



Traumatic Fat Necrosis of Breast

Palani N

Department of General Surgery, K.A.P. Viswanathan Government Medical College

Abstract : Traumatic fat necrosis of breast is a benign non suppurative inflammation of adipose tissue of breast. Halsted described it as an innocent lesion of breast resembling carcinoma(1). The incidence of traumatic fat necrosis is 0.6. Here we present a case of traumatic fat necrosis of breast as a consequence of previous fibroadenoma excision. The typical characteristics features of traumatic fat necrosis in mammogram, ultrasonogram and FNAC are discussed.

Keyword : traumatic fat necrosis, mammogram, ultrasonogram, FNAC

INTRODUCTION

Traumatic fat necrosis of the breast is a non suppurative inflammatory process, which may be confused with carcinoma clinically. So accurate diagnosis requires biopsy, radiographic assessment like mammogram and ultrasonogram breast, to differentiate it from carcinoma breast.

CASE HISTORY

51 years female, presented with a lump in left breast for past six months. There was no pain, nipple discharge, nipple retraction. Patient had undergone fibroadenoma excision in the same breast about 12 years back. Patient was P2L2 and attained menopause 5 years back. The lump was about the size of 4*3 cm over upper quadrant behind the previous circumareolar scar site, hard in consistency, irregular border, tethered to skin and not fixed to chest wall. Axilla was free. FNAC showed thick yellowish fluid and the smear showed thick proteinaceous fluid with basophilic debris suggestive of cystic lesion with calcification. Mammogram showed calcified oil cyst in left breast with BIRAD 2 score(5). Ultrasonogram breast showed well defined rounded cystic anechoic lesion with calcified wall and echogenic internal content at the site of previous scar.



The site of previous scar over the lump in upper outer quadrant

Excision of the breast lump was done. Through a radial incision made in the upper outer quadrant of left breast, the lump was excised in total. The lump showed oil cyst in it. Biopsy showed features suggestive of traumatic fat necrosis of breast- degenerated cystic lesion with proteinaceous fluid with no features of atypia.

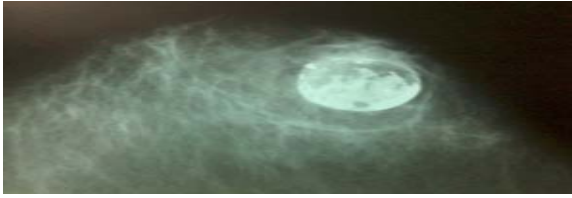


ultrasonogram breast -rounded cystic anechoic lesion with calcified wall and echogenic internal content

DISCUSSION:

The incidence of traumatic fat necrosis of breast is 0.6% . The average age of presentation is around 50 years - peri-menopausal women. The etiological factors are mainly trauma, radiotherapy, cyst aspiration, biopsy, lumpectomy, breast infection, anticoagulation. Rare causes include weber chrisitan disease, polyarteritis nodosa, granulomatous angiopanniculitis (1). Traumatic fat necrosis of breast is a sterile, inflammatory process. It is aseptic saponification of fat by means of blood and tissue lipase. After trauma to the breast, haemorrhage occurs and extravasate into the parenchyma. Blood dissects along the fibrous planes of breast (contusion). Oedema and swelling of the trabecular framework of the breast occurs and it leads to tissue ischaemia and pressure necrosis and disruption and fragmentation of fat cells. Histology shows fat filled macrophages and foreign body giant cells surrounded by interstitial infiltration of plasma cells. Healing occurs by brosis . Depending upon the degree of brosis, these areas are either replaced completely by brous tissue or remains

as a cavity. It presents as single or multiple smooth, round, firm nodules or irregular masses. It may be associated with ecchymosis, erythema, inflammation, pain, skin retraction or thickening, nipple retraction and lymphadenopathy. This picture is simulating carcinoma(1).



Mammogram calcified oil cyst BIRAD 2



Intraoperative excision shows oil cyst

FNAC is limited by inadequate samples. Core biopsy is often inadequate or indeterminate in the investigation of suspected fat necrosis in the breast. Mammography shows discrete round or oval radiolucent oil cyst with thin capsule, focal mass, and ill-defined spiculated mass. Oil cysts show uniform continuous eggshell calcification (5). Ultrasonogram shows anechoic cyst with posterior acoustic enhancement, hypoechoic mass with posterior acoustic shadowing, solid mass, cyst with internal echoes or cystic mural nodule(5). MRI is not useful during the first 6 months after trauma or surgery. After this period, hypovascular scar tissue develops, with little or no enhancement, providing an excellent distinction between old scarring and malignancy (2). In our case the patient presented with a hard lump, irregular border and skin tethering. The clinical picture more resembled like carcinoma breast. Previous history of fibroadenoma excision and the occurrence of a lump over the previous scar site and the typical oil cyst appearance in mammogram, and cystic anechoic lesion with a calcified wall with echogenic internal content in ultrasonogram breast and FNAC report of thick proteinaceous fluid with basophilic debris helped in the diagnosis of traumatic fat necrosis and in differentiating it from carcinoma breast.

CONCLUSION:

Traumatic fat necrosis clinically resembles carcinoma breast and is an important differential diagnosis for carcinoma breast. By means of typical characteristic findings of traumatic fat necrosis of breast in mammogram, ultrasonogram and FNAC, traumatic fat necrosis can be diagnosed and differentiated from carcinoma breast.

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