Metaplastic Breast Carcinoma: A Case Report

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• Metaplastic breast carcinoma is a rare subtype of breast cancer associated with a very poor prognosis
• Is a chemoresistant 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.

Background

• Metaplastic breast carcinoma 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.


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

• 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

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

Selected References/Disclosures


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