a primary cold abscess is rare.[2]

## CASE REPORT

A 60-year-old male presented in outpatient with chief complaint of fever, pain and progressive increasing swelling in right leg for the past 3 months. Patient also gave history of night sweats and loss of weight. On examination diffuse swelling present involving anterior aspect of leg. Swelling was non-tender, firm, no local rise in temperature present, no discharging sinus present, non-pulsatile.

There was no regional lymphadenopathy and the systemic examination was unremarkable.

**Figure 1: Clinical image showing the swelling in right leg.**

Patient received no prior treatment before presenting to our OPD.

X-ray was advised to the patient and revealed a large, dense radiopaque heterogenous lobulated like mass with discrete areas of calcification

MRI was advised to investigate further and revealed large focal intra medullary heterogenous collection and large lobulated juxtacortical collection in tibialis anterior muscle, hematoma/organised abscess.

Under local anaesthesia incision and drainage was done and total amount collected was around 500 ml. It was turbid, whitish-brown color, non-bloody stained, non-foul smelling.

**Figure 2: Collected sample.**


**Figure 3: On presentation.**

**Figure 4: 6-months follow up.**

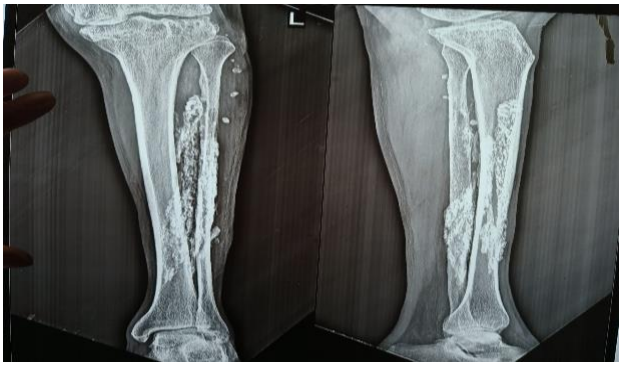


**Figure 5: 12 months follow up.**

Z-N staining showed acid-fast bacilli. Sample was sent for PCR which confirmed the presence of mycobacterium tuberculosis.

Culture and sensitivity showed no growth. Patient had no history of any contact with tuberculosis.

Blood routine investigation revealed lymphocytosis, raised ESR and reactive CRP.

Diagnosis of tubercular abscess was made and patient was started on anti-tubercular drugs isoniazid (H), rifampicin (R), ethambutol (E), pyrazinamide (Z).

6-months follow up revealed marked reduce in swelling and symptomatically better patient.

## DISCUSSION

Isolated tubercular cold abscess at an unusual site without any evidence of tuberculosis is rarely seen and that too such a vast extent.[3]

One case series from South India reported three infants with isolated primary tubercular gluteal abscess.[4]

Tuberculosis can involve the soft tissues by extension from bone, synovial lining of joints or tendon sheaths; by direct inoculation; and, rarely, by haematogenous dissemination.[5]

Involvement of muscles in the tuberculous process that too selective primary soft-tissue involvement without coexisting active skeletal or extra skeletal tuberculosis is rare. That is why these types of cases raise some questions regarding their pathogenesis in a healthy individual. It probably occurs via haematogenous spread from an occult primary focus elsewhere. In our case primary source could not be identified.[6]

Confirmation of the disease requires biopsy demonstrating acid-fast bacilli on microscopy or isolated in culture of the organism. But its usefulness gets limited by the long time required for the result and chance of false negative results in pauci-bacillary disease. In contrast with pulmonary TB,

extra pulmonary TB lesions have a lower amount of bacilli, resulting in less accurate results from microscopy.[7] Compared to culture, PCR allows for a more rapid diagnosis and greater sensitivity even when small amounts of bacilli are present.[8]

The treatment of cold abscess is the subject of much controversy due to the rarity of the disease. Thus, several questions remain unanswered regarding the duration of treatment, its usefulness and the modalities of surgical treatment. The strong suspicion of tuberculous origin generally imposes a medical treatment from the beginning pending the results of the culture.[9] The geneXpert study technique is nowadays a rapid and effective diagnostic tool for tuberculosis compared to microscopy, which has a low sensitivity and often a long culture.[10]

## CONCLUSION

Non-specific slow growing swelling without any signs of inflammation and not responding to usual treatment should raise the possibility of a cold abscess and extra pulmonary manifestations of TB. Tuberculosis should be suspected as a strong possibility especially in a tropical country like India.

*Funding: No funding sources*
*Conflict of interest: None declared*
*Ethical approval: Not required*

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**Cite this article as:** Jindal P, Hashmat A, Srivastava DC. Tubercular cold abscess: uncommon location of a common disease. Int J Res Orthop 2023;9:1283-5.