

OCCULT BREAST CARCINOMA PRESENTING WITH AXILLARY METASTASES (A CASE REPORT WITH LITERATURE REVIEWS)

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The presentation of axillary metastases as the first sign with no breast symptom or lesion is quite rare found less than 1 percent.^{1,2} Occult breast carcinoma was first described by Halsted in 1907.³ The histopathology obtained by axillary node biopsy provides the important guidance for the primary origin. Owing to the lack of breast lesion, the treatment role is controversy for the surgeons to perform the radical mastectomy. Several reports recommended to treat the patient as a stage 2 breast cancer.^{4,5} We report a case of histopathological proved metastases from breast carcinoma without breast lesion demonstrated. The purposes of this report are to illustrate the imaging features including mammography, ultrasonography and MRI, and to discuss the differential diagnosis, roles of treatment and literature reviews.

CASE REPORT

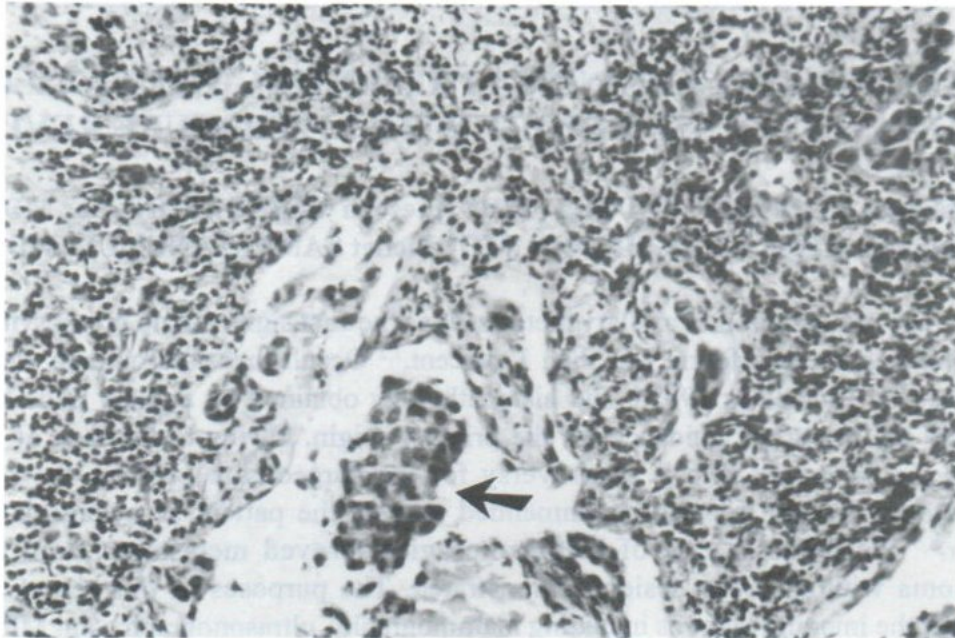
A woman aged 54 years old, complained of self palpated mass at left axillary area for 5 months with occasional tenderness. She had no abnormal sign and symptom of both breasts. Physical examination revealed large mass at left axillary area about 5-6 cm. in diameter. There was no definite mass or lesion palpated in both breasts. FNA of left axillary nodes was proceeded and turned out to be malignant cells. Multiple true cut biopsies were performed. The histopathology revealed metastatic carcinoma to lymph node, primary origin likely from mammary ductal carcinoma (Fig. 1A,B). The ER and PR immunostaining were negative. Mammography showed multiple dense masses at left axillary area with well defined oval shape, contained pleomorphic clustered microcalcifications suggestive of pathologic nodes. The largest mass measured 5x6 cm. The fibroglandular tissues of both breasts

revealed normal (Fig. 2A,B). Ultrasonography showed low echoic masses at left axillary area contained spots of bright echoes suggestive of calcifications (Fig. 3A). Supplement color doppler study demonstrated increased vascularity of the masses (Fig. 3B). No mass or cyst was found in both breasts. The MRI showed multiple masses at left axillary area, with low signal intensity on T1WI and high signal intensity on T2WI. There was enhancement of the masses after Gd DTPA contrast injection (Fig. 4A,B). No lesion of both breasts was confirmed. In addition, the sonography of the whole abdomen and bone scan revealed no malignancy. The staging of the carcinoma in this patient was assigned T0N2M0. The patient was treated with systemic chemotherapy, resulting in regression in size of the nodes, followed by axillary nodes dissection and total breast irradiation.

FNA = Fine Needle Aspiration
ER = Estrogen Receptor
PR = Progesterone Receptor

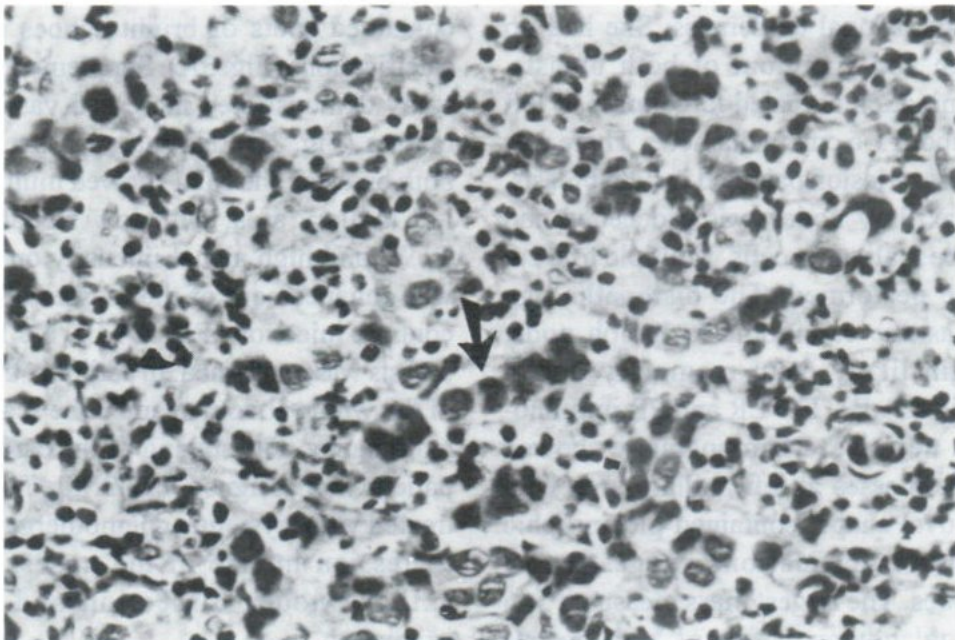
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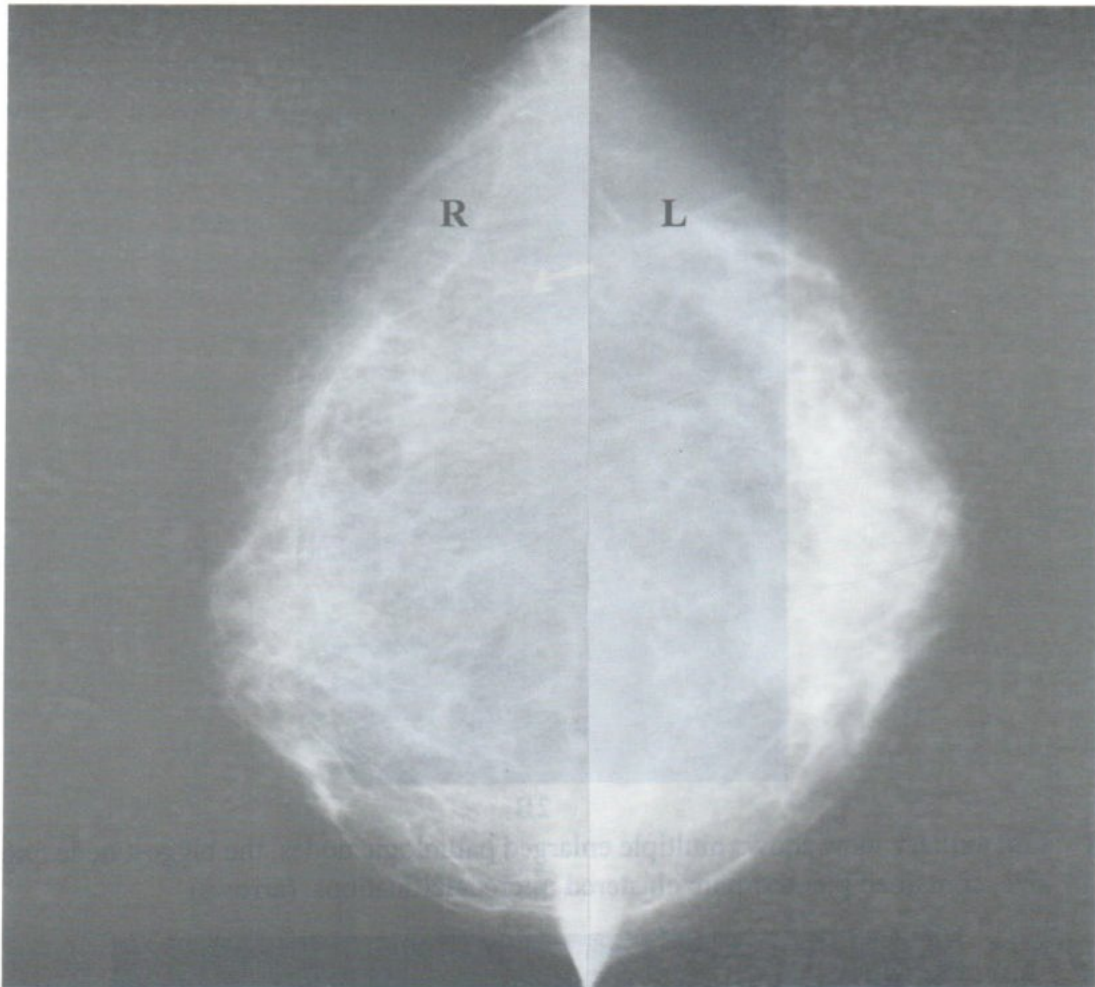
1A

Fig. 1A Demonstration of malignant cells (arrow) occurring in small and large clusters floating in the lymphnode sinuses. (H and E x 200)



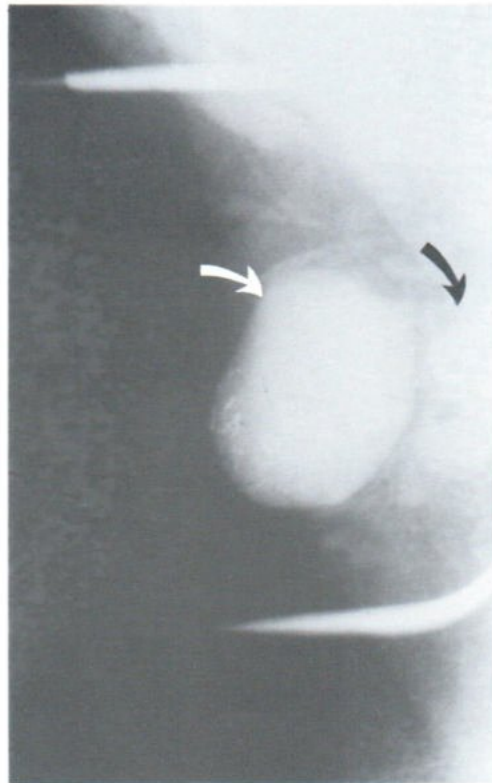
1B

Fig. 1B Illustration of malignant cells with Indian's file arrangement (arrow), the characteristic growth pattern that described in invasive carcinima of breast. (H and E x 400)



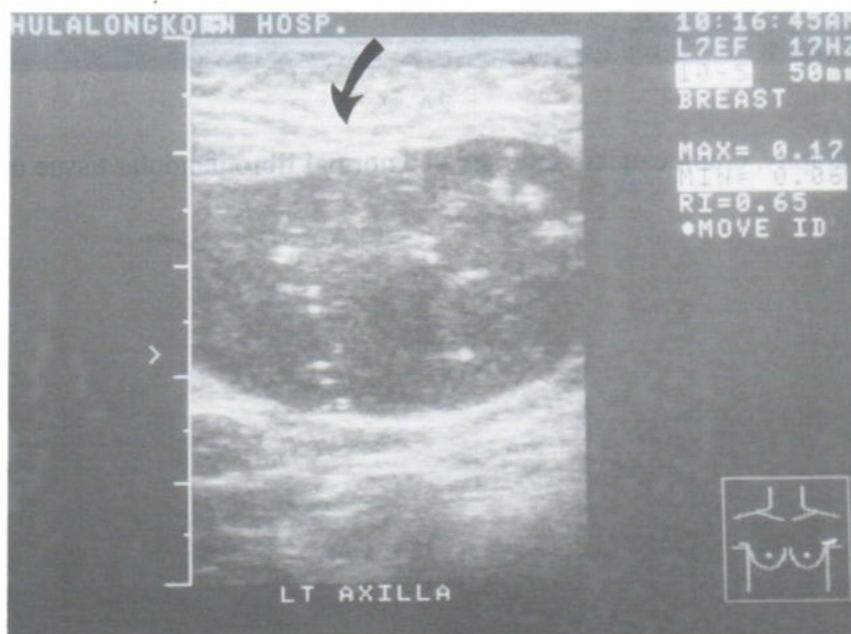
2A

Fig. 2A Mammography, craniocaudal view, showed normal fibroglandular tissue of both breasts.



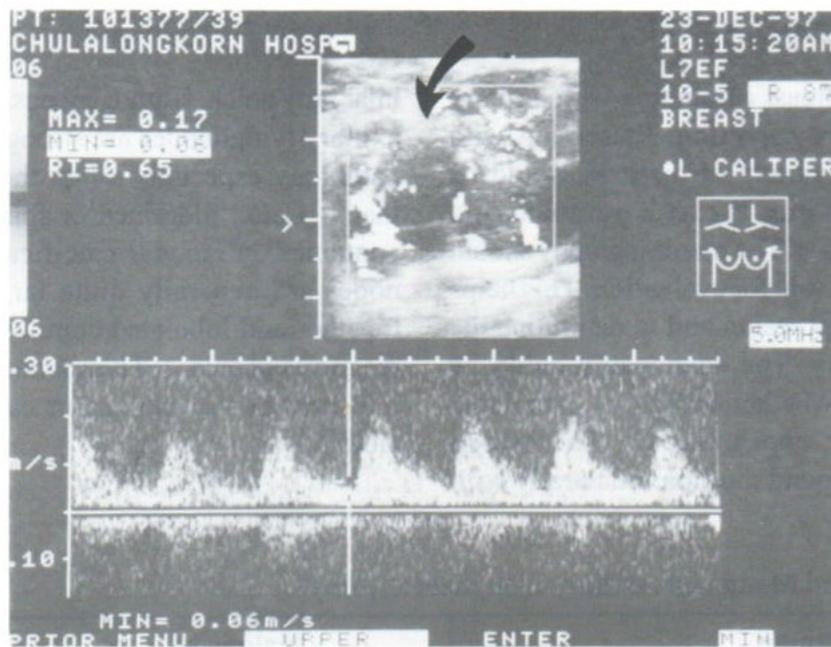
2B

Fig. 2B Left axillary view shows multiple enlarged pathologic nodes, the biggest node 5x6 CM. In size, contained pleomorphic clustered microcalcifications. (arrows)



3A

Fig. 3A Ultrasonography of left axilla showed multiple low echoic masses with bright spots in the big mass suggestive of calcifications. (arrow)



3B

Fig. 3B Color doppler of left axillary masses showed highly vascularity with arterial flow. (arrow)



4A



4B

Fig. 4A,B MRI of left breast including axilla (oblique sagittal view) showed multiple masses at left axilla (arrow) with low signal intensity on T1WI (A), high signal intensity on T2WI and getting enhancement after Gd DTPA contrast injection (B). Hemorrhage was seen the biggest node due to recent biopsy performed.

DISCUSSION

An occult breast carcinoma with axillary metastases is a rare condition. Presenting with axillary masses, a variety of diseases would be encountered including breast carcinoma and extramammary causes. The mammography should be the first imaging role for evaluation. This helps to exclude the breast lesion and to determine the axillary adenopathy. The adenopathy could be judged accurately whether benign or pathologic by mammographic appearances.^{6,7} The benign nodes are usually found multiple bilaterally with

hilar fatty notch. Homogeneously dense (non fatty) axillary lymphnodes are strongly associated with pathology especially when the nodes are larger than 3.3 cm., illdefined or spiculated margin, or contained intranodal calcifications.⁸ Malignant nodes are generally quite large, dense, matted together and lobulated contour.⁷ The differential diagnosis of enlarged lymphnodes can be grouped into benign and malignant causes as shown in table 1.⁶

Table1. Benign and Malignant Axillary Lymphadenopathy

Benign	Malignant
<ul style="list-style-type: none"> - acute or chronic inflammation. - arthritic diseases such as : rheumatoid arthritis, systemic lupus erythematoses, psoriasis. - prolong gold therapy - granulomatous disease such as : sarcoidosis, tuberculosis - HIV infection - silicone adenopathy 	<ul style="list-style-type: none"> - lymphoproliferative disease such as : Hodgkin's, non-Hodgkin's lymphoma, leukemia - breast carcinoma - metastases from non mammary primary tumor

Apart from the benign and malignant lymphadenopathy, there are still some other conditions which may simulate the appearance of enlarged axillary lymphnodes. They are breast tumor (benign or malignant) in the axillary tail of the breast, hematoma, hydroadenitis suppurativa, and skin lesion such as epidermoid cyst (sebaceous cyst) or skin nevi. However, there are several possibilities that malignant nodes may be mistaken for benign nodes and vice versa such as :

- the nodes in lymphoma and lymphoid hyperplasia have similar appearance.⁶
- the gold deposition in gold treated rheumatoid arthritis may mimic microcalcifications of malignant nodes.⁶

- some benign looking nodes with fatty infiltration had been reported to contain metastases.^{9,10}

Calcifications presenting in the breast parenchyma are common. Mammography is the imaging tool to demonstrate and classify the calcifications. The patterns of calcifications are different, in which the benign calcifications are larger and more likely to be round, monomorphic (uniform in size and shape), and to be scattered as compared to the malignant calcifications which are grouped or clustered, pleomorphic (varying in shape and size), numerous and almost always close together.

A group containing less than five calcifications is unlikely to represent malignancy.¹¹ On the other hand, the calcification found in axillary lymphnode is extremely rare. Large calcifications in axillary lymphnodes are of no importance. When fine irregular calcifications are present in axillary lymphnodes indicate pathology, commonly caused by metastases and gold deposition in women treated with gold for rheumatoid arthritis.^{12,13} As in our case report showed the evidence of pathologic nodes contained pleomorphic clustered microcalcifications.

The microscopic features of the metastatic nodes are divided into three types. The first is large apocrine cell (65%). The second is mammary carcinoma pattern with comedo, cribiform and infiltrating (20%) and the third is mixed pattern.⁵ Our case had the histopathology the same as the second type.

In a series of 29 cases of occult breast carcinoma manifested first as the enlarged axillary node, positive or suspicious mammography can lead to the primary tumor in 75% of patient, but when negative does not exclude the breast as the source of carcinoma. A carcinoma of the breast was found by pathologic examination in 44% of patients with negative mammograms. In another series,¹⁴ 48 patients presented with axillary mass which proved to be metastatic carcinoma, the mammography was suspicious or positive for primary breast carcinoma in 24% and negative in 76%.⁴ All patient received mastectomy and axillary dissection. A primary tumor was histologically found in the breast in 75%. Consequently, the occult breast carcinoma with axillary metastasis is still most likely diagnosis, even though the search for primary tumor was negative, as in our case. The disease is graded as the stage 2 breast carcinoma. Role of treatment from literature reviews recommended combination of mastectomy, radiation and chemotherapy.^{4,5}

A 5 year survival of disease free was 73%.⁵ The prognosis is similar or better than the ordinary stage 2 breast carcinoma. For our case, she was treated with systemic chemotherapy, followed by total node dissection and total breast irradiation. In conclusion, when a patient presenting with axillary adenopathy, the mammography helps to distinguish the benign and pathologic nodes, as well as to exclude the breast lesion. Besides, the histopathology plays the important role in the reading of the etiology and primary origin for further proper management.

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