

# A Case of Isolated Axillary Tuberculous Lymphadenitis

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## Abstract

Tuberculosis (TB) is one of the communicable diseases with high morbidity to the patient. TB is divided into pulmonary and extrapulmonary TB. In extrapulmonary TB, isolated axillary TB is rare and sometimes creates diagnostic difficulty, particularly in female patients. The axillary lymph nodes are affected in around 3% of tuberculous lymphadenitis. Our case presented with isolated axillary tuberculous lymphadenitis which is rare without evidence of TB elsewhere in the body. It is more common in females compared to males, and it commonly involves the left side. Most of the cases do not show systemic manifestations. Chest X-ray and ultrasound are useful primary investigations for the diagnosis. Histopathological examination of the lymph node is the confirmatory test for axillary tuberculous adenitis. Hence, tuberculous lymphadenopathy should be considered one of the differential diagnoses in a female patient with isolated axillary lymphadenopathy even without clinical manifestations of TB.

**Keywords:** Axillary calcification, axillary tuberculous, lymphadenitis, macrocalcification

## INTRODUCTION

Tuberculosis (TB) is one of the contagious diseases with variable presentation depending on the organ of involvement. Most of the pulmonary TB cases are diagnosed with widely available investigations such as chest X-ray, computed tomography (CT), sputum examination, and biological markers. Sometimes, the diagnosis of extrapulmonary TB is difficult due to its uncommon presentation and without classical manifestations. Axillary tuberculous is one of the extrapulmonary tuberculous diseases which may present without the classical manifestations of TB.

## CASE REPORT

A 21-year-old female patient presented with the complaint of swelling in the left axillary region for 6-month duration. The swelling was gradual in onset and progressive. It was not associated with pain. The patient had no history of chronic cough with expectoration. There was no history of loss of appetite or loss of weight. The patient had no previous history of TB or a history of exposure to TB. There was also no history of breast mass, nipple discharge, and heaviness in the breast. On examination, the patient was well built and nourished. Systemic examination was normal. There was no evidence of pallor, icterus, cyanosis, clubbing, and pedal edema. Local

examination of the left axilla showed multiple, left axillary swelling, with the largest measuring 4 cm × 5 cm. The lymph node was firm to hard in consistency, was of smooth surface, and was mobile. The contralateral axillary lymph nodes were not palpable.

Routine blood investigations such as complete blood count, renal function test, and liver function test were normal. Serological investigations of HIV 1 and 2, as well as hepatitis B and C, were negative. Chest X-ray showed multiple, calcified, axillary lymph nodes [Figure 1]. Ultrasound of the breast and axilla showed bilateral normal breast with multiple left axillary lymphadenopathies. Fine-needle aspiration of the lesions was inconclusive. Mantoux test revealed no induration after 72 h. CT of the chest and abdomen showed no significant abnormality. She was, therefore, planned for excision biopsy of the lesion.

In female patients with axillary lymphadenopathy, occult breast cancer should be considered one of the differential

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diagnoses of axillary lymphadenopathy because the clinical features and imaging findings of both diseases can overlap. Moreover, there are reports of co-existing tuberculous adenitis and carcinoma breast in young- to middle-aged females.

The patient underwent a left axillary lymph node biopsy. The intraoperative picture showed multiple axillary lymph nodes which are firm to hard in consistency [Figures 2 and 3]. Cut surface showed calcification with areas of necrosis. Histopathological examination of a lymph node showed Langham’s giant cells with granuloma [Figure 4]. There were areas of caseation with necrosis. Histopathology confirmed axillary tuberculous lymphadenitis. All other investigations failed to locate primary TB. She was started on anti-TB treatment and responded well to the same.

**DISCUSSION**

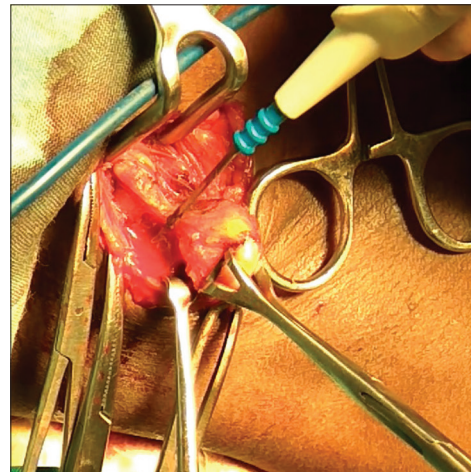
TB is one of the most common communicable diseases in developing countries. It can affect any organ in the body.

In extrapulmonary TB, tuberculous lymphadenitis is more common.<sup>[1]</sup> Within tuberculous lymphadenitis, the cervical lymph node is more commonly affected than other regional lymph nodes.<sup>[2]</sup> The axillary lymph nodes are more affected by 3% of tuberculous lymphadenitis. Isolated axillary tuberculous lymphadenitis is rare without evidence of TB elsewhere in the body.<sup>[3]</sup>

The order of tuberculous lymph node involvement is cervical, supraclavicular, axillary, mesenteric, porta hepatis, perihepatic, and inguinal lymph nodes. Axillary tuberculous lymphadenitis is more common in young- to middle-aged females. Hence, it makes occult carcinoma breast one of the differential diagnoses for axillary tuberculous adenitis.<sup>[4]</sup> The second important feature is that it is more common on the left side. It may be due to direct communication from the thoracic duct or lymphatic supply of the left upper limb.



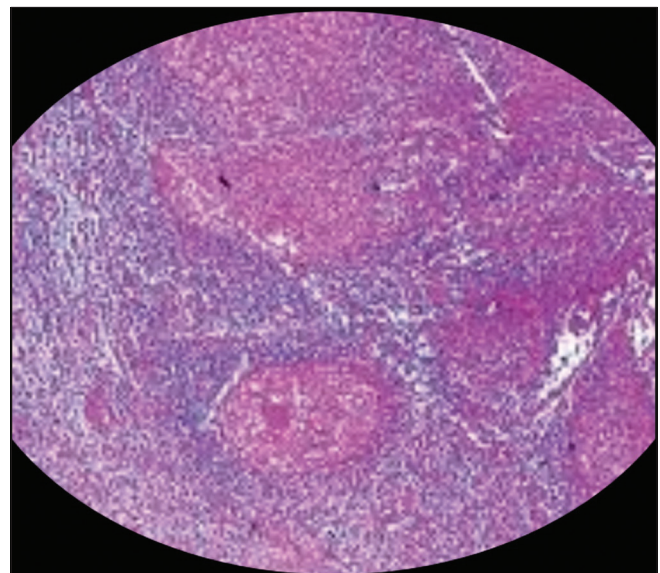
**Figure 1:** Chest X-ray showing multiple calcified lymph nodes in the left axilla



**Figure 2:** Intraoperative image showing multiple axillary lymph nodes in the left axillary regions



**Figure 3:** Postoperative picture of the excised axillary lymph nodes



**Figure 4:** Postoperative histology showing Langham’s giant cells with granuloma

**Table 1: Features of axillary tuberculous lymphadenitis**

Parameters	Features
Symptoms	No classical symptoms in most of the cases
Blood investigations	Blood investigations mostly normal except raised ESR
Fine-needle aspiration	Fails to identify TB in most of the cases
Ultrasound	Used for diagnosis, but features may overlap with other differential diagnoses
Chest X-ray	Macrocalcification in the axilla helps in the diagnosis
Confirmatory investigations	Histopathology of the excised lymph node

TB: Tuberculosis, ESR: Erythrocyte sedimentation rate

Axillary tuberculous lymphadenitis is a subset of extrapulmonary TB. The major problems with isolated axillary TB are that it does not associate with the classical systemic manifestations of TB. In most of the cases, fine-needle aspiration cytology fails to identify TB. However, X-ray chest is one of the useful investigations in axillary tuberculous lymphadenitis. The presence of axillary calcification in chest X-ray is one of the findings in axillary tuberculous adenitis.<sup>[5]</sup> We should suspect axillary tuberculous adenitis in those cases, even though they do not manifest systemic signs of TB [Table 1].

Ultrasound of the local region is one of the useful investigations for axillary tuberculous adenitis. The following features are considered for the diagnosis of axillary tuberculous adenitis:<sup>[6]</sup> (1) hypoechogenic lymph node, (2) central part of the node is hyperechogenic due to caseation necrosis, (3) matted lymph node, (4) blurred outside, (5) multiple lymph nodes, (6) ovoid in shape, and (7) multiple coarse calcification and lack of hilum. CT is also a useful investigation for axillary tuberculous adenitis. Unilateral multiple circumscribed dense nodes around the vessels with macrocalcification are suggestive of tuberculous adenitis in the CT chest. Excision biopsy along with anti-tuberculous treatment is the standard of care for axillary tuberculous lymphadenitis.<sup>[7]</sup>

A similar case reported by Nwagbara *et al.*<sup>[8]</sup> showed axillary tuberculous lymphadenopathy in a female patient without the classical manifestations of TB and the diagnosis was confirmed by excision biopsy. Ścieszka *et al.*<sup>[9]</sup> reported the utility of ultrasound in the initial screening investigation of axillary tuberculous lymphadenopathy. However, still, they suggested histopathological examination of the excised lymph node for confirmation of the diagnosis due to the overlapping of imaging findings with other differential diagnoses of tuberculous adenitis such as sarcoidosis, lymphoma, histoplasmosis, and fungal infections. Goyal *et al.*<sup>[10]</sup> highlighted the importance of biopsy examination of the lymph node in their case report. In their case report, there was the possibility of concurrent occurrence of carcinoma breast with axillary tuberculous adenitis due to immunosuppression. Concurrent management of both diseases will improve the outcome. Hwang *et al.*<sup>[11]</sup> showed the importance of biopsy examination of an axillary

lymph node inpatient with immunosuppression for autoimmune disease.

## CONCLUSION

The presentation of isolated axillary tuberculous lymphadenitis is rare without evidence of TB elsewhere in the body. Histopathological examination of the lymph node is the confirmatory test for axillary tuberculous adenitis. Hence, tuberculous lymphadenopathy should be considered one of the differential diagnoses in female patients with isolated axillary lymphadenopathy even without the clinical manifestations of TB.

## Declaration of patient consent

The authors certify that they have obtained all appropriate patient consent forms. In the form the patient(s) has/have given his/her/their consent for his/her/their images and other clinical information to be reported in the journal. The patients understand that their names and initials will not be published and due efforts will be made to conceal their identity, but anonymity cannot be guaranteed.

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## Conflicts of interest

There are no conflicts of interest.

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