



# A Case Report of Infiltrating Ductal Carcinoma of Breast

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## Abstract

### Patient Presentation

A 60-year-old woman was admitted to our hospital for nipple retraction.

### Diagnosis:

Fine needle biopsy of the breast lesion and surgical resection found infiltrating ductal carcinoma (Intermediate grade) of right breast; with involvement of nipple and metastasis to axillary lymph node.

### Interventions:

The patient underwent modified radical mastectomy and the biopsy of a surgical specimen was identified as infiltrating ductal carcinoma cancer. Then the patient was treated with chemotherapy and hormone therapy.

### Outcomes:

The patient remained symptom-free during 4 months of follow-up examinations.

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## I. Introduction

Breast cancer (BC) is a concerning health problem worldwide usually affecting females aged more than forty and has surpassed lung cancer as the world's most commonly-diagnosed cancer as per International Agency for Research on Cancer (IARC) in December 2020.(1) Medical image analysis facilitates early detection of breast cancer apart from helping in the decision making to both preserve the breast and reduce the mortality (2) Mammography is widely used and a reliable modality with high sensitivity and specificity to detect malignancy in the entirely fatty breast tissue. (3)

The main indication for screening mammography is to search for occult breast cancer in an asymptomatic patient. It includes proper history taking and clinical breast examination by the physician (4). As per ACR, screening mammography should be done annually after the age of 40 and in high-risk cases. Patients with history of irradiation and prior breast cancer or a first degree relative with breast cancer should be screened earlier. Any patients with new or enlarging lumps should be offered diagnostic mammography (5). Two standard views- craniocaudal projection (CC view) and mediolateral view (MLO view) of each breast, with additional views as required, are taken in patients with a palpable mass and any radiographic abnormality on a screening mammogram (Fig 1,2,3,4). Diagnostic mammography should be considered in patients with specific signs and symptoms like clear or bloody nipple discharge, nipple retraction, skin dimpling, and those high-risk cases with a previous history of carcinoma breast (6).

## II. Case Report

### Methodology

A qualitative, case-study study was conducted with a patient admitted to our hospital in Gwalior, in a Cancer Research Institute. The sample was randomly selected. The physical examination was performed on the patient

and observation of the signs and symptoms related to the neoplasia. The patient signed the free and informed consent before the clinical examination

Patient is 60 years old, postmenopausal female, housewife, multiparous with three children, is G4, P3, A0 (all normal births) with BMI 27kg/m<sup>2</sup>. Her husband gave the history of postpartum depression due to which she couldn't breastfeed her children properly. Since then she is leading a sedentary life. She came to OPD with a history of nipple retraction of right breast. She suffered from generalized weakness for two years though no other significant personal or family history was reported. After proper clinical examination, mammography was done and then the patient was admitted to the hospital to perform the mastectomy. She is not diabetic, hypertensive and denies allergy to any medication and diet.

### *Results*

The mammography revealed almost entirely fatty breasts bilaterally. No microcalcifications and no mass lesion was noted on the left side. A homogeneous opacity with spiculated margin with retraction of nipple was revealed on the right side.

No axillary lymph nodes were seen. BIRADS 0 with additional imaging evaluation and/or comparison to prior mammograms was reported for the left breast. BIRADS 4C with > 50 to < 95 % risk of malignancy was reported for the right breast.

FNAC revealed malignant cells and the patient was taken for modified radical mastectomy (MRM). Right sided MRM specimen measuring 38x18x6.7 with 17.5x8.5 cm skin flap showed an irregular infiltrating mass. Cut section of growth was grayish white and firm. Growth is 2.5 cm away from base, 3 cm from skin margin, 8 cm from superior, 3.5 cm from inferior, 3.5 cm from medial and 29 cm from lateral margin. Multiple lymph nodes were traced from the axillary tail, ranging from 0.2 cm to 1 cm in diameter. Sections from growth show tumor composed of round to polygonal cells having high N:C ratio (nucleo-cytoplasmic ratio) and hyperchromatic nuclei, forming ducts, cords & lobules, infiltrating in dense fibrocollagenous stroma. Vascular or perineural invasion was not seen. Section from nipple & areola showing infiltration by tumor cells. Section from skin & soft tissue (medial, lateral, superior and inferior) surgical resection margins are free of tumor. Section from axillary lymph nodes (6/22) show tumor metastasis

The final impression of infiltrating ductal carcinoma (Intermediate grade) – Right breast; with involvement of nipple and metastasis to axillary lymph nodes was made. TNM stage : T2 N2 Mx

### **III. Discussion**

Ductal carcinoma in situ (DCIS) represents malignant cell proliferation within the lactiferous ducts and no invasion through the epithelial basement membrane. Its grading depends on increasing nuclear atypia and degree of necrosis. On mammography, the lesion is seen as simple mass or asymmetry with fine, linear, pleomorphic, amorphous, coarse microcalcifications. On sonography, microlobulated, hypoechoic lesions are seen in the ducts. MRI, with its variable, dynamic contrast enhancement kinetic features and diffusion-weighted imaging, is more sensitive for diagnosing DCIS (7).

Invasive ductal carcinoma is an infiltrating abnormal proliferation of malignant cells, which presents as a large, palpable, immobile mass. On mammography, the lesion is seen as oval, lobulated, spiculated, and hyperdense lesions with microcalcifications. On sonography, an ill-defined hypoechoic, spiculated lesion with microcalcifications and hyperechoic angular margins seen in the ducts and extension of the lesion into surrounding parenchyma. The studies suggest that the factors such as depression, obesity, lack of physical exercise, and excessive consumption of saturated dietary fat increases the propensity of breast cancer. Lifestyle modifications and breastfeeding reduces the risk of breast cancer.(8,9,10)

#### IV. Conclusion

This case of infiltrating ductal carcinoma in an obese woman with a history of underlying depression stresses the importance of physical activity and breast feeding

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Left MLO view



Right MLO view



Left CC view



Right CC view