

Invasive ductal carcinoma arising from an accessory nipple



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INTRODUCTION

Ectopic breast carcinoma is rare, accounting for less than 1% of breast cancers.¹ Of ectopic breast malignancies, only 6% occur in supernumerary breasts, whereas 94% occur in aberrant breast tissue.² Here we present a rare case of breast cancer in a long-standing supernumerary breast identified during a full-body skin examination.

CASE REPORT

A 78-year-old woman with a history of colon cancer and cutaneous squamous cell carcinoma presented with several months of pain in a pink plaque in the left inframammary fold. The plaque, present since adolescence and previously asymptomatic, had been diagnosed as an accessory nipple. Physical examination revealed a 1.5-cm pink sclerotic plaque in the left inframammary crease (Fig 1). Punch biopsy results revealed poorly differentiated infiltrative breast carcinoma positive for pancytokeratin (AE1/AE3) and cytokeratin 7, and negative for cytokeratin 20 (Fig 2).

A highly suspicious 1.9-cm left breast mass with spiculated margins deep to the site of the skin biopsy was observed on diagnostic mammography. This tumor was not identified on routine screening mammography 6 months before because it was outside the surveillance field.

Positive results for left axillary, subpectoral, and intercostal lymph nodes were observed on positron-emission tomography/computed tomography, and the patient received a diagnosis of estrogen receptor and progesterone receptor–positive stage IIa invasive breast ductal carcinoma. Tumor size decreased after 8 months of anastrozole daily and fulvestrant



Fig 1. Pink sclerotic 1.5-cm plaque in left inframammary region.

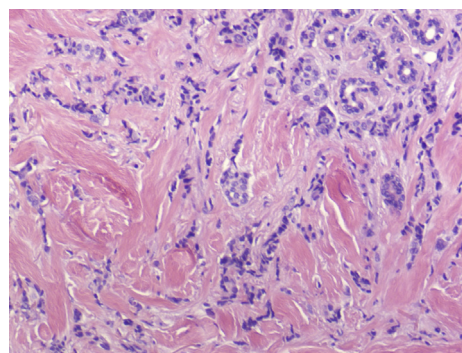


Fig 2. High-power hematoxylin-eosin staining revealing poorly differentiated infiltrative breast carcinoma.

every 4 weeks (Fig 3). The patient will undergo surgery once maximal response to neoadjuvant therapy has been achieved.

DISCUSSION

Breast carcinoma is the most common internal malignancy to have cutaneous extension at diagnosis,³ and breast cancers with cutaneous metastases

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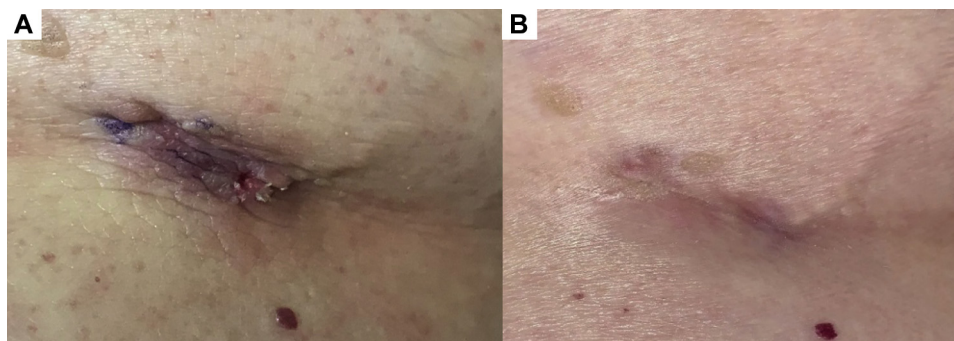


Fig 3. **A**, Lesion before biopsy. **B**, Lesion with tumor shrinkage after 8 months of treatment with fulvestrant and anastrozole.

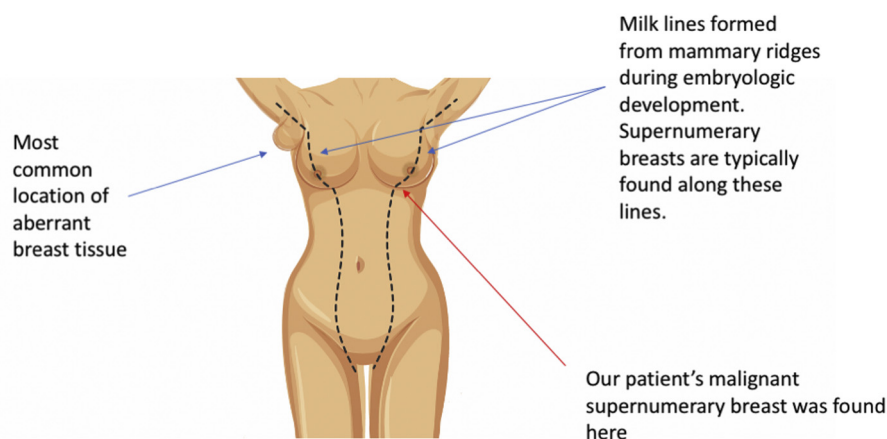


Fig 4. Anatomic location of ectopic breast tissue.

are the most common type of metastatic disease encountered by dermatologists.⁴ In a large retrospective tumor registry study, skin involvement was present in 5% of internal malignancies overall, and skin findings were the first sign of cancer in 0.8%.³ Comparatively, skin involvement was present in 23.9% of breast cancers and was the first sign of malignancy in 3.5%. Cutaneous presentations of breast carcinomas most commonly appear as subcutaneous nodules that are typically firm, painless, 1 to 3 cm, and skin colored, but can be pink to red or brown.⁴ Our patient's presentation was atypical in that she presented with new-onset pain.

Ectopic breast tissue appears in an abnormal location and is categorized as supernumerary or aberrant.² Aberrant breast tissue is typically near the natural breasts, but it lacks a nipple or areola and ductal structure.² A supernumerary breast contains an organized ductal structure and a nipple or areolar complex; an accessory nipple is a type of supernumerary breast.² Supernumerary breasts are found in 0.6% to 6% of the general population,² along the

“milk line,” an imaginary line from the axilla to the pubic region (Fig 4). During embryologic development, ectodermal thickening forms milk lines bilaterally. These structures persist over the pectoral region to form breasts and remaining structures regress; failure to regress results in a supernumerary breast.²

Poorer outcomes in ectopic compared with orthotopic (usual location) breast cancer have been attributed to delayed diagnosis.² Our patient's inframammary fold lesion was missed on initial screening mammography but identified during a skin examination. In women older than 40 years, careful evaluation along the milk line may serve as a breast cancer screening tool, particularly for those with skin lesions outside the mammogram visualization field. A firm mass at a supernumerary breast should raise suspicion for malignancy, especially if accompanied by axillary lymphadenopathy. For patients with a palpable breast mass and negative mammography result, ultrasonography may be indicated.⁵

Supernumerary breasts are susceptible to malignancy. A high degree of suspicion should be maintained for skin nodules or plaques on or near the milk line. Lesions that change or become symptomatic warrant careful examination, and biopsy should be strongly considered.³

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