

Ectopic breast cancer in the anterior chest wall: a case report and literature review

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Summary

Ectopic breast cancer is rare and when situated in the chest wall, it is even rarer. This report describes the case of an 86-year old Brazilian woman with a palpable carcinoma, located in the right inframammary fold, and right axillary adenopathy. The patient was submitted to excision of the accessory breast and to right axillary lymphadenectomy. All 28 resected lymph nodes contained metastatic cells. Diagnosis and treatment of ectopic breast cancer should be carried out early in view of its aggressivity.

Key words: Breast; Cancer; Ectopic; Accessory; Supernumerary; Chest wall.

Introduction

Ectopic breast cancer is rare and in the majority of cases reported, has been located in axillary breast tissue and, less frequently, in the chest wall and vulva [1-11]. To the best of our knowledge, only 12 cases of ectopic breast cancer located in the chest wall have been reported on Medline between 1966 and 2007, six of which were described by Marshall *et al.* [2] in a review article. In view of the scarcity of reports on this subject, we would like to add one more case of ectopic breast carcinoma located on the chest wall of an 86-year old patient, and to provide a literature review on the subject.

Case Report

An 86-year-old Brazilian woman, gravida 16, para 16, with an ectopic breast nodule located on the right inframammary fold, was admitted to the Mastology Department of the *Getúlio Vargas* Hospital of the Federal University of Piauí in April 2005, reporting a lesion that had appeared four months previously. The nodule became painful and grew progressively in size. It was associated with erythema, pruritus and a papillary flow that was serous in appearance. She reported having observed spontaneous milk secretion from the ectopic breast when she had breastfed her 16 children. At physical examination, the presence of a nodule of hardened consistency with imprecise borders was found, with a skin edema in the right inframammary fold (Figure 1). Hardened lymph nodes were detected in the ipsilateral axilla, which were clinically positive for malignancy. There was no sign of infra- or supraclavicular lymphadenopathy and mammography of the topic breasts detected no abnormalities. Ultrasonography (US) of the ectopic breast revealed a solid, hypoechogenic nodule measuring 2.5 x 1.2 x 1.1 cm with irregular contours and a posterior acoustic shadow. Histological examination of the biopsy sample showed a well-differentiated, infiltrating ductal carcinoma of the ectopic

breast (Figure 2). Immunohistochemistry revealed positivity for estrogen and progesterone receptors. Radiography and computed chest tomography, transabdominal US, transvaginal US and bone scintigraphy detected no abnormalities; hence, the diagnosis was ectopic breast carcinoma, clinical Stage IIIb. The patient was submitted to resection of the ectopic breast and to right axillary lymphadenectomy. Anatomopathology of the sample showed invasive ductal carcinoma, the resected borders of which were unaffected; however, metastases to the 28 resected axillary lymph nodes were found. The patient and her family refused the recommended local-regional radiotherapy and endocrinotherapy with tamoxifen, and the patient died three months later, after suffering a stroke.

Discussion

Ectopic breast tissue is the result of a failure in the embryonic milk lines, two parallel ectodermal thickenings that extend from the axilla to the groin. Failure of any portion of these lines anywhere along the ridge to involute may result in polymastia or polythelia [2]. Histologically, the classification of ectopic breast consists of two types, supernumerary breasts and aberrant breast tissue [2, 3]. The supernumerary breast has an organized duct system connected to its overlying skin, whereas aberrant breast tissue is an island of breast tissue located close to the normal breast [2]. Other authors have described the supernumerary breast as having a nipple or areolar formation or both, with or without glandular breast tissue, unlike aberrant breast tissue, which consists of ectopic breast tissue without the nipple or areolar complex [3]. The present case consisted of a supernumerary breast, since the ectopic glandular breast had nipple and areolar formation.

The incidence of supernumerary breasts varies between 0.6 and 6% in women of various ethnic groups [2]. Supernumerary breasts not only undergo the same physiological processes as the normal breast but are also subject to the same diseases [1-12]. Nevertheless the incidence of carcinoma in an ectopic breast is somewhat rare

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Fig. 1

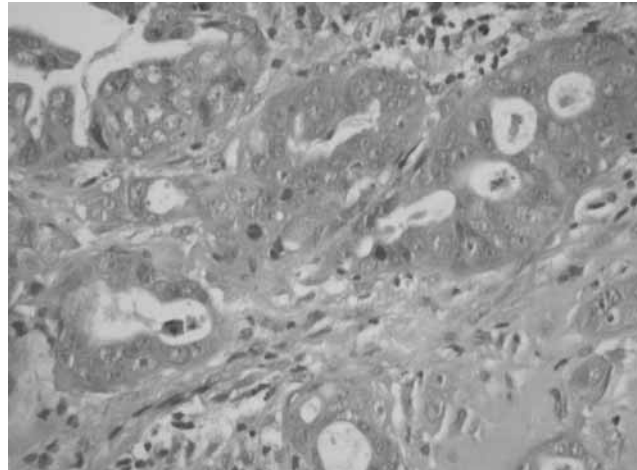


Fig. 2

Figure 1. — Supernumerary breast in the right inframammary fold with tumor, satellite nodule and skin edema.

Figure 2. — Photomicrography of a histological section of the tumor located in ectopic breast tissue showing well-differentiated, infiltrating ductal carcinoma (original magnification x 200).

[3]. Incidentally, aberrant breasts have a greater tendency to malignant transformation compared to normal breast tissue; however, this is rare in supernumerary breasts [2]. The majority of tumors in ectopic breast tissue are located in the axilla (71%) compared to 29% in other sites [3]. A review carried out by Marshall *et al.* [2] showed that 58% of ectopic breast cancers are located in the axilla and 35.7% in the chest wall, 8.6% of these being in the submammary region. According to Nakao *et al.* [5], location in the inframammary region, as in the present case, is uncommon and represents less than 5.5% of the tumors located in the chest area. Therefore, breast carcinomas located in the chest wall are very rare and to the best of our knowledge, only 12 cases of breast cancer occurring in ectopic breast tissue in the chest wall have been reported on Medline between 1966 and 2007 [1, 2, 4, 6-9]. The size of the tumor varies from 0.8 to 7 cm and the age of these patients ranges from 39 to 81 years [1, 2, 4, 6-9]. At 86 years of age, the patient in the present case is the oldest reported in the literature.

The diagnosis of cancer in ectopic breast tissue should be suspected in all ectopic breast or abnormal tissue in the chest area, particularly if it is located in the mammary line and when abnormalities such as progressive growth, pain or inflammation are present [2]. In the cases reviewed, the patients only sought medical aid after detecting abnormalities in the ectopic breast tissue, the symptoms most commonly reported being localized pain and the appearance of progressively growing nodules [1, 2, 4, 6-9]. These two symptoms were also the motivating factor for the patient described in this case report to seek specialized medical care. Histological confirmation may be carried out using minimally invasive techniques such as fine needle aspiration or more aggressive procedures such as core biopsy or incisional biopsy [4]. Once diagnosis is established, clinical

evaluation, and mammography and US of the topic breast should be carried out to confirm that the cancer is primary of the ectopic tissue and not metastasis from a tumor in one of the topic breasts.

Ectopic breast cancer should be treated in the same way and following the same criteria as topic breast cancer [2]. In the present case, axillary lymphadenectomy was performed due to the presence of palpable lymph nodes indicative of metastatic disease. There is no need to perform mastectomy of the homolateral breast, since, according to reports from other authors on the treatment of cancer in ectopic breast tissue, this does not alter the prognosis [2, 3]. Ectopic breast cancer has a poor prognosis compared to topic breast cancer because diagnosis generally occurs later, particularly in asymptomatic, aberrant ectopic tissue, since this is not submitted to screening [2]. Marshall *et al.* [2] found ipsilateral axillary lymph node metastases in 46% of patients with cancer arising in aberrant breast tissue. In the present case, the homolateral breast was normal; however, all the axillary lymph nodes removed were affected despite the relatively small size of the tumor, also suggesting a tendency for early metastasis in these tumors.

No specific literature reviews have been carried out on the survival of patients with ectopic breast cancer located in the chest wall, principally due to their rarity. Evans *et al.* [3] reviewed 42 cases of axillary ectopic breast carcinoma and showed that 28 patients (66.7%) survived longer than one year but only six patients (14.3%) were still alive and free of the disease after four years of follow-up. In the present case, the patient refused any additional treatment following surgery and died a few months later as a result of a cerebral vascular accident. Nevertheless, the disease appeared considerably aggressive and advanced at the time of diagnosis, which underlines the importance of detection and examination and even excision of ectopic breast tissue.

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