Case 4660

Bilateral multifocal breast carcinoma
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Section: Breast imaging
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Patient: 47 years, female

Clinical History:

This lady attended the breast clinic having noticed firmness in the left breast for three months. Examination revealed bilateral breast masses, with left skin tethering and nipple retraction. Mammography and ultrasound showed four separate cancers on the left side and two on the right.

Imaging Findings:

The patient had fine needle aspiration (FNA) of two lesions in the left and two lesions in the right breast. She also had three core biopsies taken from the left breast. This lady was also found to have some nodules in the skin on her left shoulder and in her left groin. An FNA of the shoulder lesion was performed. The breast FNA and core samples revealed malignant cells in keeping with multiple infiltrating breast carcinomas. The tumours had features of lobular and ductal carcinoma. The shoulder FNA revealed metastatic carcinoma. Immunohistochemistry for oestrogen receptors (ER) was strongly positive. Progesterone receptor and HER-2 staining was negative. For staging a CT scan of chest, abdomen and pelvis was performed. This showed widespread bone metastasis, but no liver or lung lesions. Enlarged left axillary nodes were also identified. This lady had a past medical history of paraplegia following back surgery and was wheelchair bound. She also suffered from asthma and hypothyroidism. She had a sister who developed breast carcinoma at age 40. In view of the patients medical problems surgery was not performed and the patient was treated with hormone therapy. She passed away about one year after the diagnosis was made.

Discussion:

In the UK breast cancer affects around 33,000 women and causes 16,000 deaths each year. The incidence of synchronous bilateral cancers is 0.4%-2% as found on mammography or physical examination. Multifocal (MF) disease is defined as more than one tumour which have all arisen from one original tumour and are usually in the same quadrant of the breast. Multicentric (MC) disease is defined as more than one tumour which have all formed separately and are usually in different quadrants. It is rare. Deciding whether disease is MF or MC is a continued challenge to clinicians and pathologists. In addition to mammography and clinical examination bilateral breast ultrasound can depict unsuspected MF, MC and contralateral cancers in up to 18% of patients. Occult cancer is more frequently found on US in patients with large (>2cm) palpable masses and in dense breasts. MRI is also more sensitive than mammography for detection of multiple malignant foci in dense breasts. Treatment of early breast cancer is breast conserving surgery followed by radiotherapy for small unifocal tumours or mastectomy for larger or multifocal tumours. Survival depends on tumour size and grade. Women with a tumour with adverse features predicting early recurrence- positive lymph nodes and large high grade tumours are given adjuvant chemo- or hormonal therapy to reduce risk of relapse. Chemotherapy is given to pre menopausal women with oestrogen receptor (ER) negative disease. Hormone therapy is reserved for ER positive disease as in this case. At present MF or MC disease is a relative contraindication for sentinel lymph node biopsy, however all quadrants of the breast...
drain to a common sentinel node which should mean that presence of multifocal tumour should not affect lymphatic drainage. Indeed studies have shown SNB to accurately stage the axilla in MF disease and in the future it may become an alternative to complete axillary lymph node dissection in node negative MF cases. Currently MF and MC patients with a dominant tumour (>5cm), or palpable axillary disease have a formal axillary lymph node dissection

**Differential Diagnosis List:** Bilateral multifocal breast carcinoma with metastasis.

**Final Diagnosis:** Bilateral multifocal breast carcinoma with metastasis.

**References:**


Description: Left breast-There is a 2.2cm carcinoma inferolaterally and a 1.3cm carcinoma superolaterally.

Right breast- There is a 9mm carcinoma inferomedially and a 5mm carcinoma superolaterally.

The lesions are all hypoechoic with dense acoustic shadowing. Origin:
Figure 2

Description: Mediolateral oblique views. Origin:
Description: Craniocaudal views.

Left breast: Two large spiculated carcinomas laterally and two small spiculated masses medially.
Right breast: Spiculated carcinoma medially and nodule in the upper outer breast also suspicious for a carcinoma. Origin: