J Korean Med Sci 2001; 16: 519-21
ISSN 1011-8934

Carcinoma Originating from Aberrant Breast Tissue of the Right Upper Anterior Chest Wall
: A Case Report

Aberrant breast tissue is usually found in proximity to the normal breast, that is, in the axillary, sternal or clavicular regions. Carcinoma occurs more frequently in the aberrant tissue of the axilla than the extra-axillary site though the overall incidence of tumors of aberrant breast tissue is low. To our knowledge, studies regarding the carcinoma of aberrant breast tissue of the extra-axillary site have been reported rarely. Here we report a recent case of carcinoma originating from the extra-axillary aberrant breast tissue, presenting as a subcutaneous nodule on the right upper anterior chest wall. It is suggested that subcutaneous nodules of uncertain origin around the periphery of the breast should be suspected for breast carcinoma as a differential diagnosis and treated properly.

Key Words : *Axilla; Breast Neoplasms; Choristoma*

Ji-Young Rho, Seon-Kwan Juhng*, Ki-Jung Yoon†

Department of Diagnostic Radiology, Chonju Wonkwang Hospital, Chonju; Department of Diagnostic Radiology* and Pathology†, Wonkwang University School of Medicine, Iksan, Korea

Received : 25 May 2000
Accepted : 22 August 2000

Address for correspondence
Seon-Kwan Juhng, M.D.
Department of Diagnostic Radiology, Wonkwang University Hospital, 344-2 Shinyong-dong, Iksan 570-711, Korea
Tel: +82.63-850-1510, Fax: +82.63-851-4749
E-mail: juhngsk@wmc.wonkwang.ac.kr

INTRODUCTION

The incidence of ectopic accessory breast is uncertain, but it is generally accepted to be found in 1-2% of humans (1, 2). An alternate classification of ectopic breast tissue has been offered by Copeland and Geschickter (3), in which accessory nipple formation, areolar formation, or both, with or without glandular breast, is termed supernumerary breast, as opposed to aberrant breast, referring to ectopic breast tissue without a nipple or areolar complex. Aberrant breast tissue can develop with any disease that affects the normal breast, including breast carcinoma (4, 5). Carcinoma of aberrant breast tissue is rare (6, 7). We report a recent case of carcinoma originating from aberrant breast tissue of the right upper anterior chest wall.

CASE REPORT

A 61-yr-old woman was admitted with a palpable mass in the right upper anterior chest wall. She had discovered the mass one year earlier but no treatment measure was taken. Recently the mass had been increasing in size. Physical examination revealed a nontender, firm and fixed mass in the right upper anterior chest wall adjacent to sternomanubrial junction. Axillary lymph nodes were not enlarged, and no masses were palpable in the breasts. Ultrasonogram of the right upper anterior chest wall showed an

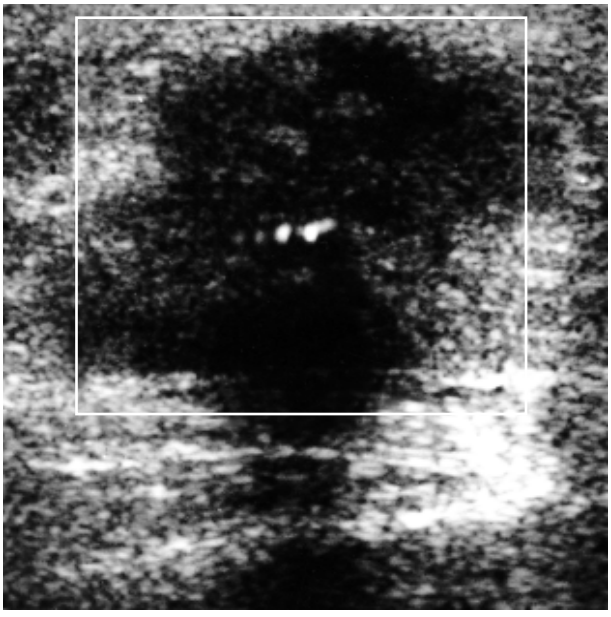

Fig. 1. Ultrasonogram of the right upper anterior chest wall shows an irregular, poorly defined hypoechoic mass measuring 1.8×2.8 cm without significant color Doppler signals.

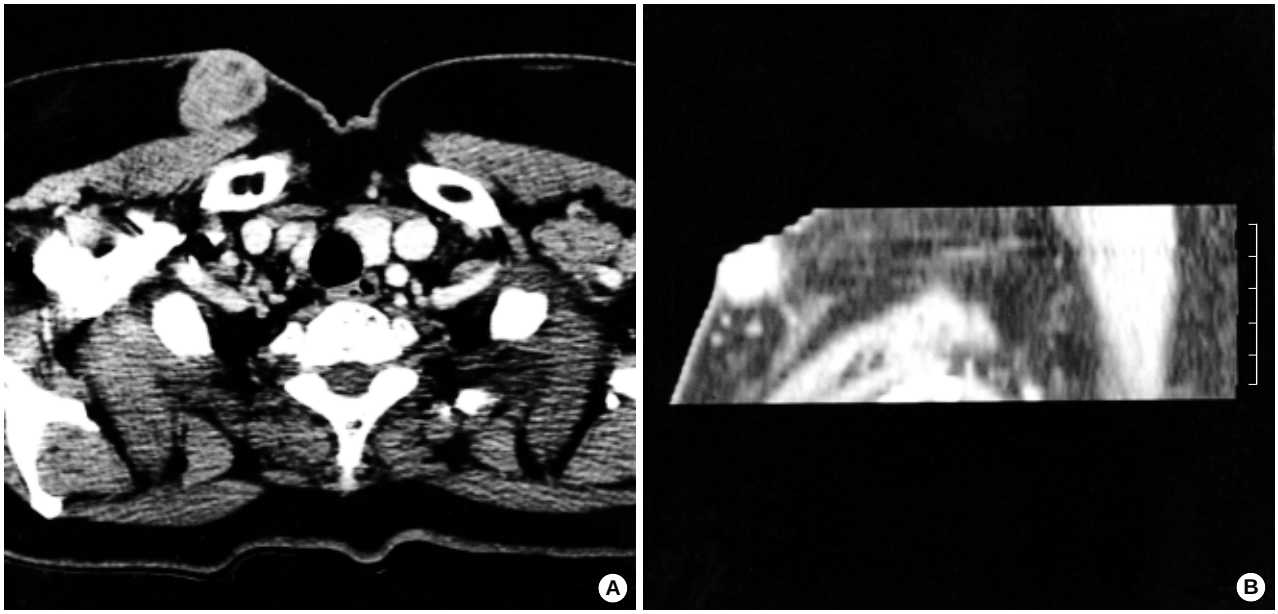

Fig. 2. (A) Postcontrast CT demonstrates a round mass with inner low densities and focal peripheral rim enhancement, and overlying skin thickening in the right upper anterior chest wall. (B) Oblique sagittal reconstruction image of CT shows a separate subcutaneous mass from pectoral breast parenchyma.

1.8×2.8 cm-sized, poorly defined hypoechoic mass with irregular margin and without significant color Doppler signals (Fig. 1), and no evidence of carcinoma in other breast tissue. Postcontrast CT demonstrated a round mass with inner low densities and focal peripheral rim enhancement. The density of mass was more increased than that of surrounding muscles. Overlying skin was thickened in the right upper anterior chest wall (Fig. 2A). An oblique sagittal reconstruction image of CT showed a separate subcutaneous mass from pectoral breast parenchyma (Fig. 2B). She underwent an excisional biopsy of the mass in the right upper chest wall because malignancy was suspected on fine needle aspiration biopsy. Grossly, it was a 3.5×3.0 cm-sized, hard mass under the skin with subcutaneous fatty infiltration. Histopathology revealed an invasive poorly differentiated adenocarcinoma of mammary origin (Fig. 3). Postoperatively she received a course of chemotherapy and radiation therapy and she has been free of the disease for 15 months after the operation.

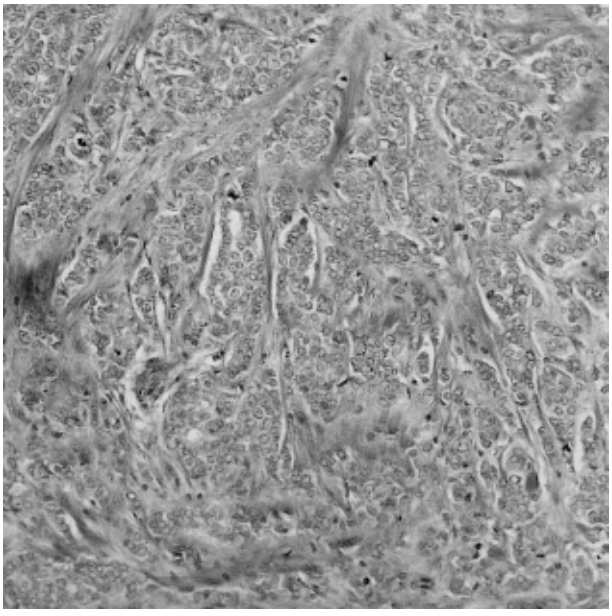

Fig. 3. Photomicrograph of histologic specimen shows infiltrating cancer cells and well-formed ductal structures (H&E, ×100).

DISCUSSION

Ectopic breast tissue includes supernumerary breasts and aberrant breast tissue (3, 8). Supernumerary breasts are most commonly present along the embryological milk-line, running from axilla to groin, but may also occur in other sites, including cheek, neck, shoulder, midline of chest or abdomen, flank, hip, thigh, and buttock. Aberrant breasts, in contrast, are found in proximity to the normal breast and consist of accessory fragments of breast tissue beyond the periphery of the gland. It may occur in the axillary, sternal, infraclavicular, or epigastric regions (1, 2), among which the axillary site is the most common (2, 8, 9).

Aberrant breast tissue can develop with any disease that affects the normal pectoral breast, including breast carcino-

ma (4, 5), and they commonly respond to the hormonal stimulations of menses or pregnancy in terms of engorgement and discomfort (2). Other conditions that have been reported to occur in ectopic breasts are mastitis, fibrocystic changes, fibroadenoma, and phylloides tumor (5, 9-11).

Carcinoma of ectopic breast tissue is approximately 0.3% of all breast cancers (6), though one study of 22 breast carcinomas revealed an incidence of 14% (12). The true incidence of this type of breast cancer is not clear. It relates to the uncertainty about the incidence of benign ectopic axillary breasts and the disparate methods of reporting. De Cholnoky (10), for instance, reported a 3.8% incidence of carcinoma (actually only one case) in a series of 28 operated cases of ectopic axillary breasts. By contrast, Chiari (6) found only 3 ectopic occurrence in a series of 918 cases of breast cancer for an approximate 0.3% incidence of all breast cancers. Cheong et al. (7) noted that only 4 cases (0.28%) of axillary breast cancer were found among a total of 1,430 cases of operated breast cancer during 10 yr.

Most carcinomas of aberrant breast tissue occur near the axilla (8, 13, 14). Evans and Guyton (13), in a summary of reported cases of ectopic breast cancer, noted that 64 of 90 cases occurred in the axilla while 26 occurred in the extra-axillary sites with 15 in the sternal area, 9 in the subclavian region, and 2 in the labia. To the best of our knowledge, this is the first report of carcinoma of aberrant breast tissue of the extra-axillary site in Korea.

The presence of aberrant breast tissue is often noticed only when breast engorgement takes place during pregnancy and lactation, or when tumor formation occurs within it. There is no convincing evidence that this tissue is more prone to malignant change than normal breast parenchyma, and excision of aberrant breast tissue with no symptoms and tumor is, therefore, not normally done (10).

Carcinoma of aberrant breast of the axilla is frequently confused with a subcutaneous lipoma (5, 10, 15). The condition is, therefore, likely to be misdiagnosed, unless the possibility of cancer is considered whenever an unusual swelling is seen in the area around the breast. We initially considered metastatic nodule of malignant melanoma or other primary malignancy because the mass was located in the extra-axillary site, the right upper anterior chest wall.

Carcinoma of aberrant breast tissue may be treated by wide local excision or by radical mastectomy. Evans and Guyton (13), in a review of 90 cases, came to the conclusion that radical or modified radical surgery offered no advantage in outcome over that of axillary mastectomy combined with regional node dissection or adjuvant radiation therapy.

Though there were no available prognostic conclusions because of lack of experience, the prognosis is thought to be poor because early diagnosis is difficult and the tumor exists near the axillary lymph nodes which metastasize earlier than carcinoma of normal breasts do (1, 15). Copeland and Geschickter (3) noted that only 1 of their 9 cases survived for more than 5 yr. Chiari (6), however, in a review of 60 cases including 3 of his own, concluded that no prognostic differences are found between carcinoma of aberrant breast tissue and that of normal breast tissue. The present case was treated by local excision of the tumor. Postoperatively patient received a course of chemotherapy and radiation therapy. Follow up to 15 months has revealed no tumor recurrence.

The rareness of this disease and its similarity to certain diseases cause difficulties in diagnosis. We believe that subcutaneous nodules of uncertain origin around the periphery of the breast should always be viewed with suspicion for breast carcinoma of aberrant breast tissue and treated by early excision.

REFERENCES

1. Cogswell HD, Czerny EW. *Carcinoma of aberrant breast of the axilla. Am J Surg 1961; 27: 388-90.*
2. Smith GMR, Greening WP. *Carcinoma of aberrant breast tissue: a report of 3 cases. Br J Surg 1972; 59: 89-90.*
3. Copeland MM, Geschickter CF. *Diagnosis and treatment of premalignant lesions of the breast. Surg Clin North Am 1950; 30: 1717-41.*
4. Yerra L, Karunad AB, Votaw ML. *Primary breast cancer in aberrant breast tissue in the axilla. South Med J 1997; 90: 661-2.*
5. Lesavoy MA, Gomez-Garcia A, Nejdl R, Yospur G, Syiau TJ, Chang P. *Axillary breast tissue: clinical presentation and surgical treatment. Ann Plast Surg 1995; 35: 356-60.*
6. Chiari HH. *Zur frage des karzinomas in aberrantem brunstdrusengewebe. Bruns Beitr Klin Chir 1958; 197: 307-14.*
7. Cheong JH, Lee BC, Lee KS. *Carcinoma of the axillary breast. Yonsei Med J 1999; 40: 290-3.*
8. Marshall MB, Moynihan JJ, Frost A, Evans SRT. *Ectopic breast cancer: case report and literature review. Surg Oncol 1994; 3: 295-304.*
9. Velanovich V. *Ectopic breast tissue, supernumerary breasts, and supernumerary nipples. South Med J 1995; 88: 903-6.*
10. De Cholnoky T. *Accessory breast tissue in the axilla. NY State J Med 1951; 51: 2245-8.*
11. Saleh HA, Klein LH. *Cystosarcoma phylloides arising synchronously in right breast and bilateral axillary ectopic breast tissue. Arch Pathol Lab Med 1990; 114: 624-6.*
12. Badejo OA. *Fungating accessory breast carcinoma in Nigerian women. Trop Geogr Med 1984; 36: 45-9.*
13. Evans DM, Guyton DP. *Carcinoma of the axillary breast. J Surg Oncol 1995; 59: 190-5.*
14. Nakao A, Saito S, Inoue F, Notohara K, Tanaka N. *Ectopic breast cancer: a case report and review of the Japanese literature. Anticancer Res 1998; 18: 3737-40.*
15. Amano K, Nishiki M, Yamane M, Matsuyama T, Kataoka T, Tanaka T, Ezaki H. *A case report of carcinoma originating from aberrant breast tissue. Hiroshima J Med Sci 1985; 34: 7-9.*