Plasma cell mastitis
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Section: Breast imaging
Area of Interest: Breast
Procedure: Education
Imaging Technique: Ultrasound
Imaging Technique: Mammography
Special Focus: Infection Inflammation Case Type: Clinical Cases
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Patient: 61 years, female

Clinical History:
61-year-old woman with palpable lump in the right breast. Mammography performed in another centre 4 months before was normal. Physical examination showed cutaneous inflammatory signs.

Imaging Findings:
Mammography shows an asymmetry in the retroareolar region of the right breast with retraction of the nipple, suspicious of malignancy (BI-RADS 4A). There is no evidence of axillary adenopathies or calcifications. Ultrasound of the right breast shows a hypoechoic, irregular mass-like lesion with no circumscribed margins and posterior acoustic enhancement. (BI-RADS 4A)

With these radiographic findings, we performed a biopsy and a rebiopsy of the lesion with the result of ductal ectasia with debris within the dilated ducts and severe chronic inflammatory reaction around, composed mainly of plasma cells and lymphocytes compatible with plasma cell mastitis.

Discussion:
Non-puerperal mastitis is not a single entity; it includes a wide spectrum of different disorders. The most frequently used classification subtypes are subareolar abscess, mastitis complicating ?brocystic disease, in?ammation of a cyst and plasma cell mastitis. The incidence of non-puerperal mastitis is currently increasing but is lower than that of puerperal mastitis. [1]

Plasma cell mastitis, also known as periductal mastitis, is a rare form of inflammatory, non-infectious, non-neoplastic mastitis not occurring during the post-partum period that usually affects women between second and fifth decades and typically is founded several years after the cessation of lactation (average 4 years). Our case is an atypical example because the patient is a post-menopausal woman.

The pathogenesis of this lesion is not yet fully elucidated, it is thought that it occurs as a result of expansion of the milk ducts within the breast, if they are filled enough they can rupture, become inflamed and infiltrated with plasma cells and consequently painful and swollen. Symptoms include pain and tenderness, nipple discharge and the skin becomes inflamed with retraction of the nipple. When the acute signs of inflammation have disappeared, one or more hard masses can appear which can be
ill-defined and immobile. In an advanced stage fistulas may form and lead to periductal fibrosis, causing retraction and ulcerations which might mimic carcinoma. [2]

Its importance lies in the fact that it resembles carcinoma on gross clinical examination. The varieties of cancer which bear a close resemblance to plasma-cell mastitis are inflammatory carcinoma and diffuse duct carcinoma. Knowledge of a previous history of inflammation is helpful in arriving at a diagnosis, although most non-puerperal mastitis cases occur without any signs of inflammation. In these cases it is clinically very difficult to distinguish from other benign or malignant tumours. Therefore, clinical and imaging data should be considered together, core needle biopsy should also be performed.

The most common mammographic appearance is a focal or diffuse asymmetrical density; our case also shows retraction of the nipple. In the chronic phase it has a characteristic appearance with thick, linear, rod-like calcifications that tend to be oriented with long axis pointing toward the nipple. [3] Sonographic findings, like our case, shows heterogeneous hypoechoic mass-like lesions with no circumscribed margins. Histopathology shows extensive plasma cells in and around ducts and lobules.

Differential diagnosis includes breast carcinoma which can be easily confused and granulomatous mastitis that consists primarily of granulomatous inflammation with a minor component of plasma cells and tuberculous mastitis. [4] Treatment is with anti-inflammatory and antibiotic treatment. Abscess or fistulas may require surgical cleaning.

**Differential Diagnosis List:** Plasma cell mastitis, Breast carcinoma, Granulomatous mastitis

**Final Diagnosis:** Plasma cell mastitis

**References:**


Figure 1

**Description:** Mammography demonstrated an ill-defined, high-density mass in the right breast. **Origin:** H.Universitario Dr.Peset, Valencia (Spain)
**Description:** Mammography demonstrated an ill-defined, high-density mass in the right breast. **Origin:** H. Dr Peset, Valencia (Spain)
Description: Close-up craneocaudal image demonstrated an ill-defined, high-density mass in the retroareolar area. Origin: H.Dr Peset, Valencia (Spain)
**Description:** Close-up mediolateral oblique image demonstrated an ill-defined, high-density mass in the retroareolar area. **Origin:** H.Dr Peset, Valencia (Spain)
Figure 2

Description: Normal mammography of the left breast. Origin: H.Dr Peset, Valencia (Spain)
Description: Normal mammography of the left breast. Origin: H.Dr Peset, Valencia (Spain)
**Description:** Ultrasound showed hypoechoic, mass-like lesion in the right breast. **Origin:** H.Universitario Dr.Peset, Valencia (Spain)
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