RADY 413 Case Presentation

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60-year-old female undergoing treatment for invasive ductal carcinoma with metaplastic features
Ms. MJ is a 60-year-old female presenting to the UNCH Breast Multidisciplinary Clinic to seek a second opinion regarding course of treatment for her right invasive ductal carcinoma with metaplastic features.
Imaging studies obtained

* Bilateral diagnostic mammogram
* Targeted ultrasound of right breast and right axilla
Right mammogram

Mammogram of the right breast demonstrated a 8 cm round high density mass superiorly.
Targeted ultrasound of the right breast and right axilla

- Targeted ultrasound of the right breast demonstrated a 8.5 cm round hypoechoic mass at 11:00.
- Targeted ultrasound of the right axilla demonstrated multiple normal appearing lymph nodes.
At time of core needle biopsy, pathology results were as follows:

- Invasive ductal carcinoma with metaplastic features, at least 100mm
- Nottingham combined histologic grade: 3 (of 3)
  - Tubule formation score: 3
  - Nuclear pleomorphism score: 3
  - Mitotic count score: 3
- No definite ductal carcinoma in situ identified
- Estrogen receptor: Negative
- Progesterone receptor: Negative
- HER2/neu by immunohistochemistry: Negative
* UNCH Breast Multidisciplinary Clinic recommended neoadjuvant chemotherapy with subsequent modified radical mastectomy and axillary lymph node sampling, followed by possible adjuvant chemotherapy via an ongoing clinical trial
Mammogram demonstrates 7 cm irregular high density spiculated mass. Chest CT demonstrates 7 cm left breast mass and large metastatic left UL lung mass.
66 yo F presented with right breast mass. Mammogram demonstrates 20 cm irregular high density mass. Biopsy yielded MBC, with 20x H&E demonstrating osteoid and osseous components.
Histologically, MBC is a poorly differentiated heterogeneous tumor containing two or more cell types, usually epithelial with a mixture of mesenchymal components such as spindle, squamous, chondroid, or osseous.

MBC shares many similarities with invasive ductal carcinoma as well as benign lesions on imaging, complicating diagnosis.

**Epidemiology**

- Rare, only representing 0.25-1% of BRCA annually
- High proportion diagnosed in Hispanic or black women
Discussion: MBC

* Patients with metaplastic breast carcinomas commonly present stage II or higher with a large mass (> 3 cm size), rapid growth, and even distant metastases (usually brain and lung), but are less likely to have axillary nodal involvement compared to IDC

* MBC are poorly- or un-differentiated tumors

* MBC Immunohistochemistry: Most are ER, PR, and Her2-neu negative (>90%), Ki67 and p63 positive, and have worse prognosis than other triple negative BRCA

* Genetics

  * Majority are classified as basal-like subtype
  * Amplification of EGFR has been reported in 10-25% of MBC’s, and is more prevalent in the squamous and spindle cell subtypes
References


E. McKinnon, P. Xiao, Metaplastic Carcinoma of the Breast, Archives Pathology Lab Med, 2015;139:819-822