ORIGINAL ARTICLE

MAMMARY TUBERCULOSIS: A CAUSE OF LUMP IN THE BREAST

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ABSTRACT

Background: This study was conducted to highlight the importance of mammary tuberculosis, by determination of its frequency, clinical presentation and laboratory investigations in our set-up.

Material and Methods: It was a retrospective study performed at Department of Pathology, Nawabshah Medical College, Nawabshah. The data was collected from the file record of these patients from January 1997 to December 2006 and the results were tabulated.

Results: Nine cases of tuberculosis were diagnosed in 396 lumpectomy/mastectomy specimens. Age of these patients ranged from 18 to 42 years. All were married women belonging to poor socio-economic class, bearing on average five children. One patient was pregnant and three lactating mothers. Associated pulmonary tuberculosis was present in three cases. Previous history of tuberculosis was present in one case and history of tuberculosis in the family was seen in five cases. Mass with or without ulceration /abscess / discharging sinus was the clinical presentation in all the cases. Axillary lymphadenopathy was seen in five cases. Fever and pain with history of weight loss was seen in all the cases. All the patients were found to be anaemic with high erythrocytes sedimentation rate. The total leukocytes count ranged from 4.2 - 7.2 x 10^9/l. Mantoux test was positive in all the cases. Acid fast bacilli in the breast tissue were seen in only one case. The diagnosis was made on histological grounds by the presence of chronic granulomatous inflammation with caseating epithelioid granulomas and Langhan's type of giant cells.

Conclusion: The frequency of tuberculosis in our study is 2.3% in the patients with lump in the breast. Doctors should keep tuberculosis in the differential diagnosis of breast lump.

Key words: Breast lump, Tuberculosis, Mammary tuberculosis.

INTRODUCTION

Robert Koch reported the discovery of tubercle bacilli on March 24, 1882.[1] Since then tuberculosis remains one of the most important health problem and occupies fourth place among overall major causes of death.[2] Tuberculosis flourishes wherever there is poverty, overcrowding, chronic debilitating illness and malnutrition.[3,4] Contrary to the increasing number of cases of tuberculosis in developing countries, the number of cases in industrialized countries are stable or decreasing.[5,6,7]

Tuberculosis is a major cause of preventable infectious disease and death in women worldwide. The disease poses a major threat to women's health security.[3,8,9] According to WHO report, approximately one-third of the world's population is infected with tuberculosis[8] and according to population commission report tuberculosis is the fourth major cause of death in Pakistan.[10]

Women are at increased risk during their reproductive years. The population growth, HIV epidemic, increasing poverty and rising levels of drug resistance will inevitably increase the burden of this disease in women in developing countries, leading to more deaths of women than maternal mortality. Tuberculosis kills more women each year than any other infection and has adverse effect on child survival and family welfare.[8]

In United States, a decreasing trend of the total number of patients of tuberculosis is seen with an increasing proportion of extrapulmonary tuberculosis, resulting in a rising proportion from 7.8% in 1964 to 20% in 2001.[11,12,13]

The diagnosis of tuberculosis can be easily missed unless the disease is suspected.[14,15] Extrapulmonary tuberculosis is increasing in incidence and its diagnosis is often difficult.[16]

Table-1: Clinical history of patients with Mammary Tuberculosis.

Case No.	Age	Socio-economic status	Marital status	Parity	Pregnancy	Lactation	Associated TB	Previous TB	Family history of TB
1	38	Poor	Married	6	Negative	Negative	Pul	NP	Present
2	26	Poor	Married	4	Positive	Negative	NP	NP	NP
3	22	Poor	Married	2	Negative	Negative	NP	NP	NP
4	42	Poor	Married	8	Negative	Negative	NP	Present	Present
5	36	Poor	Married	7	Negative	Negative	Pul	NP	Present
6	18	Poor	Married	2	Negative	Positive	NP	NP	Present
7	33	Poor	Married	5	Negative	Positive	NP	NP	Present
8	36	Poor	Married	5	Negative	Negative	Pul	NP	NP
9	32	Poor	Married	6	Negative	Positive	NP	NP	NP

Key: TB = Tuberculosis, NP = Not Present, Pul = Pulmonary.

Mammary tuberculosis is a rare disease in modern medicine and most of the western countries.[17,18,19,20,21,22] Both lymphatic and hematogenous spread play a role in its development.[23] It accounts for 0.025% of treated breast disease in developed[24] and 0.3-3.4 % in developing countries.[25,26,27]

The present study was conducted to highlight the importance of this rare occurrence, by determination of its frequency, clinical presentation and laboratory investigations in our setup.

MATERIAL AND METHODS

This was a retrospective study performed at the Department of Pathology, Nawabshah Medical College, Nawabshah, Pakistan. Cases of mammary tuberculosis were diagnosed in the lumpectomy/mastectomy specimens received during January 1997 to December 2006. The data was collected from the record of these patients and results were tabulated.

RESULTS

A total of 396 cases of female breast lumps were collected during this period. The age of these patients ranged from 18 to 42 (mean 31.4) years. Among these, nine cases were diagnosed as having mammary tuberculosis.

In a total of nine patients, the maximum number of cases (5/9) were in their fourth decade, all were married, belonging to poor socio-economical class, bearing 2 to 8 children (average 5). One patient was pregnant and three were lactating mothers. Associated pulmonary tuberculosis was present in three cases. Previous history of tuberculosis was present in one case and history of tuberculosis in the family was seen in five cases. (Table-1)

Mass with or without ulceration, abscess or discharging sinus was the clinical presentation in all the cases. The provisional diagnosis in all the cases by the operating surgeon was carcinoma or pyogenic breast abscess and no one was suspecting tuberculosis. Axillary lymphadenopathy was seen in 5 cases. Fever and pain with history of weight loss was seen in all the cases.

All of the 9 patients were anaemic (hemoglobin ranging from 5.6 to 7.8 g/dl). Erythrocyte sedimentation rate was high in all the cases (ranging from 38 to 78 mm). Total leukocyte count was 4.2-7.2 $x10^9$/l. Mantoux test was positive in all the cases, with induration ranging from 14 to 22 mm. Acid fast bacilli in the breast tissue were seen in only one case. Cultures were not performed and the diagnosis was made on histological grounds by the presence of chronic granulomatous inflammation with caseating epithelioid granulomas and Langhan's type of giant cells. All of these patients responded well to anti-tuberculous therapy.

DISCUSSION

Tuberculosis is a major women's health issue.[8] Mammary tuberculosis is a rare disease, most reports of tuberculous mastitis come from the African continent, where approximately one case a year is observed in the major medical centers.

First described by Sir Astly Cooper, majority of these lesions occur in the female breast, rarely it may observed in the male breast as well.[28] Clinical and radiological features of mammary tuberculosis are very confusing and pose a diagnostic

problem.[26] Significance of breast tuberculosis is due to its rare occurrence and mistaken identity with breast cancer and pyogenic breast abscess.[29]

In the present study we found nine cases of mammary tuberculosis in 396 lumpectomy /mastectomy specimens. The frequency of tuberculosis in our study was 2.3% which is in agreement with other studies from the developing countries.[25,26,27]

CONCLUSION

The frequency of tuberculosis in our study is 2.3% in patients with lump in the breast. Doctors should keep tuberculosis in the differential diagnosis of breast lump.

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