
CASE REPORT TUBERCULOSIS OF THE BREAST

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Tuberculosis of the breast is rare and difficult to detect because clinical and radiological appearance are not specific. Isolation of the tubercle bacilli from the lesion is seldom possible¹. Previously, there were many reports from both the west and the east countries. So far there has been no report of mammary tuberculosis in Thailand. We would like to describe the clinical presentation and imaging features including mammography and ultrasonography of a Thai woman proved to be a left mammary tuberculosis.^{2,3}

CASE REPORT

A 56-year-old woman presented with painless swelling of the left breast 2 weeks prior to admission. The patient had underlying diabetes mellitus, hypertension, ischemic heart disease, chronic renal failure and gouty arthritis. She was on hemodialysis program 2-3 times a week.

Physical examination revealed BP 140/90 mmHg, pulse rate 80 beats/min and respiration rate 18 breaths/min. The patient was moderately pale, afebrile and not distressing. The left breast was diffusely swollen without palpable mass or tenderness. There was no ulcer on the overlying skin. A movable lump about 1 cm. in diameter was palpated at left axillary area, most likely to be an enlarged node. Mammography and ultrasonography of the breasts were performed.

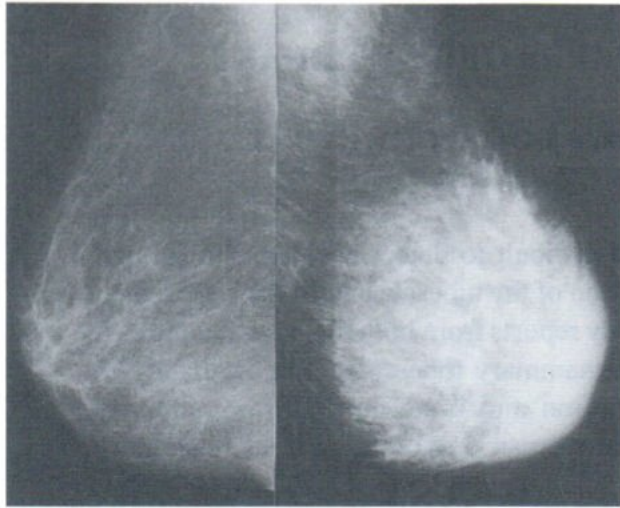
Mammography showed diffusely increased density of the left breast. Thickening of fibroglandular tissues and stroma was found. The skin was thickened, markedly at the areolar area. Three enlarged left axillary nodes contained pleomorphic microcalcifications were also detected.

Ultrasonography showed mark skin thickening of the left breast together with a large amount of subcutaneous low echoic networks, likely to be edema or lymphedema. There was no definite mass in the breast parenchyma. Three enlarged left axillary nodes were detected with increased vascularity.

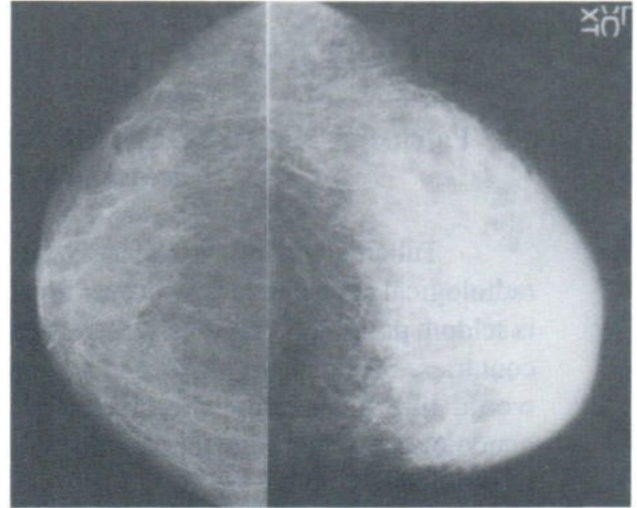
Fine needle aspiration of a left axillary lymph node was carried out, the pathological result was inconclusive so that biopsy of the left axillary lymph node was performed. The microscopic examination revealed multiple necrotic foci surrounding with epithelioid cells and multinucleated giant cells, and also mixed with lymphoplasmacytic infiltration. The histopathological diagnosis was caseating granuloma within the lymph node. But no acid fast bacilli was detected. The short course regimen (2 IRZE/4 IR) of antituberculous drugs was administered. The patient got well after 6 months of treatment. The left breast swelling resolved without palpable lump.

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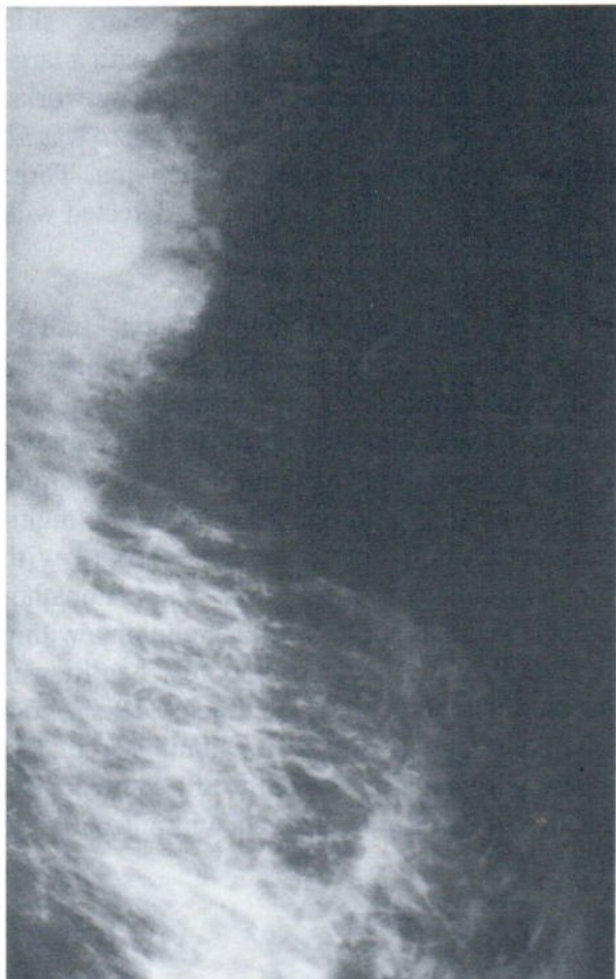
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1A



1B

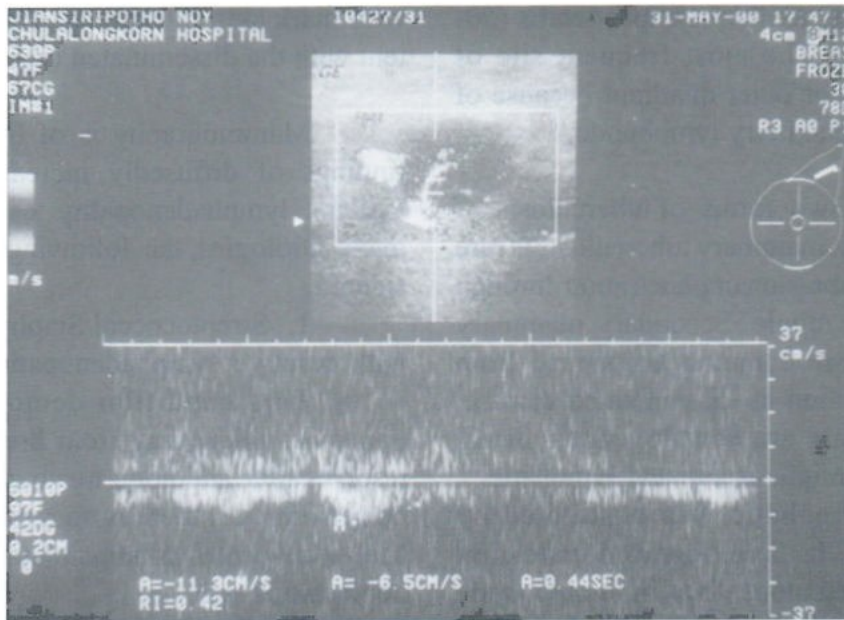


1C

Fig. 1A, B, C. Mammography of both breasts (A=MLO, B=CC, C=left axillary view) showed diffusely increased density of the left breast. Diffuse skin thickening was seen markedly at areolar area. Three enlarged left axillary nodes contained clusters of microcalcifications were also detected.



2A



2B

Fig. 2A, B. Ultrasonography of left breast showed diffuse skin thickening markedly at areolar area with a large amount of subcutaneous low echoic networks, likely to be edema or lymphedema (Fig. A). Enlarged left axillary nodes were seen with hypervascularity (Fig. B).

DISCUSSION

Tuberculosis of the breast was first described by Sir Astley Cooper in 1829, as "scrofulous swelling in the bosom of young woman".⁴ Thereafter, there were previously about 700 cases reported later. This condition was rare in the west countries. The incidence was less than 0.1% of breast specimens that submitted to histological examination.⁵ In the endemic area may found its incidence of up to 1.5%.⁶ Mammary tuberculosis usually occurs in woman between the ages of 20 and 40, and is rarely bilateral.⁷ It is rarely found in elderly man and prepubescent woman. The presenting signs of the breast are fluctuant abscess, poorly defined firm mass with skin retraction, purulent discharge from nipple, painful or painless breast lump, ulceration and may be associated with lymphadenopathy, especially axillary lymphadenitis (50-75% of cases).^{4,8-9} The most frequent site of involvement is upper outer quadrant because of its proximity to the axillary lymphnode.¹⁰

There are two forms of tuberculosis of the breast. Primary mammary tuberculosis is rare and resulted from abrasion or penetration through the opening of the nipple. Secondary mammary tuberculosis is more common and spread from other foci of infection as disseminated disease. Routes of spreading are hematogenous, direct extension from contiguous site and lymphatic.⁷⁻⁸ Spreading via lymphatic was postulated by Cooper in 1829. It is retrograded extension from primary tuberculous foci in lymph node of mediastinum, axilla, parasternal and cervical region.¹¹ Our patient may be in this form of spreading because no other foci were found, except there was lymphadenopathy.

The pathology of mammary tuberculosis was previously differentiated into 7 categories : acute, miliary, nodular, disseminated confluent, intraglandular cold abscess, sclerosing

type and tuberculous mastitis obliterans.⁵ However it is now generally accepted that mammary tuberculosis can be classified into three broader groups : nodular, disseminated and sclerosing. This differentiation has been based on pathologic not radiologic findings. The findings from mammography in each pathological finding are 1) nodular type : the breast mass develops slowly and painlessly. This causes dense nodular opacity and commonly found draining sinus; 2) Disseminated type : there are multiple intercommunicating foci within the breast and associated with skin thickening; 3) Sclerosing type : the breast is uniformly dense fibrosis.²⁻³ Our patient presented with painless swelling of left breast. The mammographic findings show thickening of the fibroglandular tissue and stroma with mark skin thickening. This may be consistent with the disseminated type.

Mammography is of limited value. The findings of diffusely increased density with axillary lymphadenopathy can be caused by many etiologies, the followings should be considered.

1. Streptococcal/Staphylococcal mastitis with reactive lymphadenopathy.

This condition demonstrates diffuse trabecular thickening from breast edema which resolves after antibiotic treatment. Biopsy should be performed if there is no response to treatment trial or advocates prompt biopsy, particularly for nonlactating woman.

2. Inflammatory breast carcinoma causes diffusely increased parenchymal density and lymphadenopathy from metastasis. Sometimes microcalcification are found.

3. Lymphoma with breast involvement

4. Infectious granulomas such as parasites, fungus

5. Autoimmune diseases

Among these conditions may show different clinical presentations, histological and microbiological findings. However surgical excision is necessary because it can confirmed the diagnosis with sufficient certainty.¹²⁻¹³

Ultrasonography of the breast may be useful in guiding for FNA or biopsy and distinguishing between solid and fluid lesion.² Computer tomography is useful to evaluate the contiguity of the breast lesion and the pleural cavity.²⁻⁹ The histological diagnosis is important for differentiation. The diagnostic criteria are the presence of granulomatous inflammatory infiltration and / or tubercles, with central caseation. Interestingly, acid fast bacilli were present in only 25% of the cases. The mammary tuberculosis responds well to antituberculosis drugs and conservative surgery.¹⁴

In conclusion, mammary tuberculosis is rare. The significant point is that its clinical signs and mammography cannot be differentiated from the breast carcinoma. Histological diagnosis must be done to distinguish these two conditions.

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