

## Ectopic Breast Cancer in A Very Young Patient: A Rare Tumor In An Uncommon Age

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**Abstract:** Primary carcinoma of ectopic breast tissue has been rarely reported and accounts for 0.3% of all breast cancers. We report a case of an ectopic ductal carcinoma occurring in a 17-year-old woman with no family cancer history. Because of the rarity of this entity, diagnosis may be delayed. We recommend preventive excision of ectopic breast tissue. Otherwise, regular examination of the ectopic breast tissue is mandatory to detect eventual malignancy transformation.

**Keywords:** ectopic breast, cancer, supernumerary, young

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### I. Introduction

Ectopic breast tissue may be supernumerary or aberrant. The rate of ectopic breast ranges from 2 to 6 % (1). Primary carcinoma of ectopic breast tissue has been rarely reported and accounts for 0.3% of all breast cancers. It occurs more frequently in aberrant tissue than in supernumerary (2). We present in this paper a rare case of a supernumerary breast cancer in a very young woman.

### II. Case Report

A 17-year-old woman was referred to our Institute for a painless nodule of the left submammary fold that was noticed four months before. She had no history of malignancy or breast disease and no family history of cancer.

Physical examination showed an irregular and fixed lump that measures 3 cm in diameter and was coated with mammary areola. Her bilateral breast and axilla examinations were normal. Ultrasonography showed a suspicious hypoechoic mass with ill-defined margins. Mammography was normal.

Surgical excision was performed (Fig. 1, 2). Histological examination revealed an infiltrating ductal carcinoma with safe margins (Fig. 3). Immunohistochemically assay showed positive staining for both estrogen and progesterone receptors and negative staining of HER-2. The proliferation index evaluated by Ki-67 was 25%. These findings confirmed the diagnosis of mammary ductal carcinoma occurring in supernumerary breast.

Chest and abdominal computed tomography did not reveal any metastatic lesions. The patient underwent ipsilateral axilla dissection. Adjuvant chemotherapy was indicated with chemical castration and hormonotherapy. At present, the patient remains with no detectable recurrence, three months after surgery.

### III. Discussion

Ectopic breast tissue occurs when the mammary ridge fails to regress during embryonic development (3). Copeland and Geschickter classified ectopic breast tissue into two subtypes: supernumerary breast, which contains accessory nipple and/or areolar formation with or without glandular tissue, and aberrant breast tissue, which contains ectopic breast tissue without a nipple or areolar complex. Only 6% of ectopic breast tumors occur in supernumerary breasts (1, 2). Ectopic breast tissue appears most commonly along the original distribution of the mammary ridge from the axilla to the groin. Atypical locations were reported such as the face, the vulva, the flank, the thigh and the shoulder (2).

Ectopic breast cancer is much more frequent in females. Breast cancer is rare in very young women. It occurs commonly in women over 50 years of age with a median age of 62 years. Only 0.6% of breast cancer cases are reported in women under 30 years of age (4).

Differential diagnosis includes essentially lymph node metastasis and the other subcutaneous masses such as lipoma, hidradenitis and follicular cyst. The infiltrating ductal carcinoma is the most frequently ectopic breast tumor (5). Histological diagnosis of breast carcinoma arising in ectopic breast tissue can be difficult,

especially when mammary tissue is not identified (6). Immunohistochemical markers, such as hormonal receptors, CK7 and mammaglobin are useful in this case.

Due to the rarity of this tumor and its occurrence in different anatomic sites, the management of ectopic breast cancer is still controversial. It should be based on that of anatomic breast cancer of a similar stage (5). The ectopic tissue should be completely excised. Nodal exploration should follow the drainage of the tumor site (5). Ectopic breast cancer does not seem to carry poorer prognosis compared to the anatomic one (6). However, rigorous and regular follow-up is required.

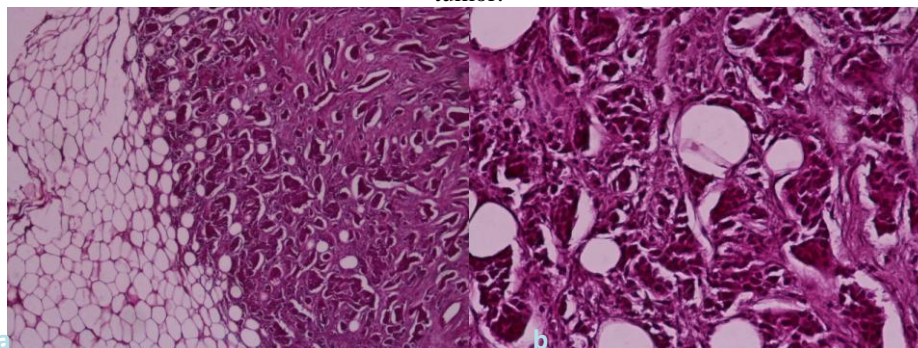
#### IV. Figures



**Figure 1:** surgical excision specimen of the supernumerary breast



**Figure 2:** macroscopic section of the supernumerary breast specimen, demonstrating a 25 mm white and solid tumor.



**Figure 3:** infiltrating ductal carcinoma arising in ectopic breast tissue (H and E stain, a  $\times 10$ , b  $\times 100$ )

#### V. Conclusion

Malignant degeneration of ectopic breast tissue is reported to be rare. However, the fact that it may occur at a very early age, as shown in our case, preventive excision is highly recommended. Alternatively,

women with ectopic breast tissue should be made aware of the degeneration risk; hence the need for regular ectopic breast cancer screening.

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