



## An Unusual Case of Breast Carcinoma in Aberrant Breast Tissue on the Anterior Chest Wall

Perera RP<sup>1\*</sup>, Balawardena J<sup>1</sup> and de Silva C<sup>2</sup>

<sup>1</sup>General Sir John Kotelawala Defence University, Sri Lanka

<sup>2</sup>University of Colombo, Sri Lanka

### Abstract

Accessory mammary tissue is a rarity of breast development. Approximately 6% of women develop accessory breasts along the embryological milk line. There are some reported cases of malignancy in the axillary breast but only a few case reports in the world literature regarding breast carcinoma of the accessory breast in the anterior chest wall. We report this case of a 52-year-old patient presenting with breast carcinoma in an accessory breast on the anterior chest wall with a review of the current literature.

### Introduction

The ectopic breast tissues have two entities. The aberrant breast tissues are islands of unorganized glandular secretory systems or a diverticular extension form of the ipsilateral breast which subsequently loses the connection with the breast without any relationship to the overlying skin. Supernumerary breast is an organized system of mammary ducts connected to the overlying skin with a nipple and areolar [1].

Commonly, 2% to 6% of ectopic breast tissues are found in the axilla [2]. The ectopic breast tissues undergo cyclical physiological and pathological changes as in normal breasts as well as malignant neoplastic changes also [3].

It is a rarity to arise malignancy in the ectopic breast tissues. Cancers in aberrant breast tissues are found in the axilla (60% to 70%) followed by the chest wall (5% to 10%) and rarely in the vulva [4,5]. This case is of a 52-year-old female, presented with a malignancy arising in aberrant breast tissues of the anterior chest wall.

### Case Presentation

A 52-year-old female presented with a 1.5 cm × 1.5 cm slightly tender, firm, mobile, lump under the right inframammary fold. The skin was tethered to it but there were no attachments to the rectus sheath or pectoral muscle (Figure 1).

Ultrasonically, a hypo-echoic lump with internal vascularity was found and fine needle cytology and core biopsy confirmed the lump is a high-grade breast carcinoma. Although the site of the lump

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#### \*Correspondence:

Naullage Ranga Priyankara Perera,  
Department of Surgery and Cancer  
Care Services, General Sir John  
Kotelawala Defence University,  
Kandawala Road, Ratmalana, 10390,  
Sri Lanka, Tel: +94714486523;  
E-mail: rangap@kdu.ac.lk

Received Date: 13 Aug 2021

Accepted Date: 06 Sep 2021

Published Date: 13 Sep 2021

#### Citation:

Perera RP, Balawardena J, de Silva C.  
An Unusual Case of Breast Carcinoma  
in Aberrant Breast Tissue on the  
Anterior Chest Wall. *Oncol Case Report  
J.* 2021; 4(2): 1039.

ISSN: 2641-9173

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**Figure 1:** Site of the tumor. An unusual case of breast carcinoma in aberrant breast tissue on the anterior chest wall.



**Figure 2:** Surgical resection margin. An unusual case of breast carcinoma in aberrant breast tissue on the anterior chest wall.

indicated the possibility of cancer in an aberrant mass of breast tissue, there were no features of a nipple-areolar complex over the lump.

The digital mammography and ultrasound scan breast excluded occult primary in the breast. Following the standard staging investigations including a PET-CT, the tumor was found confined to the primary site and there was no evidence of any other primary or secondary deposits.

The patient underwent wide local excision of the primary lesion and level II axillary clearance (Figure 2).

Pathologically, the primary tumor originated from breast tissues and it is a separate mass of breast tissue not an extension from the right breast. The primary tumor was poorly differentiated basal type invasive ductal carcinoma (NOS), triple-negative and Ki 67 index was 45%. All the resection margins were well away from the tumor and negative for normal breast tissue. Out of 21 nodes dissected from the axilla, 14 nodes contained tumor deposits, (pTNM - pT2 pN3a M0).

She underwent chemotherapy with 4 cycles of Doxorubicin and Cyclophosphamide three weekly and 12 cycles of paclitaxel weekly, followed by a full regime of Trastuzumab for 15 cycles. She had no evidence of recurrence, in her regular follow-ups for the last five years, (Negative CT, Mammogram and PET CT).

## Discussion

A “Mammary Ridge” was initially described by Hartung in the year of 1872. The majority of these ridges would normally regress; however, it is possible for this rudimentary tissue to develop into “Ectopic mammary tissue” as aberrant breast tissue or supernumerary breast [5]. The majority of ectopic breast cancers occur in aberrant breast tissue compared to supernumerary breast [5]. In this

patient, an ultrasound scan confirmed no deep tissue infiltration; however, MRI is the recommended investigation to assess the local infiltration of primary ectopic breast cancer for [5]. Owing to the scanty surrounding tissues, these tumors invade either the skin or deep muscle early and develop into a higher stage [5]. Although this patient had pre-operative staging of Stage Ia (T1 N0 M0), her pathological staging was Stage IIIc (pT1 pN3a M0) corresponding with the literature.

In cases of carcinoma in ectopic breast tissue wide local excision, nodal dissection is appropriate as in this patient [5]. One of the most important prognostic factors in breast cancer is the lymph node status [3,4]. Metastasis to regional lymph nodes occurs earlier in ectopic breast cancer as was evident in this patient also [3]. The lymphatic drainage anatomy of the ectopic breast is not well understood or studied well compared to the normal breast [4]. Sentinel node biopsy was successful in some cases and it permitted accurate staging of the disease in clinically negative axillae [6]. In this patient, 14 out of 21 nodes had tumor deposits demonstrating the early spread to the nodes of ectopic breast cancer.

This patient underwent standard oncological management protocols for breast cancer for this stage and receptor status.

This is a rare case of infiltrating ductal carcinoma in ectopic breast tissue on the anterior chest wall. Oncological decision-making on proper therapy is challenging in rare cases. However, analyzing past studies, adhering to standard guidelines lead to adequate therapy for ectopic breast cancer.

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