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# Metaplastic Breast Carcinoma: 1 Case Report and Review of the Literature

**Bahlioui Fatima Ezzahra[*,1], Chyate Fatima Zahra[1], Younes Benchrifi[2], Benhassou Mustapha[2], Ennachit Mohamed[2], and El Kerroumi Mohamed[2]**

[1]Resident Physician, Department of Gynecology and Obstetrics, at Ibno Rochd University Hospital, Casablanca, Morocco

[2]Professor in the Department of Gynecology and Obstetrics at Ibno Rochd University Hospital in Casablanca,Morocco

[*]**Corresponding author:** Bahlioui Fatima Ezzahra, Resident Physician, Department of Gynecology and Obstetrics, at Ibno Rochd University Hospital, Casablanca, Morocco

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## Abstract

Metaplastic breast carcinoma is a rare and hetero geneous form of breast cancer characterized by the coexistence of epithelial and mesenchymal components. Accounting for less than 1% of malignant breast tumors, it is distinguished by its aggressiveness, relative resistance to conventional treatments, and frequent association with the triple-negative phenotype. The Diagnosis is based on histopathology and immunohistochemistry, while management relies primarily on surgery, supplemented in some cases by chemotherapy and/or radiotherapy. The prognosis remains poor compared to other types of invasive breast carcinomas, hence the importance of early diagnosis and an appropriate therapeutic approach.

**Keywords:** Metaplastic Carcinoma, Breast, Triple Negative, Histopathology, Prognosis

**Abbreviations:** MBC: Metaplastic Breast Carcinoma

## Introduction

Metaplastic breast carcinoma (MBC) is a rare entity representing approximately 0.2 to 1% of all invasive breast cancers **[1]**. It is characterized by the transformation of malignant epithelial cells into non-glandular or mesenchymal elements, resulting in a wide variety of morphologies **[2]**. This type of tumor, often associated with a triple-negative profile, has a more unfavorable clinical course than classic invasive ductal carcinoma **[3]**.

## Case report

This is a 66-year-old female patient, mother of three children born vaginally, menopausal for 15 years, with no particular medical history, presenting for follow-up care for metaplastic carcinoma of the left breast.

Her history of the disease dates back five months, when she felt a lump in her left breast during a self-examination. The initial clinical examination revealed a 5 cm mass at the junction of the lower left quadrants, which was mobile in both planes.

Initial echo-mammography: Suspicious lesion measuring 47x32 mm at the junction of the lower quadrants of the left breast + Left axillary lymphadenopathy, some of which have a thickened cortex, the largest measuring 11x7 mm: Examination classified as ACR5 on the left **(Figure 1)**.

-Tru-cut biopsy: Atypical myxoid spindle cell proliferation.

-*A left lumpectomy* was performed, with pathological examination confirming metaplastic carcinoma with the presence of vascular emboli.-IHC: PR: 30%, ER: negative, HER2 negative.

Two months after the lumpectomy, the patient presented with a 3 cm mass at the junction of the inner quadrants of the left breast, with no signs of inflammation or nipple discharge, and a clean lumpectomyscar.

Breast ultrasound: Formation of a hypoechoic, multilobulate doval structure measuring 22.7 x 15.4 mm in the lower inner quadrant + bilateral axillary lymphnodes with preserved architecture.

*A left mastectomy with left axillary lymphnode dissection* was performed, with pathological examination revealing an un differentiated malignant tumor measuring 3.5 cm in diameter, consistent with known *metaplastic carcinoma* (SBRIII). Significant necrotic hemorrhagic changes were present in the center of the tumor. Deep dermal infiltration without epidermal involvement or ulceration. No in situ component, vascularemboli, or nerve sheathing. The resection margins were clear. Else where, sclerosing mastopathy, hemorrhagic changes, cyto-steatonecrosis, and resorptive giant cell granulomas. No lymphnode metastasis (0N+/10N).


**Figure 1**: Initial mammo showing a lesion at the junction of the lower quadrants

## Discussion

Metaplastic breast carcinoma mainly affects middle-aged to older women, with peak incidence around the sixth decade of life **[4]**. Clinically, it most often presents as a palpable, firm, sometimes painful, and rapidly growing mass **[5]**. Imaging tests, such as mammography and ultrasound, may show masses with irregular contours, but do not allow it to be specifically distinguished from other malignant breast lesions **[6]**. MRI may be useful in assessing local extension.

The definitive diagnosisis based on histological examination, which reveals the coexistence of carcinomatous components and metaplastic areas of sarcomatoid, squamous, or chondro-osseous appearance **[7]**. Immuno histo chemistry is essential to confirm the epithelial nature of the cells, with the expression of cytokeratins and often the absence of hormone receptors and HER2 **[8]**.

From a therapeutic stand point, surgery is the corner stone of treatment, generally in the form of mastectomy or wide local excision combined with lymphnode dissection or sentinel lymphnode biopsy **[9]**. Adjuvant chemotherapy is offered, although CMS is generally less sensitive to chemotherapy the another triple-negative breast cancers **[10]**. Radiotherapy is indicated depending on local risk factors.

The prognosis for CMS is generally less favorable than for

invasive ductal carcinomas of the same stage **[11]**. The rates of local recurrence and distant metastases, particularly to the lungs and bones, are higher. Five-year overall survival varies between 49% and 68% depending on the series **[12]**. Therapeutic prospects include the exploration of new moleculartar gets and the use of immuno therapies, with encouraging preliminary results **[13]**.

## Conclusion

Metaplastic breast carcinoma is a rare and aggressive tumor, the diagnosis of which relies on rigorous histo pathological analysis. Its management requires a multidisciplinary approach, and on going research aims to improve prognosis through innovative therapeutic strategies. Knowledge of its clinical and biological characteristicsis essential for optimizing management.

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