

# Breast cancer after prophylactic mastectomy for Lobular Carcinoma-In-Situ (LCIS) – an unusual case

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## ABSTRACT

Bilateral risk reducing mastectomy results in the greatest breast cancer risk reduction but is an irreversible intervention. Total mastectomy can never remove all breast tissue and there is always a small risk of breast cancer. Regular follow up and surveillance is beneficial. We present the case of a 47-year-old woman who presented with axillary lymph node metastatic breast cancer after risk reducing mastectomy in which only Lobular Carcinoma-in-Situ (LCIS) was present on histopathology.

## INTRODUCTION

We present the case of a 47-year-old woman who presented with axillary lymph node metastatic breast cancer after risk reducing mastectomy in which only Lobular Carcinoma-in-Situ (LCIS) was present on histopathology.

## CASE REPORT

A 45 year old women presented in February 2006 with increased nodularity in the right breast. She had also noticed that her right nipple was lower than the left. She had been seen 6 years earlier with thickening and bulkiness in her left breast and had clinical breast examination and bilateral mammography with bilateral breast ultrasonography assessment, which was normal.

She had three children who were breast-fed with the total breast-feeding time more than 6 months. Her family history showed that her paternal grandmother had breast cancer, but died due to other cause, and her father was diagnosed with carcinoma of prostate at 56, and died of an orbital melanoma at age 66. She never had any significant breast problems in the past.

On examination there was increased nodularity in the right breast but no discrete signs of malignancy. Left breast and bilateral axillary examination was normal. Mammograms and ultrasound showed bilateral benign breast changes more prominent on the right. Stereotactic needle core biopsy of the right breast showed undifferentiated cells. A wire guided excision biopsy of the right side showed extensive high grade DCIS with cancerisation of lobules but no evidence of invasive cancer.

She was offered a right mastectomy operation for extensive DCIS of her right breast. The

patient requested bilateral mastectomy to reduce her risk of breast cancer in her left breast. Bilateral mastectomy was performed at her request. The right breast was removed with a sentinel node biopsy and sampling. The sentinel node biopsy was performed using combined radioisotope and blue dye technique. The left mastectomy was a risk-reducing mastectomy with a sentinel lymph node biopsy.

Histology from the right breast showed extensive DCIS. Four nodes, including a sentinel node was normal. The left breast showed LCIS with no evidence of invasive cancer. The cells had larger nuclei and marked pleomorphism and Immunohistochemical E-cadherin staining was negative suggesting a pleomorphic nature. One sentinel hot and blue node was negative. She had an uneventful recovery. She was under regular clinical follow-up. Breast reconstruction surgery was subsequently performed using bilateral Latissimus Dorsi flaps and implants.

21 months later, she presented with a swelling in the left axilla. Ultrasonography of the axilla demonstrated a 20mm eccentric lymph node with cortical thickening. USS guided needle core biopsy showed adenocarcinoma. She proceeded to a left level three axillary clearance. 2 out of the 12 nodes were positive for metastatic breast carcinoma. This was on histopathology an 18 mm size Grade -3 breast carcinoma Ductal of No Special Type, which fully replaced one of the two lymph nodes. It was ER/PgR Negative and Her-2 Negative (Triple Negative). She had follow up treatment by chemotherapy and continues to have a regular clinical check up. An MRI scan of her mastectomy scar areas and pectoral regions was performed and this did not show any residual disease in the mastectomy region. She received post-operative adjuvant chemotherapy for triple negative breast cancer remains on a regular follow-up.

The patient remains clinically disease free at her follow up in June 2012. She has mild lymphedema of her left arm and forearm. At her request a referral was made to the regional genetics department but the patient was not considered at high risk and therefore was not offered BRCA1/2 testing.

## DISCUSSION

In a risk reducing mastectomy complete removal of all breast tissue is not possible (1,2). It is known that after bilateral mastectomy local and regional recurrence of breast cancer can occur. Lobular carcinoma-in-situ is usually an incidental finding. According to present literature, breast lesions containing LCIS should be excised for histological diagnosis to rule out co-existing malignancy. Clear resection margins are not required following surgery for LCIS alone (3,4). It is unlikely that the axillary metastatic disease is secondary to the contra-lateral extensive high grade DCIS.

DCIS is a malignant precursor of breast cancer with the risk of recurrence after local excision being related to the grade of the lesion. Low grade lesions have lower rate of recurrence. The surgical options available are breast conserving surgery or mastectomy. Indications for considering mastectomy are lesions >40mm in size or multi-centric disease (5). Clear margins should be achieved for breast conserving surgery for DCIS. There are no guidelines on specific margins for DCIS although the EORTC study showed a lower recurrence rate with

margins greater than 1 mm. Axillary staging and axillary clearance procedures are not routinely recommended in DCIS where the diagnosis has been made by non-operative biopsy. It may be considered in patients with high risk of invasive disease, for example where there is a large area of micro-calcification, a palpable mass or high grade disease. All decisions regarding axillary staging should be discussed both with the patient and in multi-disciplinary team meeting (6).

LCIS is not a local malignant precursor lesion but it does increase future risk of invasive breast cancer in both breasts by approximately 7 fold (7). Our patient did not have any co-existing breast cancer, which was shown by histology of the mastectomy specimens but did present with axillary breast cancer after bilateral mastectomy. One explanation of this could be a carcinoma of the breast arising in an accessory axillary breast tissue. Women with LCIS are at a higher risk of developing subsequent breast malignancy (8) and post-operative surveillance is appropriate in these patients (9). Breast units should have locally agreed surveillance guidelines for patients diagnosed and treated with this condition. Maarse et al describe the first case of breast cancer after bilateral prophylactic skin sparing mastectomy in women with BRCA1 gene mutation (3). We believe this is the first case in literature, which presented with axillary lymph node breast cancer after risk reducing mastectomy for Lobular Carcinoma-In-Situ.

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