

TWO FOREIGN BODY REACTIONS CAUSED BY SUTURE MATERIALS: MAMMOGRAMS MIMIC CANCER AS A SPICULATED LESION

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A spiculated breast lesion on mammogram is highly suggestive of malignancy. However, it can be seen on rare occasions in benign conditions including foreign body associated granuloma. We describe two foreign body reactions in the breast caused by suture materials and describe the clinical, radiological and pathological features.

Key-words: Breast neoplasms – Granuloma.

Spiculated margin of a breast lesion on mammography is a strong clue of malignancy. However, benign breast lesions showing an architectural distortion with thin lines radiating from its margins can mimic breast cancer. These lesions include radial scar, fat necrosis, postoperative scar, sclerosing adenosis, granuloma (1-3). Surgical material causing foreign body type granulomatous reaction and mimicking malignancy on mammography is a very rare entity (4). We report on two foreign body granulomas associated with suture materials simulating breast cancer on mammograms.

Case 1

A 60-year-old woman was admitted to the hospital with mastodynia. She had a history of breast biopsy four years previously. Pathologic examination had showed fibroadenoma. Physical examination revealed no abnormality. Ultrasonographic examination showed retroareolar ill-defined hypoechoic mass with 50 x 30 mm dimensions. Mammogram showed a spiculated mass without microcalcification on the left breast (Fig. 1). According to the American College of Radiology Breast Imaging and Reporting Data Systems (BIRADS), the malignancy risk was high (Category 4). To exclude malignancy the mass was biopsied under ultrasound guidance using 14-gauge tru-cut biopsy needle. Histopathological examination determined foreign body reaction with multinuclear histiocytes including cytoplasmic foreign bodies.

Case 2

An 83-year-old woman who had a history of right breast cancer and

mastectomy four years previously was admitted for breast screening. Her physical examination was normal. She had also undergone biopsy in left breast forty years ago and a benign lesion was diagnosed. Mammograms determined a new spiculated lesion on left breast (Fig. 2). BIRADS Category 4 lesion was not observed on previous mammograms. Ultrasonographic

examination also showed hypoechoic lesion, 4 mm in diameter, with distortion. Mammography guided wire localization biopsy was performed. It was reported that suture material with abscess formation, histiocytes, granuloma with lymphocytes and foreign body giant cells pathologically. The final diagnosis was foreign body granuloma.

Discussion

Local irritant effects of a foreign body may cause granuloma in human body. Silicone granuloma and paraffinomas are the most common reported foreign body



Fig. 1. — Case 1. Craniocaudal mammogram of the left breast showed a mass with spiculations in the central part of the breast.

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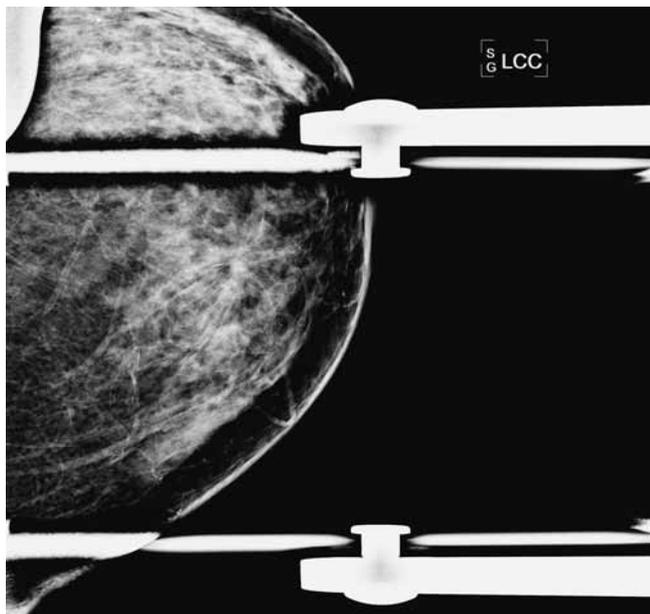


Fig. 2. — Case 2. Cranio-caudal compressed mammogram of the left breast determined a spiculated lesion with radiodense centre.

granulomas in the breast (5-7). The other reported foreign bodies were suture marking of the stereotactic vacuum-assisted breast biopsy site, gunpowder, gauze sponge, tungsten particles (4, 8-12). Besides foreign body, breast granulomas may be associated with connective tissue disease, tuberculosis, sarcoidosis, Wegener's granulomatosis and amyloidosis (13-15). On mammography, foreign body reaction can be seen as calcifications, or a mass simulating malignancy with partially circumscribed or ill-defined margins or spiculated characteristics (4, 5, 8-11, 16).

We described two foreign body granuloma of the breast with clinical, radiological and pathological features. In case 2, mammography showed a new spiculated lesion on the left breast of the woman who had a history of right breast cancer and mastectomy. This new lesion might be late foreign body reaction with granuloma and abscess formations as pathology determined.

Although spiculated margin can be observed both on benign and malign processes, the history of biopsy may be a clue to consider the possibility of foreign body reaction for the radiologist and the surgeon. On the other hand, biopsy is useful to complement the investigation, in particular clinical examination seems normal.

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