Answer to Radiographic Quiz

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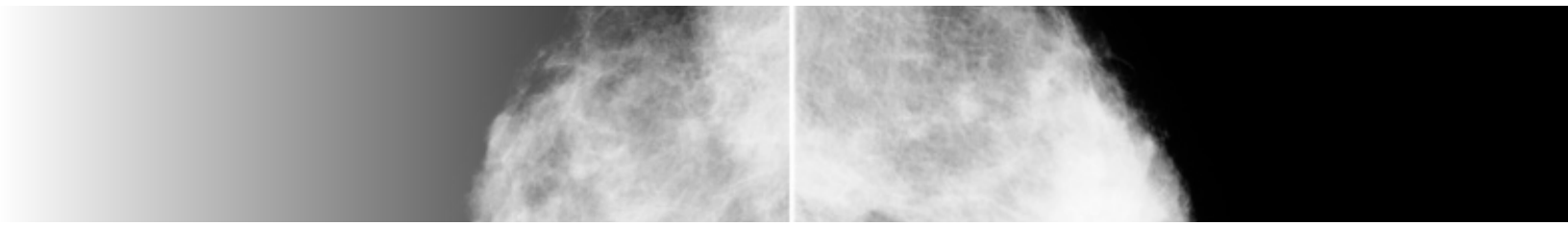

DESCRIPTION

The mammary parenchyma is composed by a mixture of fatty and fibroglandular tissue revealing a 3 cm spiculated, irregular, ill defined mass, partially obscured by the adjacent fibroglandular tissue, in the upper outer quadrant of the left breast. No associated calcifications.

There are rounded suspicious of malignancy left axillary adenopaties.

The ultrasound (not shown) revealed a 2.00 x 2.5 cm low echogenic ill marginated mass, taller than wider, in the upper outer quadrant of the left breast associated with a thick echogenic halo surrounded the lesion. Mild vascularization of the peripheral aspect of the mass with color Doppler interrogation was demonstrated.

Two rounded adenopaties with sonographic features of malignancy in the left axillary region

DIAGNOSIS

Invasive ductal carcinoma (biopsy proved)

Brief overview of the disease:

Invasive ductal carcinoma is the most common form of breast cancer (80%). It is felt that it arises from ductal carcinoma in situ. There is malignant spread through the dermal lymphatics which can lead to skin thickening and nipple retraction. The cancer is often asymptomatic and found through screening, therefore annual screening mammography advised for women 40 and older (earlier if first degree relative with breast cancer). It has the highest incidence in women in their mid to late 50s and represents the most common breast cancer in men. Lymph node involvement indicates poor prognosis. Diagnosis is usually made with US guided or stereotactic biopsy of the mass.

Risk factors for breast cancer include age (more common in older women), family history (first degree relative), postmenopausal obesity, hormone replacement therapy, radiation to chest.

Surgical removal of the tumor is the mainstay of treatment. Postsurgical radiation limits recurrence. Chemotherapy may be given before surgery if necessary to shrink the tumor (neo-adjuvant chemotherapy) or after surgery to limit recurrence (adjuvant chemotherapy)

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- 5 year survival by stage:
  - o Stage I 90%
  - o Stage II 70%
  - o Stage III 50%
  - o Stage IV 20%

Radiologic overview of the diagnosis

On mammogram, an irregularly shaped mass with spiculated margins is most often seen. Architectural distortion and fine linear or pleomorphic calcifications can also be seen. On ultrasound, an irregular hypoechoic mass with an echogenic halo is the usual appearance. If MR imaging is performed, there is intense early enhancement of the mass with contrast and washout.

Mammogram remains the screening study of choice in women over 40, with ultrasound and MR used when a suspicious lesion is seen on mammogram or when the patient is young and/or has a strong history of breast cancer (< 30 years).

Key points

- Invasive ductal carcinoma is the most common form of breast cancer in women and men.
- Invasive ductal carcinoma appears as an irregularly shaped mass with spiculated margins on mammogram. There may be associated architectural distortion or fine calcifications.
- On ultrasound, it appears as an irregular hypoechoic mass with an echogenic halo.
- Mammogram remains the screening test of choice in women 40 years or older. Ultrasound and MR are useful in further evaluating suspicious lesions on ultrasound and young patients with breast tissue too dense for mammogram.

REFERENCES:

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_F___There are pleomorphic calcifications.
_F__ Skin thickening
_F___There is a global asymmetry.
_F___Malignant finding bilaterally
_T___There is a spiculated irregular mass on the left breast.
_F___There is a spiculated irregular mass on the right breast.
_T___There is axillary adenopathy.
_T___The lesion has a very high likelihood of being malignant.
_T___Targeted ultrasound would be a reasonable next step.
Which choice is the most appropriate BIRADS classification?
___BIRADS 2 ___BIRADS 3 ___BIRADS 4 __X__BIRADS 5