CASE REPORT

Granulomatous mastitis – a diagnostic dilemma

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Abstract Granulomatous lobular mastitis is a rare benign breast disease. It is characterized by chronic, non-caseating granulomatous lobulitis. It may be misdiagnosed as a carcinoma of the breast and may lead to mastectomy. Diagnostic criteria include – A) Granulomatous inflammation with multinucleated giant cells, epithelioid histiocytes. B) It is centered on lobules with minor ductal and periductal inflammation. C) It nearly always follows the pregnancy. A case of GLM, which was treated with local excision and postoperative steroid therapy is being reported to increase awareness amongst surgeons and pathologist.

Keywords Granulomatous mastitis · Carcinoma breast · Mastectomy

Introduction

Granulomatous lobular mastitis (GLM) is a rare benign breast disease, first described by Kessler and Wollock in 1972 [1, 2]. This disease usually affects young woman during reproductive period [2, 3]. It is characterized by chronic, non-caseating granulomatous lobulitis [1, 3]. A case of lobular granulomatous mastitis, which was treated with local excision and postoperative steroid therapy, is being reported. Pertinent literature is reviewed, aimed at increasing the awareness of GLM amongst all who treat breast lumps.

Case report

A 32-year-old, mother of two children, presented with a lump in the left breast, of two months duration. Lump was painless and noticed 4 years after the last delivery. She did not have history of trauma, nipple discharge, fever, cough, and weight loss. There was no history of carcinoma of the breast in her family. Examination of left breast revealed a solitary lump in outer quadrants. Lump was oval, not well circumscribed, tender and free from the skin, pectoral muscles and chest wall. Nipple, areola and ipsilateral axilla were normal. Clinical diagnosis was chronic mastitis or carcinoma of the breast. Total leucocyte count was 12400/ cmm, ESR- 25 mm/ hr. Patient was non reactive to HIV. FNAC picture was of chronic suppurative granulomatous inflammation and the possibility of a tubercular mastitis could not be ruled out. Excision biopsy of the lump was done for confirmation. Gross specimen revealed an irregular mass of breast tissue measuring $7 \times 5 \times 3$ cm. Cut section showed irregular, grey white and fatty tissue. Histopathology confirmed diagnosis of lobular granulomatous mastitis. Granulomas

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were composed of foreign and few epithelioid type of giant cells, lymphocytes and histiocytes, (Figs. 1 and 2). Focal granulomas showed neutrophilic inflammatory collection at the centre of the lesions. No fungus, foreign body or parasites were identified. Stains for fungus and acid fast bacilli were negative.

Discussion

Granulomatous lobular mastitis (GLM) is a rare granulomatous, noncaseating inflammation of unknown etiology [1]. The differential diagnosis includes plasma cell mastitis, periductal mastitis, subareolar granuloma, Wegener's granuloma, sarcoidosis, tuberculosis, histoplasmosis and fat necrosis [1, 3, and 4]. GLM may be mistaken for carcinoma

Fig. 1 Noncaseating granuloma within breast tissue. [Stain - Hematoxylin and Eosin. Low power view- ×10]

Fig. 2 Noncaseating granuloma with multinucleated giant cell. [Stain-Hematoxylin and Eosin. High power view- ×40].

and may lead to mastectomy as occasionally granulomas are associated with carcinoma of the breast [4]. Hence, GLM remains a diagnosis of exclusion and it should be entertained when all other known causes of granulomatous mastitis are ruled out [3]. GLM affects young females during reproductive period. Most of the patients are parous women below age of 50 years [4]. GLM is reported in association with pregnancy, lactation and use of oral contraceptive pills [4]. The commonest presentation of GLM is lump in breast except in the subareolar region. It may be unilateral or bilateral [1]. The most important differential diagnosis of GLM is tuberculosis (T. B.) mastitis [5]. TB mastitis usually affects young females. The commonest presentation is illdefined, irregular, hard and dull aching lump in the upper-outer quadrant of the breast with or without axillary lymph node enlargement [6]. Patient may have systemic manifestations of tuberculosis [5]. Cytopathology of TB mastitis reveals epithelioid histiocytes, Langhan's giant cells, granulomas and caseous necrosis [3, 5]. Demonstration of acid-fast bacilli in sections or positive culture for acid-fast bacilli confirms the diagnosis of TB mastitis. The presence of neutrophils is not a common feature in T.B.mastitis [5]. Pathological criteria for the diagnosis of GLM are [7] – Granulomatous inflammation with multinucleated giant cells, epithelioid histiocytes and occasional features of fat necrosis, abscesses, sinus tract and eosinophils. Schaumann and asteroid bodies are absent to rare. It is centered on lobules but extensive inflammation may obliterate lobulocentric feature. Usually minor ductal and periductal inflammation is seen. A predominantly neutrophilic background and the absence of necrosis favor a diagnosis of GLM. It should be considered when high number of epithelioid histiocytes are seen. So, diagnosis of GLM requires histopathological samples, negative microbiological investigations and clinical correlation [5]. But the cytological diagnosis of granulomatous lobular mastitis is not easy because the features overlap with other diseases. In order to confirm the diagnosis trucut biopsy or excision biopsy of the lump is required [4]. The present patient had inconclusive FNAC and excision biopsy confirmed the diagnosis of GLM with most of criteria fulfilled. To achieve cure and avoid recurrence, patient was given prednisolone 40 mg / day in divided doses for 1 month. It was tapered over 3–4 weeks [1, 2, 3, and 4]. The patient is asymptomatic and free from recurrence with the follow up of one and half years.

Conclusion

Granulomatous lobular mastitis is a rare, benign breast disease which may clinically mimic tuberculosis mastitis or carcinoma of the breast. Increased awareness will improve the understanding as well as management of the disease.

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