Axillary Lymphadenopathy with Bilateral Nipple Discharge: A Case Report

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ABSTRACT

We present a probable case of tuberculous lymphadenitis and mastitis in Sawan Pracharak Hospital, Nakhon Sawan, Northern Thailand. A 59-year-old single female was found to have an enlarged left axillary lymph node of 2 cm in size detected during a physical check-up. She had a history of pale-yellow serous discharge from both nipples off and on for 2-3 months. She had no chronic disease and was taking no medications. Fine needle aspiration and excisional biopsy of the lymph node revealed reactive hyperplasia. Two and a half years later, she noted an enlarged right axillary lymph node of 1.5 cm in size. A pathological section showed caseous granuloma with negative acid-fast bacilli (AFB) staining. She was diagnosed with tuberculous lymphadenitis and mastitis, and empirically treated with a standard short-course of anti-tuberculosis therapy. She was seen for the last time one year after treatment discontinuation without any symptoms and signs of relapse.

Tuberculous lymphadenitis in association with mastitis is rare. The diagnosis usually depends on the pathological examination. The negative result of AFB staining of the lymph node and nipple discharge does not exclude tuberculosis. Tuberculosis should be considered in the differential diagnosis of patients who present with axillary lymphadenopathy with or without nipple discharge, especially in the endemic areas of tuberculosis.  

INTRODUCTION

Tuberculosis (TB) still accounts for a high burden disease. Human immunodeficiency virus (HIV) infection has led to a surge in tuberculous infections and diseases. It is estimated that one-third of the world’s population is currently infected with TB.1 Thirty-three percent of new cases of TB occur in the South-East Asian Region.1 In Thailand, there were 48.31 TB cases per 100,000 population in 2001.2 It is estimated that only 46 percent of cases are detected.3

Extra-pulmonary TB (EPTB) accounts for 7-30 percent of all TB cases4-9, and may be up to 40 percent when associated with HIV infection.10 Seventeen to forty-three percent of EPTB are lymphadenitis.5,8 Cervical lymph nodes are most commonly affected, and axillary lymph nodes are involved in only 3.8-20.3 percent of TB lymphadenitis.11-15

We report a probable case of TB lymphadenitis and mastitis in Sawan Pracharak Hospital, Nakhon Sawan, Northern Thailand.
CASE REPORT

A 59-year-old single female was found to have an enlarged left axillary lymph node of 2 cm in size detected during a physical check-up at a hospital in Northern Thailand. She was referred to Sawan Pracharak Hospital. She noted pale-yellow discharge from both nipples off and on for 2-3 months. She had no chronic disease and was taking no medications. Chest radiogram was normal. The provisional diagnosis was left axillary lymphadenopathy with galactorrhea. Fine needle aspiration (FNA) of the lymph node was done. The smear showed many lymphocytes in a bloody background. Many atypical histiocytes with large nuclei, fine chromatin and small 1-2 nucleoli were also present. The FNA diagnosis suggested atypical lymphoid hyperplasia. The left axillary lymph node biopsy was performed, and the pathological slides were reviewed at Maharaj Nakhon Chiang Mai University Hospital, Chiang Mai, Northern Thailand. The pathological diagnosis was reactive hyperplasia, predominantly follicular pattern, without evidence of malignancy. The patient’s father died of pulmonary carcinoma, and her brother of bladder carcinoma, so she was referred to the National Cancer Institute for further investigations. Mammogram of both breasts revealed moderately dense fibroglandular tissue with symmetrical appearance. There was no evidence of malignancy. A small right axillary lymph node was also detected. Ultrasonogram showed a 1-cm cyst at 10 o’clock region of the right breast, without evidence of radiographic malignancy.

Two and a half years later, the patient reported an enlarged right axillary lymph node of 1.5 cm in size. She was treated with roxithromycin from a local hospital without improvement, and was transferred to our hospital. There was still scanty pale-yellow discharge from both nipples. The excisional biopsy of right axillary lymph node was done. The pathological sections revealed protrusion of many lymphoid tissues outside the lymph node capsule. At Maharaj Nakhon Chiang Mai University Hospital, recut of the slides from a paraffin block showed 2-3 small caseous granulomata near the capsule of lymph node in afferent lymphatic vessel areas. There were abundant of follicular and parafollicular hyperplasia. The acid-fast bacilli (AFB) staining was negative. These findings were consistent with TB. Chest radiogram was normal. Anti-HIV was negative. Complete blood count analysis showed hemoglobin of 12.1 g/dl, hematocrit of 35.9 percent, platelet count of 113 x 10^3 cells/µL, and white blood cell counts of 4.4 x 10^3 cells/µL (46.7% neutrophils, 44% lymphocytes, 4.8% monocytes, 1.8% eosinophils, and 0.6% basophils). Sputum examination for TB was negative. The mammogram revealed a scattered fibroglandular breast pattern with a tiny cystic lesion about 0.7 cm in size at mid-inner region of the right breast, consistent with fibrocystic disease. FNA of the right breast cyst yielded small amount of clear fluid, insufficient for TB culture. Cytologic examination revealed no cells. Serum prolactin was 10.8 ng/ml (normal 3.4-24.1 ng/ml). The final diagnosis of TB axillary lymphadenitis with probably mastitis was made. Isoniazid, rifampicin, pyrazynamide and ethambutol were given for the first two months, and only isoniazid and rifampicin were continued for another four months. The sputum culture for TB was subsequently negative. The patient was seen for the last time one year after treatment discontinuation without any symptoms and signs of relapse.

DISCUSSION

Our patient was from Nakhon Sawan, Northern Thailand. In Nakhon Sawan, total number of TB cases has increased three times from 266 to 719 cases per year during 1993 to 2003 (Table 1). EPTB has also increased about 20 times from 10 to 202 cases per year during the same period (Table 1). Risk factors of TB lymphadenitis include young age, female, and HIV infection. It can occur in patients of old age without HIV infection, as we have seen in this patient. TB lymphadenitis is mostly diagnosed by FNA cytology or biopsy.
Table 1. Prevalence of pulmonary and extra-pulmonary tuberculosis in Nakhon Sawan.

<table>
<thead>
<tr>
<th>Year</th>
<th>Pulmonary tuberculosis</th>
<th>Extra-pulmonary tuberculosis</th>
<th>Total tuberculosis</th>
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<tbody>
<tr>
<td></td>
<td>Number</td>
<td>Rate*</td>
<td>Tuberculous meningitis</td>
</tr>
<tr>
<td>1993</td>
<td>252</td>
<td>23.24</td>
<td>4</td>
</tr>
<tr>
<td>1994</td>
<td>417</td>
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<td>1995</td>
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<td>2003</td>
<td>496</td>
<td>43.95</td>
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</table>

*Rate/100,000 population

Efficacy of FNA in diagnosing TB lymphadenitis depends partly on experience of pathologists. In high experience pathologists, it was reported to have the similar effective result as biopsy. However, it was also reported to have less successful result (12%) than biopsy (60%). In our patient, FNA did not diagnose TB. The sensitivity of Ziehl-Neelsen AFB staining of lymph node is between 20-75 percent, and the culture yields positive result between 40-71 percent. Pathology sections which show necrosis give more positive staining/culture for TB than non-caseating or caseating granuloma without necrosis. A combination of cyto-pathology and staining/culture can diagnose more cases of EPTB accurately. Serodiagnosis using antimycobacterial antibodies to A-60 antigen can yield 2.5 percent positive result. Polymerase chain reaction assay was reported to have high sensitivity and specificity in smear-positive pulmonary tuberculosis, but have variable results in the diagnosis of EPTB.

In our patient, we diagnosed TB lymphadenitis by biopsy of the lymph node. The paraffin block was recut and reviewed by pathologists in Maharaj Nakhon Chiang Mai University Hospital. Mycobacterium tuberculosis was not detected by Ziehl-Neelsen AFB staining and it is unfortunate that culture was not done from fresh pathology and cytology specimens of the lymph nodes. Negative results in the cultivation of M. tuberculosis in the sputum do not exclude the diagnosis of TB lymphadenitis. Mammographic and sonographic features of the axillary lymph node in our patient were not helpful in diagnosis of TB, in consistent with previous reports. Macro-calcification is reported to be suggestive of TB axillary lymphadenitis. An axillary lymph node larger than 1.5 cm must be considered abnormal until proven otherwise. The differential diagnosis of granulomatous lymphadenitis includes sarcoidosis and other chronic infections caused by fungus and non-tuberculous Mycobacterium. There are three types of TB mastitis: nodular, diffuse, and sclerosing types. In our patient, it should be diffuse type. TB mastitis was found most commonly in young multiparous lactating women. At provisional clinical diagnosis, TB mastitis is mostly be
diagnosed as carcinoma or abscess. Concomittant axillary lymph node enlargement is seen varying from 7-60 percent. Mammographic findings of TB mastitis include circumscribed or irregular mass, calcification, asymmetric density with speculated margin, architectural distortion, and axillary lymph node enlargement. Although these findings correlate with type of TB mastitis, but they are not helpful in making the diagnosis. The most reliable diagnosis of TB mastitis is from excisional biopsy. It is reported that staining and culture for AFB yield positive result only 0-12 percent. In our patient, the bilateral nipple discharge could be due to TB mastitis which has been reported previously in patients with similar clinical and radiographic features with or without axillary lymphadenopathy. TB mastitis is rare and should be considered in the differential diagnosis of woman who presents with a breast lump or nipple discharge and lives in endemic area, especially when extra-mammary foci of TB are present. TB mastitis can occur from hematogenous spread, lymphatic spread or direct extension from adjacent focus such as the pleura, chest wall or lymph node. In our patient, the mode of infection of the breasts could be hematogenous spread or direct extension from axillary lymph nodes, or in contrast, the primary infection may occur in the breasts then spread to the axillary lymph nodes.

**CONCLUSION**

TB lymphadenitis of the axillary lymph node and breast are very rare. Diagnosis depends on thorough pathological examination. TB should be considered in the differential diagnosis of patients who present with axillary lymphadenopathy with or without nipple discharge, especially in the endemic areas of TB.

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**References**


