

DUCTAL CARCINOMA IN SITU OF THE BREAST: A CASE REPORT WITH AN ATYPICAL CLINICAL PRESENTATION

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Abstract

Ductal carcinoma in situ (DCIS) of the breast is a proliferative lesion, precursor of cancer, which has been increasingly diagnosed due to mammographic screening. Tumor size itself does not determine whether the lesion is in situ or invasive, so it is essential to emphasize that DCIS can present with variable extension. We report a case of a 44-year-old female patient that was diagnosed a great (12 cm) DCIS of the breast without microinvasion through pathologic examination. The patient presented with an increase of the right breast, acyclic mastalgia and right bloody nipple discharge. Mammography was inconclusive, the ultrasound suggested inflammation and the incisional biopsy revealed DCIS nuclear grade 3 with compromised lateral margins. It was performed simple mastectomy and axillary node sampling. The clinical presentations of benign and malignant diseases of the breast are variable. The most common symptoms reported by women are pain, palpable mass or nipple discharge. The literature reveals that the extent of this type of cancer is variable, being found in a review intraductal lesions up to 5.4 cm, size smaller than that one that was found in this patient. This finding makes the clinical presentation interesting to be discussed. Although mammography is the most efficient method to diagnose this injury, clinical breast exam should be performed in all gynecological independent of patient age because it is useful for diagnosing early lesion, considering that it is a palpable lesion.

Keywords: Breast cancer; Clinical presentation; Diagnosis.

INTRODUCTION

Breast cancer is a common disease among women and in recent decades, has been noticing an increase in incidence and mortality associated with this neoplasm.^(1,2,3) According to the Ministry of Health (2012),⁽¹⁾ even being considered as a good prognosis cancer when diagnosed and treated appropriately, mortality from breast cancer still present with high rates in Brazil, probably by the diagnosis in advanced stages (III or IV).

The International Agency for Research on Cancer (IARC)/World Health Organization (WHO) estimated that in 2008 occurred approximately 12.4 million new cancer cases and 7.6 million cancer deaths worldwide, of which the most incidents were lung (1.52 million new cases), breast (1.29 million) and colon / rectum (1.15 million). In Brazil, the estimates for the year 2012 are 518.510 new cases of cancer, with 260.640 expected to

women.⁽¹⁾ The main cancer to affect Brazilian women is non-melanoma skin cancer (71.000 new cases), followed in order of frequency by malignant neoplasms of the breast (53.000), cervix uteri (18.000), colon/rectum (16.000) and lung (10.000).⁽¹⁾

Clinical presentation of pure Ductal Carcinoma in Situ (DCIS) is often described as extension small tumors⁽⁴⁻¹¹⁾ detected mainly by mammography. Recognizing this type of tumor may manifest as palpable lesion, it is necessary to know and to apply methods that allow diagnosis early: self-breast examination, and clinical examination by a trained team.⁽¹²⁻¹⁵⁾

The DCIS of the breast involves a heterogeneous group of neoplastic proliferation, non-invasive, with risk of recurrence and malignant transformation.⁽¹⁶⁾ According to Boff and Wisintainer (2006),⁽¹⁷⁾ the increase in the incidence of DCIS is due to mammographic imaging technology that is diagnosing non-palpable breast lesions. They claim that the diagnosis and treatment of non-invasive breast cancer will reduce the mortality rate in up to 46%. In patients adequately treated, the survival rate in 16 years is 95%.⁽¹⁸⁾

DCIS does not invade the lymphatics and blood vessels, therefore, can not spread. It is composed of a population of malignant cells confined to the ducts by the basement membrane. It is therefore a clonal proliferation involving, in general, a single ductal system and the myoepithelial cells are preserved.^(19,20) But, may be involved more than one duct or a single duct with more than one target area, separated by parenchyma without lesions.⁽²¹⁾

This work aimed to report a case of DCIS of the breast in extensive tumor, in other words an unusual presentation.

CASE REPORT

MAL, female, 44 years old (DoB: 01.02.1967), brown, began to show increased volume of the right breast, acyclic mastalgia and unilateral bloody nipple discharge forty-five days before the consultation. She was seen in this period by a general practitioner who requested mammography and breast ultrasound and sent her to a service of mastology. In the first evaluation, the mastologist noted on physical examination: asymmetrical breasts (right breast bigger than the left one), with bulging, increased vascularization and spontaneous serous nipple discharge in the right breast. On palpation, presence of fibroelastic mass

occupying almost the entire right breast and palpable axillary lymph nodes without pathological aspects. Supraclavicular fossas, left breast and left axilla without pathological signs.

After analysis of mammography and breast ultrasound, it was performed a cytopathological analysis of the material of nipple discharge, and incisional biopsy of the lump in right breast. After analysis of clinical and histopathological reports, it was indicated a simple mastectomy and axillary node sampling. Below, we describe the tests and procedures performed:

Figures 1a, 1b - High-Resolution Mammography: Bi-Rads 0

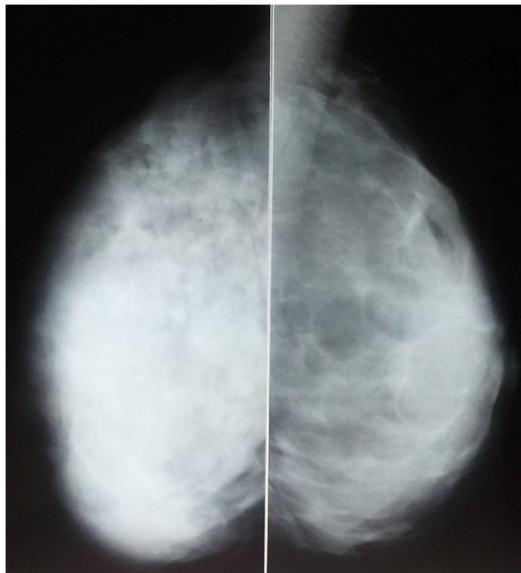


Figure 1a) Incidence mediolateral.

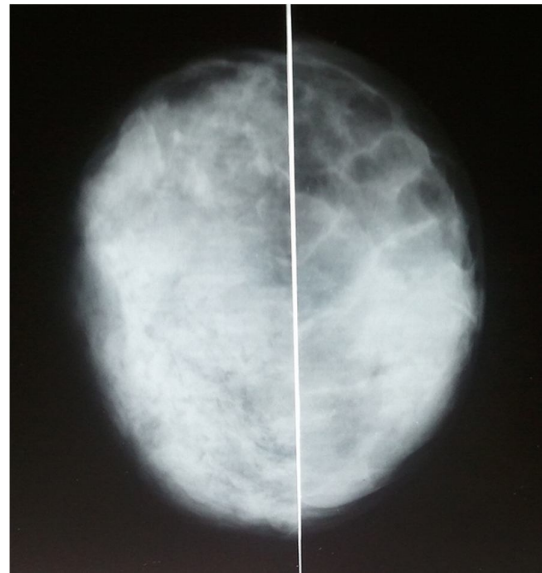


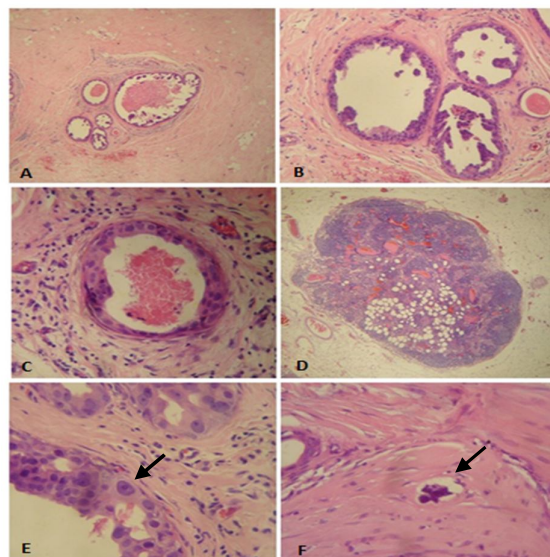
Figure 1b) Incidence craniocaudal.

Breast Ultrasound, (multifrequency transducer of 7.5 MHz): the right breast ultrasound findings suggesting inflammation; presence of enlarged lymph nodes in right axilla; Cytopathological, (nipple discharge of the right breast): cytological picture consistent with epithelial lesions without atypia; Incisional biopsy of the right breast: DCIS nuclear grade 3, with cribriform and micropapillary arrangements and areas of necrosis and compromised lateral margins.

There were no pathological findings in pre-operative examinations (a 12-lead electrocardiogram, complete blood count, electrolytes, creatinine, clotting factors, and glucose, chest radiograph, transvaginal ultrasound and abdominal ultrasound).

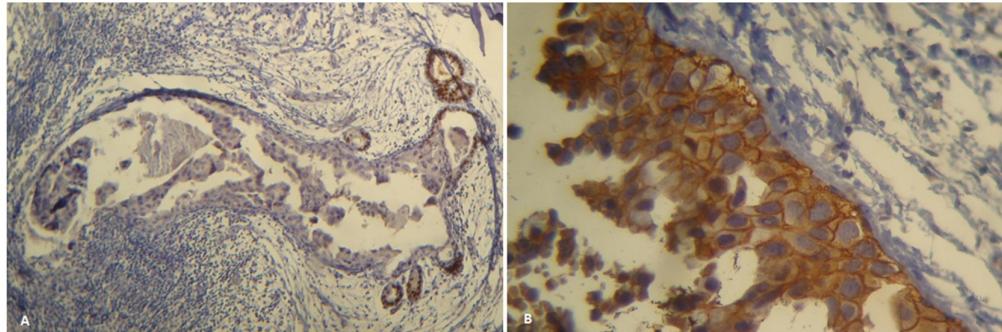
Simple mastectomy and axillary node sampling were performed (right breast and right armpit level I) (Figure 2). It was found a high-grade DCIS with the following characteristics: Tumor size: 12.0 x 10.0 cm; patterns: cribriform, papillary and comedo; mild lymphocytic infiltration in the peritumoral stroma; tumor-free surgical margins; presence of microcalcifications; skin and nipples free of cancer; breast tissue adjacent to lipofágico granuloma; axillary lymph node dissection: absence of nodal positivity (14 nodes).

Figure 2A) Ductal Carcinoma In Situ - DCIS. B) DCIS with papillary pattern. C) DCIS with comedo pattern. D) Normal architecture lymph node and liposome-focal replacement. E) Nuclear pattern 3. F) Microcalcification in the stroma.



In the immunohistochemical examination, (Figure 3), DCIS showing negativity for estrogen and progesterone receptors and score 3 + (PLUS) for the product of the HER-2 oncogene.

Figure 3A) Absence of immunohistochemical staining in neoplastic cells to progesterone receptors. It was observed residual acini in the periphery of the duct with nuclear positivity for progesterone receptors (positive intern control). B) Positivity to c-erb/Her2-neu - membrane pattern.



Patient on the first postoperative day was asymptomatic, normal-colored mucosa, wound clean and dry, with good healing and drain with little production. She received hospital discharge and she is being followed up at the outpatient clinic.

DISCUSSION

Breast cancer constitutes an important public health problem in world. The clinical presentation of benign and malignant diseases of the breast are variable. The most common symptoms reported by women are pain, palpable mass or nipple discharge.⁽¹⁾

In this case report was demonstrated a DCIS of the breast measuring about 12 cm diameter in a patient, 44 years old, who presented acyclic mastalgia, increased volume of the right breast and unilateral bloody nipple discharge.

Mastalgia is the most common symptom and although most painful masses are benign, about 10% of breast carcinomas presents with pain.⁽¹⁷⁾ The palpable masses are the second most common symptom and should be distinguished from normal mammary gland with nodular aspect.⁽¹⁷⁾ According to Lester,⁽¹⁹⁾ a breast mass, in general, is not palpable until a diameter of 2 cm, although surface nodules and/or small breast allow clinical recognition of smaller lesions. Furthermore, the probability of being malignant a palpable mass increases with age, and invasive carcinomas and fibroadenomas are the most common lesions associated to this case. Nipple discharge is the third most common symptom and it is present in only 5 to 12% of cases of breast cancer,⁽²²⁾ in which the bloody discharges are associated

with carcinoma in 13% of cases.⁽¹⁷⁾ Suspicious discharge is characterized as being unilateral, spontaneous, single duct, and persistent.⁽²³⁾ DCIS presenting with nipple discharge tends to be extensive.⁽²⁴⁾ According to Collins et al.,⁽²⁵⁾ women younger than 45 years have more often DCIS associated with symptomatic disease than tumors with large sizes.

The literature shows that the extent of this type of carcinoma is variable. It was reported findings of tumor measuring about 0.1 to 5.0 cm,⁽⁵⁾ 2.5 to 5.0 cm⁽⁶⁾ and 0.3 to 5.4 cm.⁽⁷⁾ It was found the mean size of DCIS of 1.4 to 2.7 cm,⁽⁴⁾ 3.5 cm⁽⁸⁾ and 3.7 cm⁽⁹⁾ (measured pathologically), 1 to 1.5cm⁽¹⁰⁾ and 2.56 cm.⁽¹¹⁾ Our study reports a tumor which size is greater than two times of the majority of the descriptions.

Breast self-examination (BSE), clinical examination by a trained team and mammography are recommended to screening of the breast cancer whose aim is to perform early diagnosis.^(12,13) It was described that regular BSE is a simple and effective method in early diagnosis of breast cancer,^(14,15) although the Brazilian National Cancer Institute did not stimulate breast self-examination as an isolated strategy.⁽²⁶⁾

Mammography is the most efficient method for screening breast cancer, whose sensitivity ranges from 85-90% and its specificity is approximately 95%.⁽¹⁷⁾ According to Lester,⁽¹⁹⁾ the main mammographic signs of breast carcinoma are the densities and calcifications. Many tumors grow as solid masses and are radiologically denser than adipose tissue and connective tissue in between the normal breast. DCIS presents rarely with density. The calcifications are associated with secretory material, necrotic debris and hyalinized stroma. Those associated with malignancy are usually small, irregular, numerous and grouped or linear branched.^(17,19) DCIS represents approximately 5% of breast cancers where mammographic breast screening is not performed, but within screening programs it constitutes about 20–25% of these tumors.⁽²¹⁾

The DCIS is the most common malignancy associated with microcalcifications. According to Boff and Wisintainer,⁽¹⁷⁾ these microcalcifications are usually unilateral and confined to a small region of the breast. Although it is expressed by microcalcification, DCIS can also be expressed by a focal asymmetry at mammography,⁽²⁷⁾ as an area of enhancement on magnetic resonance,⁽²⁷⁾ and as palpable nodules.^(17,19)

The latest edition of the Breast Imaging Reporting and Data System (BI-RADS) (2004) divides the mammographic findings in seven categories (Category 0 - Category 6),

assigning the category 6 the cases of suspicious lesions already described on mammograms and histologically confirmed to malignancy. And assigning the category 0, the cases in which mammographic evaluation is incomplete, being necessary to perform additional views or other procedures to complementary the diagnosis. In the latter, the ultrasound becomes essential in many cases, especially in three specific situations: assessment of nodules and asymmetric densities detected by mammography; guidance on invasive procedures, and evaluation of palpable lesions, especially in dense breasts.⁽¹⁷⁾

According to Boff and Wisintainer,⁽¹⁷⁾ the main risk factors for recurrence of DCIS are the histological grade, tumor size and surgical margins, which combined form a prognostic index – Van Nuys Prognostic Index (VNPI), created by Silverstein et al. in 1996 and modified in 2003. Currently, this tool quantifies 04 measurable prognostic factors: tumor size, margin width, pathologic classification (nuclear grade/presence or absence of comedonecrosis) and age. This index defines the best treatment (excision, excision with radiotherapy or mastectomy) to depend on a score ranging from 4 to 12.⁽²⁸⁾

In our case, the score was nine. For patients with a score of 10, 11 and 12, it is recommended mastectomy because of the high rate of local recurrence. For the scores 7, 8 or 9, wide excision plus radiation therapy. For the scores 4, 5 and 6, wide excision. However, according to Boff and Wisintainer,⁽¹⁷⁾ the treatment for DCIS must be individualized and the VNPI should contribute to better treatment still not standardized.

Therefore, it was decided with the patient by simple mastectomy and axillary node sampling. It was indicated this therapy especially due to tumor extension (12 cm) and necrosis in the lesion. This extension has already predetermined the possibility of shortage of margins. Furthermore the tumor size contraindicated conservative treatment by the close relationship between tumor size and volume of the breast.⁽³⁾ It often coexist in the same lesion atypical hyperplasia and carcinoma, and carcinoma in situ and invasive carcinoma.⁽¹⁷⁾ The palpable forms of DCIS are associated with multicentricity and occult invasion.⁽²⁹⁾

FINAL REMARKS

The case presented demonstrates the importance of early diagnosis of breast diseases and attempts to demystify the close relationship between large tumors and invasive carcinoma because the approach and the prognosis of this lesion is different from DCIS.

Clinical breast exam should be performed in all gynecological independent of patient age because it is useful for diagnosing early lesion, considering that it is a palpable lesion. For the same reason, the importance of self breast exam should be emphasized during the consultation and the suggestion to do it must be appropriate.

DCIS has been diagnosed more frequently due to the screening method available on the Unified Health System – mammography, considered the most efficient method for early diagnosis of breast cancer. Therefore, we emphasize the importance of conducting periodic examinations even in asymptomatic people in order to detect clinically occult breast cancer and thus, in less advanced stage. So, this is the most effective way to reduce mortality from breast cancer, improving the cure rate, which also results in less aggressive treatment, a better quality of life and lower public health spending.

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