

“MEDULLARY PATTERN OF INVASIVE BREAST CARCINOMA MASQUERADING AS A CYSTIC LESION: A TRIPLE NEGATIVE BREAST CANCER WITH FAVOURABLE PROGNOSTIC FEATURES- CASE REPORT”

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ABOUT THE ARTICLE

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ABSTRACT

A 31-year-old female presented with a right breast lump. Histopathology demonstrated carcinoma with medullary features showing syncytial growth, absence of glandular differentiation, dense lymphoplasmacytic infiltrate and triple-negative immunophenotype. Recognition of this rare entity is important because of its relatively favourable prognosis. This case is reported because in case it presents as a cystic lesion it can be missed in cytology.

KEYWORDS: Medullary carcinoma, Carcinoma with medullary features, Triple-negative breast cancer, Breast pathology

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INTRODUCTION

Medullary pattern of invasive breast carcinoma (<1%) occurring predominantly in younger women. Despite Grade III morphology and triple-negative phenotype, prognosis is superior to conventional invasive breast carcinoma because of abundant tumour infiltrating lymphocytes.

Medullary pattern of invasive breast carcinoma no special type has 4 characteristic histological features (ideally, all 4 should be present for the diagnosis):

- Pushing border
- Syncytial growth pattern
- High grade nuclei
- Prominent lymphoid infiltrate

Despite being high-grade and triple negative, it is associated with a relatively favorable prognosis compared to other grade III breast carcinomas, attributed to prominent tumor-infiltrating lymphocytes.

Case Report

A 31-year-old woman presented with a one-week history of a painless swelling in the right breast. Clinical examination revealed a 3×4 cm freely mobile firm swelling with normal overlying skin, nipple and areola. Bilateral axillae were unremarkable. Outside biopsy was reported as fibrocystic change. Lumpectomy specimen showed a well-circumscribed, soft to moderately firm fleshy tumour. Histopathological examination revealed large pleomorphic tumour cells arranged in syncytial sheets with pushing borders, absent gland formation and dense lymphoplasmacytic infiltrate. Immunohistochemistry showed ER, PR and HER2 negativity confirming Grade III

carcinoma with medullary features (triple-negative breast carcinoma).

Clinical Examination

Local examination revealed a 3 × 4 cm, firm, freely mobile swelling in the right breast. The overlying skin, nipple, and areola were normal. Both axillae and the left breast were unremarkable. A clinical diagnosis of a cystic breast lesion was made.

Mammogram report

Right breast – upper outer quadrant showed well defined opacity with mild irregularity in anterior aspect. No obvious microcalcifications. USG correlation showed inner cystic lesion with peripheral solid component. Average size of the lesion -3.5x 2.2 cms. Report was given as BIRADS IV a.

Initial USG GUIDED Breast biopsy

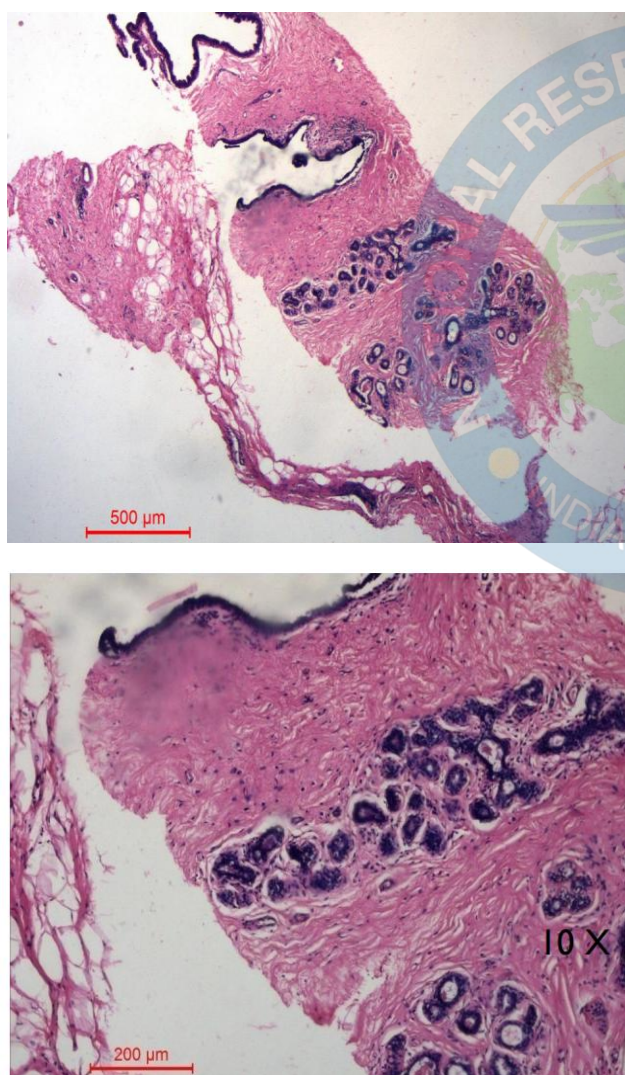


Figure 1 – Shows dilated acini and ductules

Initial usg guided biopsy showed only tiny cores of breast tissue with a few acini and dilated ductules.

Gross Pathology

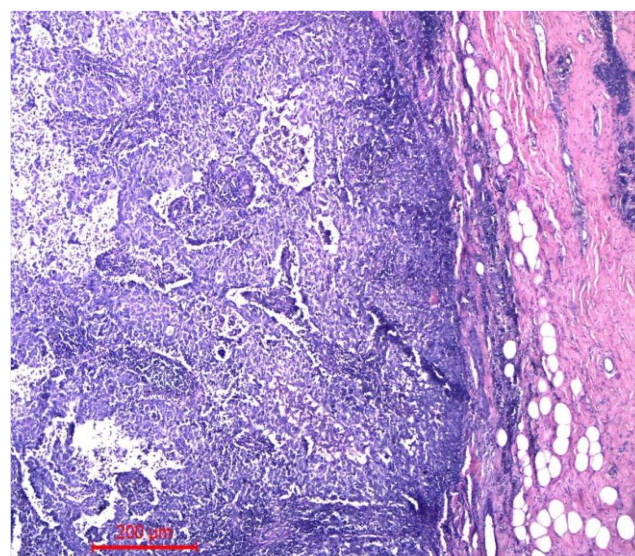


Figure 2: Shows partly solid and partly cystic tumour

The excised specimen showed a well-circumscribed, soft to moderately firm, fleshy mass. The cut surface was homogenous, grey, white, with focal areas suggestive of necrosis.

Microscopic Examination

Histopathological examination revealed a well-circumscribed neoplasm composed of large neoplastic cells arranged predominantly in a syncytial growth pattern. There was an absence of glandular or tubular structures. The stroma was scant and showed prominent lymphoplasmocytic infiltration (1–7%). Tumor cells exhibited marked nuclear pleomorphism, vesicular nuclei with prominent nucleoli, abundant cytoplasm, frequent mitoses, and occasional atypical giant cells.



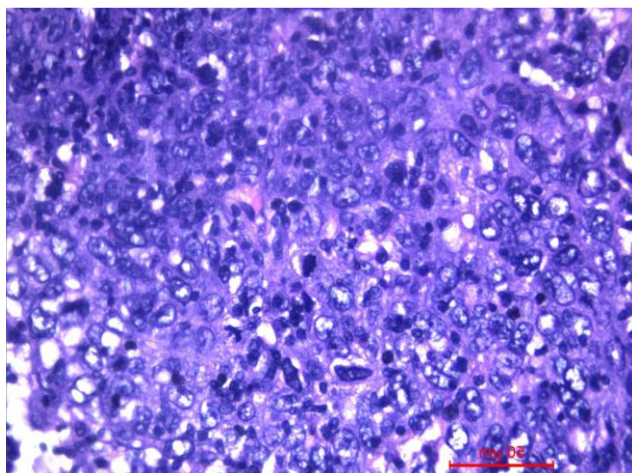


Figure 3 : Shows tumour cells having pushing margins with cells arranged in syncytial pattern

Grading of carcinoma breast

Modified Bloom- Richardson grading.

Tumor tubule formation - < 10% - 3 points

Number of mitotic figures – 8 - 10/10 hpf - 2 points

Nuclear pleomorphism – Marked variation in size and shape - 3 points.

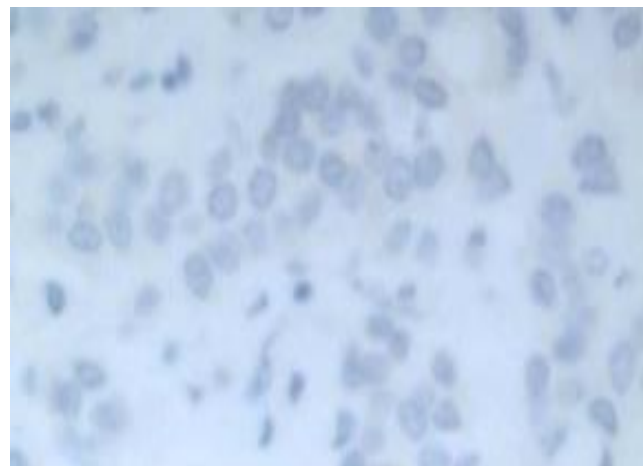
Adding – $3+2+3 = 8$ – Grade III

Immunohistochemistry

Immunohistochemical analysis showed:



Figure 4: Estrogen receptor (ER): Negative, Progesterone receptor (PR): Negative



HER2/neu: Negative

Thus, the tumor was categorized as triple-negative breast carcinoma.

Diagnosis of - Medullary pattern of invasive breast carcinoma, no special type Grade III (Nottingham modification of Bloom–Richardson grading system) was made.

DISCUSSION

These tumors are frequently triple negative and may express basal markers such as cytokeratin 5/6, EGFR, p53, and P-cadherin.

Despite being high-grade and hormone receptor-negative, CMF demonstrates a better prognosis compared to other grade III carcinomas. This favorable outcome is attributed to the host immune response, evidenced by abundant tumor-infiltrating lymphocytes, which are known to improve response to chemotherapy and overall survival.

Prognosis

This Tumour has a relatively favourable prognosis when compared with other poorly differentiated invasive breast carcinomas. Tumor-infiltrating lymphocytes play a significant role in tumor control and are associated with improved clinical outcomes.

CONCLUSION

Carcinoma with medullary features is a rare but distinct subtype of breast carcinoma with characteristic histomorphology and immunoprofile. Recognition of this entity is important due to its prognostic implications, despite its triple-negative status. Accurate diagnosis helps in guiding appropriate management and prognostication.

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