57 year old woman with a large left breast mass protruding through her skin and associated with bleeding

Elena G. Violari M.D., Robert Perez M.D., and Alex Merkulov M.D.
Metaplastic Breast Carcinoma
MLO and CC views: Large circumscribed left breast high density mass with irregular margins is protruding through the skin.
Grayscale and Doppler ultrasound images demonstrate a large complex cyst with a thick wall and echogenic internal material.
Ultrasound guided aspiration of the complex cyst produced 400 cc of bloody fluid. Residual soft tissue components are noted within the collapsed mass.
Metaplastic Breast Carcinoma

Also known as spindle cell carcinoma of the breast (SpCC). Rare form of primary breast malignancy (< 5% of breast CAs).

Epidemiology:
Usually seen in women who are more than 50 years old with average age at diagnosis ~55 years.

Clinical presentation
Palpable mass lesion (often rapidly growing).
Axillary node involvement at the time of diagnosis is uncommon.
Metaplastic Breast Carcinoma

Pathology: Ductal carcinomas that undergo metaplasia to a glandular growth pattern.

Five variants:
• Matrix producing carcinoma of breast
• Squamous cell carcinoma of breast
• Spindle cell carcinoma of breast
• Carcinosarcoma of breast (the rarest primary breast malignancy)
• Metaplastic carcinoma of breast with osteoclastic giant cells

Histology
• Features of both carcinoma and sarcoma
• Mixture of glandular epithelial elements and mesenchymal malignant elements
• Spindle cell component in 98% of SpCC is immuno-reactive for keratin
Metaplastic Breast Carcinoma

Mammography
• High density
• Rounded densities on mammography with margins that are both well defined and smooth, irregular, and spiculated
• Mean diameter at the time of diagnosis is 4.2 cm
• Calcification is very rare

Ultrasound
• Complex echogenicity
• Solid and cystic components are related to necrosis and cystic degeneration found histopathologically

Breast MRI
• T2: often displays very high signal intensity
Metaplastic breast carcinoma

Prognosis:
- Survival depends on tumor size, histologic type, grade, lymph node status, and perhaps most directly on the type and grade of the mesenchymal component
- Overall 5-year survival rate is approximately 40%
- Chemotherapy is usually directed toward the sarcomatous component of the disease on the basis of the patterns of metastases
- Local recurrence is fatal in ~30% of cases
References:


