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Case Report Open Access

# The Mastitis Carcinomatosa vs. Infiltrating Duct Carcinoma with Osteoclastic Giant Cell Reaction: A Case Report

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## Abstract

The mastitis carcinomatosa or inflammatory breast carcinoma is an aggressive form of mammary tumors. Diagnosis is made on clinical, cytology and histology correlation. Imaging is performed to look for the extent of disease. Breast carcinoma with osteoclastic giant cells (OGCs) are uncommon. Here, we report a 35 year old woman with a painless lump in her left breast that has been proved clinically and radiologically. Microscopic examination reveal differential diagnosis of Inflammatory breast carcinoma and Infiltrating carcinoma with osteoclastic giant cells.

**Keywords:** Breast Carcinoma; Osteoclastic Giant Cells; Mastitis Carcinomatosa

## Introduction

The mastitis carcinomatosa or inflammatory breast cancer (IBC) is an aggressive form of mammary tumors, with a capacity for embolization of vascular and lymphatic structures [1]. Inflammatory breast carcinoma is a rare syndrome of invasive breast cancer that is characterised by erythema and oedema of a third or more of the skin of the breast, with a palpable border to the erythema, and no palpable breast mass [2]. Inflammatory breast carcinoma(IBC) is also known as carcinoma mastitis (CM) and represents the most virulent form of breast cancer. It is an uncommon and aggressive form of breast cancer with inflammatory skin changes. Usually presents in women between the 4th and 5th decades [3].

Breast carcinoma with osteoclastic giant cells (OGCs) is rare and described in less than 2% of breast cancer patients. Breast carcinoma with osteoclast-like giant cells was first described by Rosen in 1979 [4] . Carcinoma with osteoclastic (or osteoclast-like) giant cells of the breast constitutes only 0.5%-1.2% of breast carcinomas. The unique stromal feature can be found within invasive, ductal, lobular, squamous, or papillary breast carcinomas [5]. This tumor is characterized by the differentiation of the neoplastic ductal epithelium into squamous and/or sarcomatous mesenchymal components, and may present a varied cellular morphology of epithelioid and spindle cell patterns or with specific differentiation for some mesenchymal lineage [6].

## Case Presentation

A 35 years old woman was admitted with one week history of a painless lump in the upper quadrant of her left breast. The patient denied any systemic symptoms, weight loss or bone pain. She had no known family history of breast, uterine, or ovarian malignancy. Physical examination revealed a hard ill-defined mass was about 5 cm in diameter at 1 o clock in the left breast. The patient underwent modified radical mastectomy with axillary clearance.

5.0 cm x 4.0 cm x 3.0 cm left sided mastectomy specimen was received. Overlying elliptical skin is 4.5 cm in greatest diameter. Nipple and areola could not be identified. On cutting through the centre of the specimen, no definite lesion is seen. On palpation one margin show firm, greyish white lesion 3.0 cm x 1.0 cm x 1.0 cm. It is just immediately below the skin. The tumor has a satellite nodule near DRP. It is grossly 2.0 cm away from DRP.

Microscopically, multiple sections studied show features of an infiltrating carcinoma with giant cell reaction. The overlying skin is free from tumor. There are manifestations of extensive lymphatic permeation of emboli of tumor cells. Giant cells are either Tumor giant cells or osteoclastic giant cells. They are plenty in number. Deep resection plane is free. Above histomorphological features are suggestive of Mastitis Carcinomatosa (Inflammatory Breast Carcinoma) or Infiltrating duct carcinoma with osteoclastic giant cell reaction.

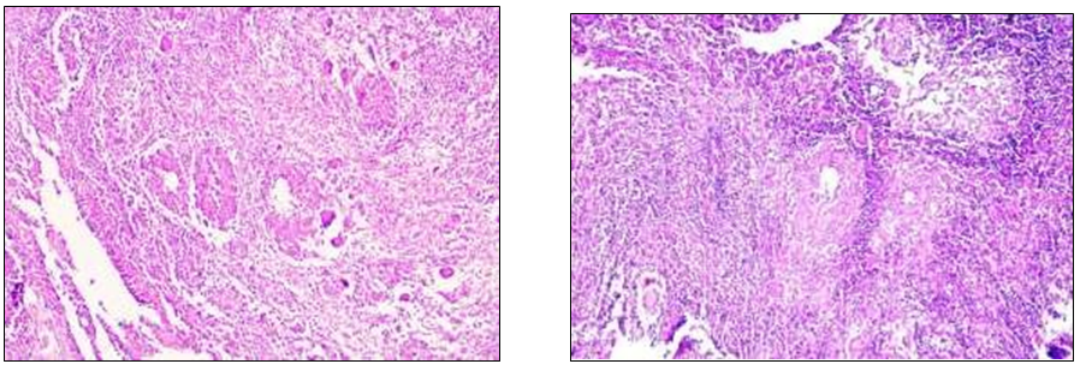

**Figure 1:** 100X view : An infiltrating carcinoma with giant cell reaction.

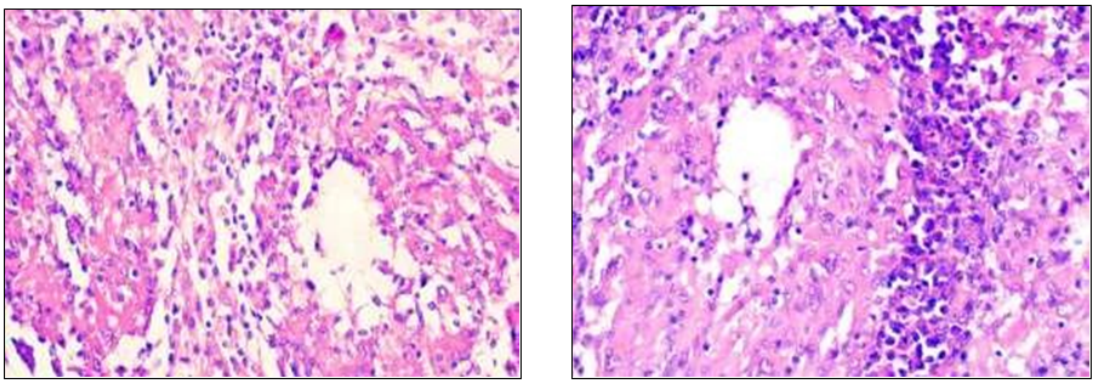

**Figure 2:** 400X view : An infiltrating carcinoma with dense inflammation

## Discussion

The Carcinomatous mastitis or inflammatory breast cancer (IBC) is a serious and aggressive form of mammary tumors. It is a rare unit, represents between 1 and 5% of breast cancers, with incidence constantly increasing for several decades [1] . Inflammatory breast cancer is an aggressive and poorly understood disease with symptoms that differ from other types of breast cancer. At the time of diagnosis, most women have lymph node metastases, and roughly one third will have distant metastases [2] . The median age was reported as 45 years with a range 23-66 and median duration of symptom was 5 months. Clinically, inflammatory breast cancer mimics mastitis . IBC commonly presents with rapid progressive tenderness, warmth, and enlargement of involved breast, duration of history < 6 month [3].

Carcinoma with osteoclastic giant cells (OGCs) has been described in several organs such as gallbladder, liver and thyroid, other than pancreas and urinary tract. Carcinoma with osteoclastic (or osteoclast-like) giant cells of the breast constitutes only 0.5-1.2% of breast carcinoma. OGCs can occur in invasive ductal, lobular, papillary, or squamous types of breast carcinoma [4]. The occurrence of OGCs is rare and the actual number of cases may be underestimated owing to the lack of a disease code or missing histological examination. Diagnosis of OGCs can be challenging because they can occur in different types of carcinomas. They appear similar to foreign-body giant cells associated with fat necrosis [5].

## Conclusion

The mastitis carcinomatosa is generally an aggressive form of mammary tumour which has a very poor prognosis and low survival rate compared to other breast malignancies. At times during diagnosis, most women have lymph node metastases, and roughly one third will have distant metastases. In case of our patient there was lymphovascular invasion with no clinic- radiological evidence of involvement of axillary lymph nodes.

Mastitis carcinomatosa accounts for an estimated 2% breast cancer diagnoses in the U.S.. but 7% of breast cancer deaths. According to the pathologic findings, the major determinant of the tumour entity is the dermal lymphatic invasion by carcinoma, which was evident in our reported case.

Treatment of Inflammatory breast carcinoma is multidisciplinary, combining neo-adjuvant chemotherapy followed by loco regional treatment. The 5-year survival rate range 19-59% depends on the tumour stage. Since, ours is a diagnostic laboratory, it was not possible to follow-up with the treatment regime, that patient underwent, nor the progress of the disease.

Based on the size of tumour mass with lymphovascular invasion and involvement of dermal lymphatics with no clinical or radiological evidence of metastasis, the tumour had been staged T2N2Mx

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