

Metaplastic Breast Carcinoma: A Case Report

Background

- Metaplastic breast carcinoma is a rare subtype of breast cancer associated with a very poor prognosis
- Is a chemo resistive and aggressive cancer and an important diagnostic consideration
- Treatment of metaplastic breast cancer often requires multiple modalities (chemo, radiation, and hormone therapy)
- Defies classic pattern of metastasis typically seen with breast cancer

This study aims to:

Characterize metaplastic breast carcinoma and highlight key imaging findings that may help differentiate it from other more common breast cancers.

Methods

- Identified a patient who recently reported to the University of California, San Diego who was diagnosed with metaplastic breast carcinoma
- Reviewed the patients chart, relevant imaging, and immunohistochemical test results

Differential Diagnosis

- Medullary carcinoma
- Mucinous breast cancer
- Papillary breast cancer
- Phyllodes tumor

Imaging

Image 1a (left): medial lateral oblique (MLO) mammogram demonstrating global asymmetry at the site of palpable abnormality (blue arrow) including abnormal morphology axillary lymph node (yellow arrow).

Image 1b (right): Cranio-caudal (CC) mammogram demonstrating global asymmetry at the site of palpable abnormality (blue arrow).

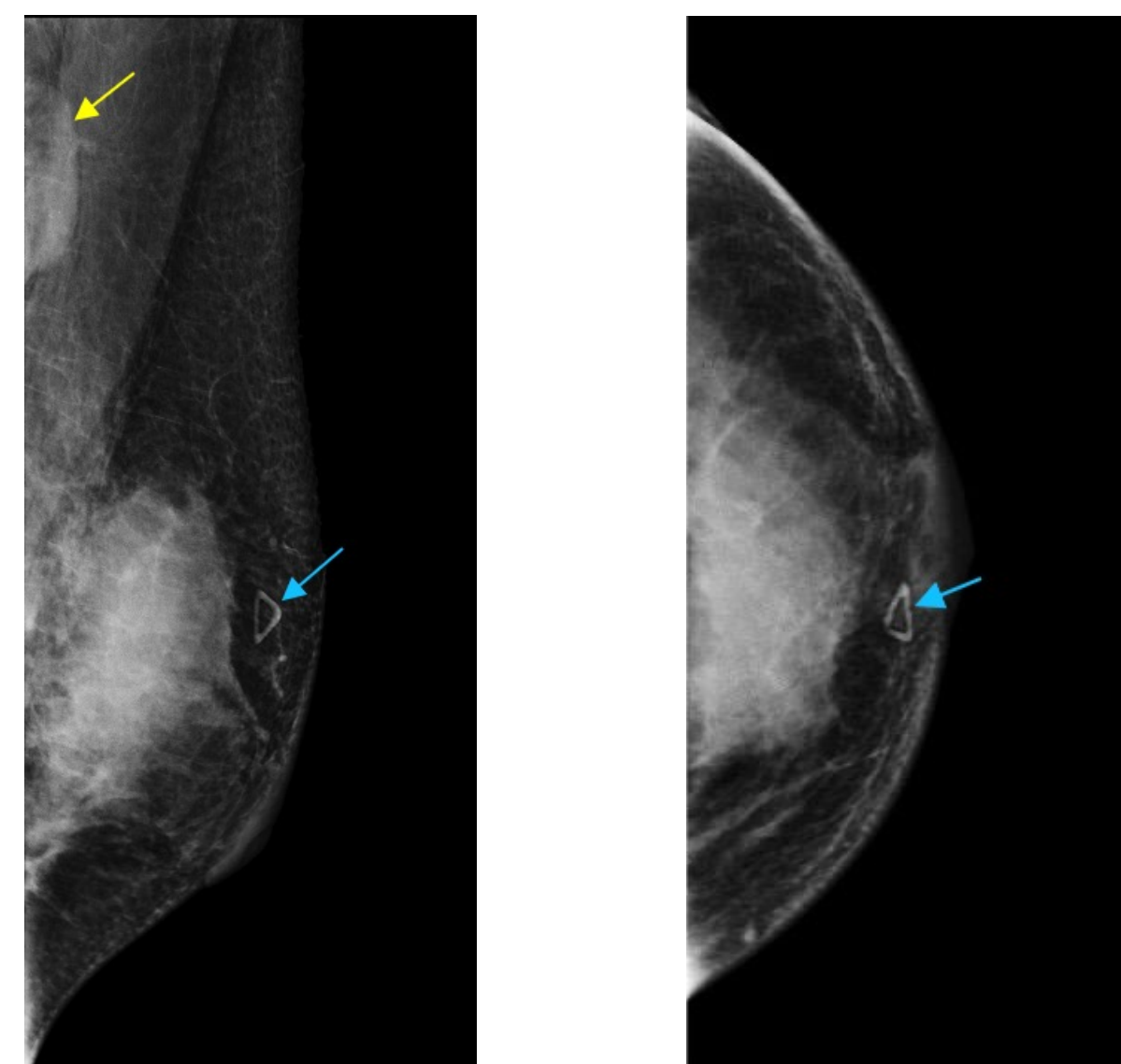


Image 2: Transverse ultrasound, abnormal morphology of left axillary lymph node that demonstrates asymmetrical thickening and compression of fatty hilum (yellow arrow).

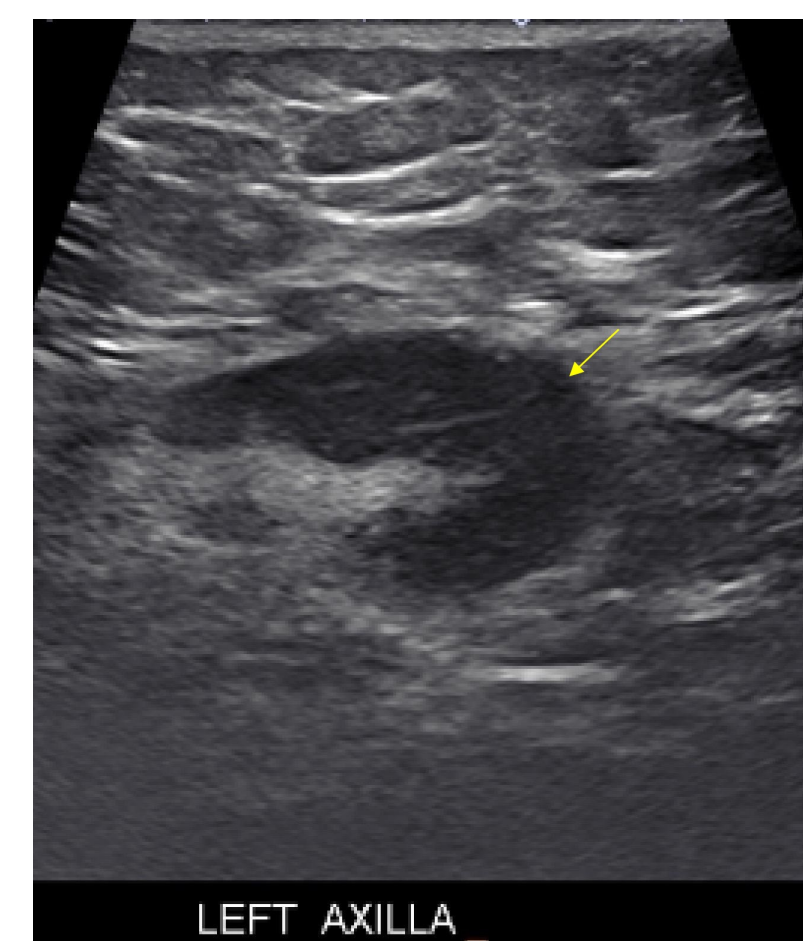


Image 3: Magnetic resonance imaging (MRI) coronal T2 sequence demonstrates multiple matted in appearance abnormal morphology lymph nodes involving surgical levels 1, 2 and 3 (yellow arrow)

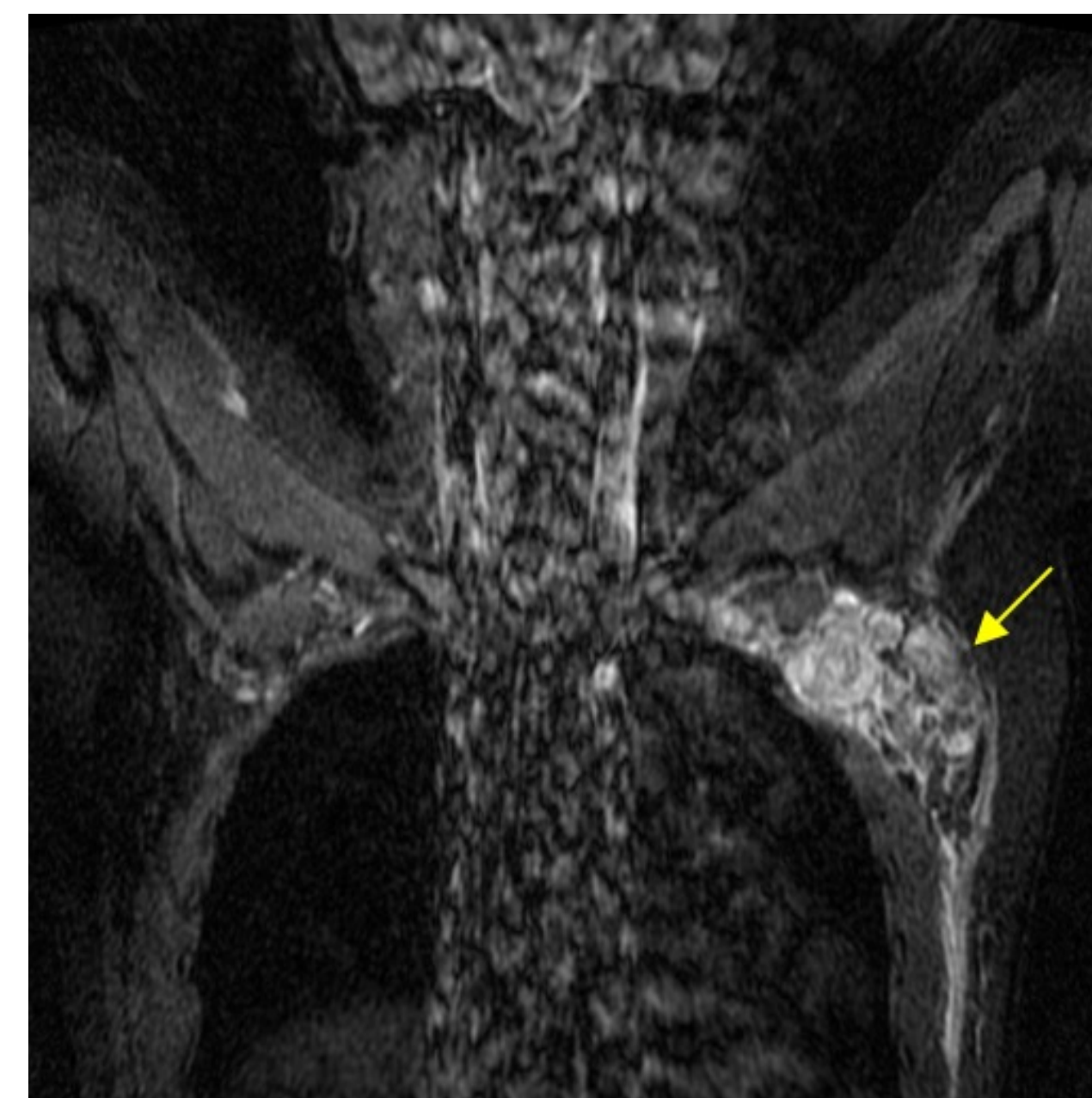
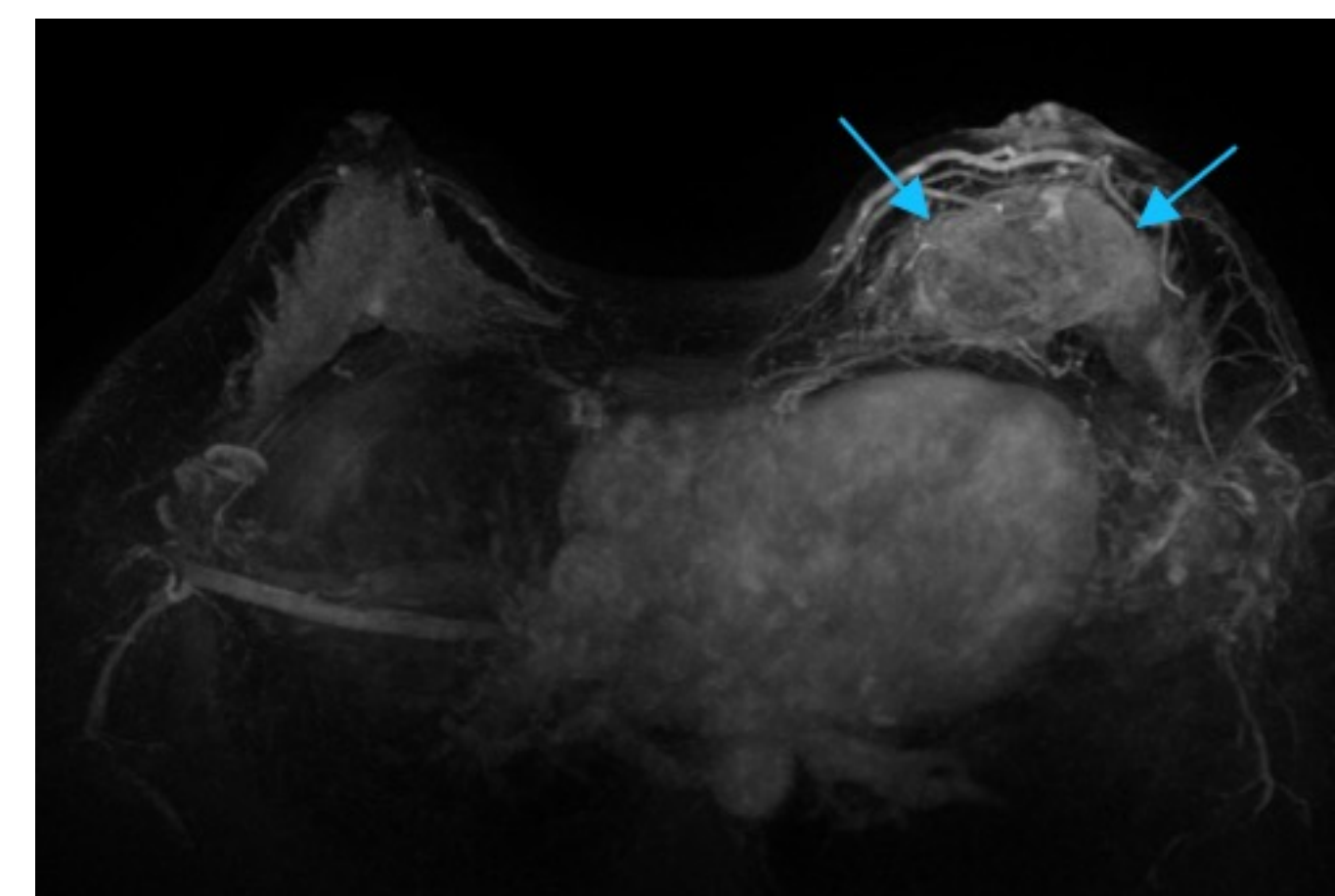


Image 4: MRI, maximum intensity projection (MIP), demonstrates an irregular breast mass involving the entire central breast (blue arrows). Marked background parenchymal enhancement is otherwise noted bilaterally



Discussion

- Metaplastic breast cancer accounts for ~.2-5% of all breast cancers and usually presents in women over 50yo w/ a palpable mass
- Poor prognosis, with even worse outcomes than triple negative breast cancer and 2x the risk of metastases.
- Characterized by rapid growth, chemoresistance, and overall advanced stage at diagnosis.
- On mammography metaplastic breast carcinomas often present as large, round or irregular masses that tend to be dense and are partially circumscribed.
- On ultrasound, they have heterogeneous internal echogenicity, and may have posterior shadowing.
- On magnetic resonance imaging (MRI), they are large, round or irregular mass with rapid enhancement often with central necrosis.

Conclusions

- Characteristic findings on mammography, MRI and ultrasound may help differentiate metaplastic breast carcinoma from other common breast cancers
- There is a paucity of data on patients with metaplastic breast cancer and it is an important diagnostic consideration given its high mortality
- Lack of standardized treatment regimen necessitates further investigation

Selected References/Disclosures

De Scalzi A, Fanianos DM, Magnoni F, Invento A, Toesca A, Conforti F, Bagnardi V, Viale G, Colleoni MA, Veronesi P. Metaplastic breast cancer: Prognostic and therapeutic considerations. J Surg Oncol. 2021 Jan;123(1):61-70. doi: 10.1002/jso.26248. Epub 2020 Oct 12. PMID: 3304731

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