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Case Report

Idiopathic granulomatous mastitis: a great diagnostic challenge

Dr. Deepak Kumar Singla[1]*, Dr. Parveen Rana[2], Dr. Gaurav Thami[2], Dr. Nivesh Agrawal[3], Dr. M.K Garg[3]

[1]Senior Resident, Department of Surgery, B.P.S Govt. Medical College For Women, Khanpur Kalan, Sonepat, Haryana, India.
[2]Assistant Professor, Department of Pathology, B.P.S Govt. Medical College For Women, Khanpur Kalan,Sonepat, Haryana, India.
[2]Assistant Professor, Department of Surgery, B.P.S Govt. Medical College For Women, Khanpur Kalan, Sonepat, Haryana, India.
[3]Professor, Department of Surgery, B.P.S Govt. Medical College For Women, Khanpur Kalan, Sonepat, Haryana, India.

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ABSTRACT

Idiopathic granulomatous mastitis is a rare chronic inflammatory lesion of breast which presents as a spectrum of diseases and is diagnosed only histological. It is often a diagnosis of exclusion in most of the cases. Medical and surgical treatments have been tried with varied success rates and till today no standard protocol could be made in its management though excision remains the treatment of choice in refractory cases which is associated with morbidity more due to psychological factors. In the present case, medical treatment was tried in the initial phase followed by wide excision.

1. Introduction

Idiopathic granulomatous mastitis (IGM) is a benign chronic inflammatory breast disease of unknown etiology which was first described by Kessler and Wolloch in 1972. It is characterized by chronic inflammatory granulomatous process characterized by presence of multinucleated epitheloid giant cells and other chronic inflammatory cells. Its etiology is unclear and mostly multifactorial. It is a great mimic and may simulate or even coexist with commonly occurring breast diseases like tuberculosis and carcinoma breast and hence great care should be taken in making diagnosis as the modality of treatment varies widely in accordance with the clinical scenario[1].

2. Case report

A 30 yr female presented with complaints of painful left sided breast mass with multiple sinus tracts and recurrent purulent discharge **(Figure 1)**. On examination, there was a tender mass present in medial half of left breast with overlying ulceration and maceration of skin with multiple healed sinus tracts and exudate. Routine blood investigations were within normal limits except for ESR which was 68 and mantoux test was only 8 mm in diameter. The Chest X-ray showed no findings suggestive of tuberculosis or any granulomatous disesase and mammography was also within normal limits showing a few dilated ducts. USG breast showed a vague ill defined mixed echotexture lesion in upper medial compartment of left breast with cystic degeneration (**Figure 2)**. FNAC showed scattered clusters of chronic inflammatory cells and was negative for any AFB. Medical treatment in the form of antibiotics and anti-inflammatory was given with no response. Wide excision was done and specimen sent for histopathology which showed features of chronic inflammatory granulomatous inflammation having multinucleated epithloid giant cells with foamy histiocytes, lymphocytes, plasma cells, and scattered areas of microabcesses **(Figure 3)**. A diagnosis of idiopathic granulomatous mastitis was hence made. Postoperative period was uneventful and the patient showed no recurrence during follow up.

Corresponding Author: Dr. Deepak Kumar Singla, Senior Resident, Department of surgery, B.P.S Govt. Medical College For Women, Khanpur Kalan, Sonipat, Haryana, India. **E-Mail:** drdeepaksingla86@gmail.com **Mobile:** +91-9992112257

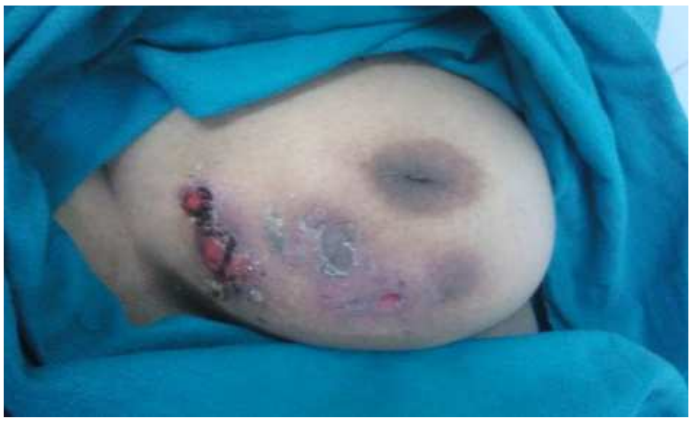

FIGURE 1: Clinical manifestation of granulomatous mastitis

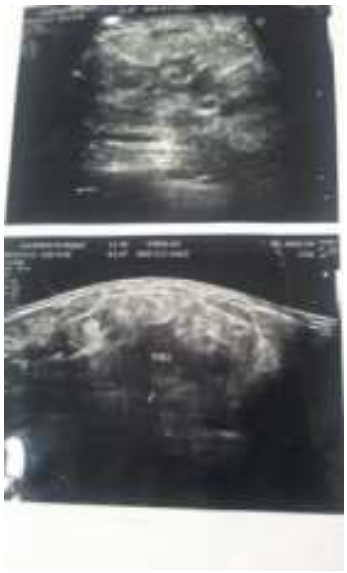

FIGURE 2: USG Breast showing features of granulomatous mastitis

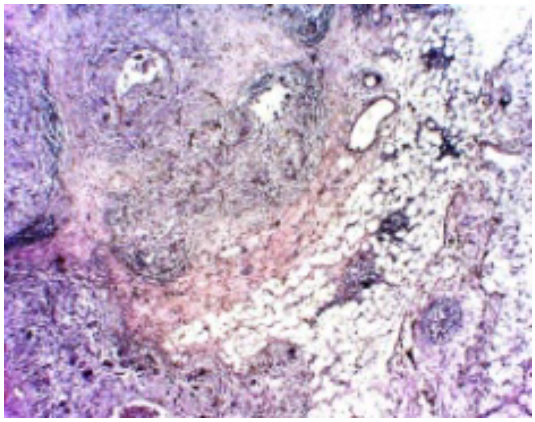

FIGURE 3: Histopathological features of granulomatous mastitis

3. Discussion

It is characterized by chronic non caseating granulomatous inflammation of breast lobules and mimics carcinoma often clinically and radiologically [1]. It is most commonly found in upper outer quadrant of breast. Its etiology is unclear and includes a variety of infectious, inflammatory and autoimmune factors. Various conditions associated with this condition include pregnancy, breast feeding, use of oral contraceptives, breast trauma, hyperprolactinemia, alpha 1 antitrypsin deficiency etc [2]. Its differential diagnosis include conditions characterized by granulomatous inflammation like tuberculosis, blastomycosis, sarcoidosis, wegener's granulomatosis, polyarteritis nodosa, local trauma, drugs like antipsychotics, exposure with local chemical or local irritants. Its pathogenesis includes extravasation of luminal contents from breast lobules due to yet unknown factors which leads to infilteration by chronic inflammatory cells, foreign body reaction and granulomatous inflammation. It is characterized microscopically by features of chronic granulomatous inflammation like multinucleated epitheloid giant cells, plasma cells, microabcesses, neutrophils with or without areas of necrosis [3]. Patients may present with clinical features like gradually progressive breast lump with or without skin ulceration, multiple and recurrent breast abcesses, nipple retraction, sinuses, axillary lymphadenopathy, peau de orange appearance etc. and it is likely to be confused with malignancy The diagnosis is one of exclusion and is histological only as there are no specific clinical or radiological features to diagnose this condition. Mammography features are often nonspecific showing altered density of fibroglandular breast tissue. USG breast shows single or multiple inhomogenous hypoechoic areas with scattered areas of varying echogenicities and parenchymal distortion with acoustic shadowing and internal tubular hypoechoic extensions from dominant mass connecting with nearby masses. It may also reveal axillary lymphadenopathy if present. FNAC shows multiple isolated areas of epitheloid giant cells, neutrophils, lymphocytes but lacks sensitivity as well as specificity [4]. MR mammography shows ring or nodular enhancement of solid masses as well as presence of fistulous tracts. It also gives a fairly good idea regarding activity and extent of lesion but it is not able to differentiate it from carcinoma breast. Core biopsy whether open or ultrasound guided is the treatment of choice and shows typical features of chronic non caseating granulomatous inflammation in lobular distribution with or without microabcess formation along with multinucleated epitheloid giant cells, plasma cells and excised tissue may be used for ruling out fungal and bacterial infection by use of stains and PCR [5]. There are many controversies regarding treatment which includes both medical and surgical modalities. Medical treatment includes broad spectrum antibiotics to control infection. It also involves use of steroids like prednisolone in doses 60 mg/kg/day especially in recurrent and refractory cases which need to be tapered to prevent relapse. They may be used preoperatively as well as postoperatively [6]. But steroids have got multiple side effects on long term usage and hence other immunosuppressive drugs like methotrexate and azathioprine have been used in low doses mainly as steroid sparing agents to maintain remission [7]. Surgery is useful both for diagnosis as well as treatment particularly when there is suboptimal response to medical treatment. It includes wide local excision, incision and drainage and rarely mastectomy. Respected specimen is sent for histopathological examination along with bacilli and fungal detection by staining and PCR. In most of the cases, wide local excision suffices but mastectomy is required in extensive and recurrent lesions [8]. Complications include skin ulceration, fistula formation, disfigurement and recurrence.

4. Conclusion

Granulomatous mastitis is a known clinical entity mimicking tuberculosis and carcinoma closely. Preoperatively, the available investigations may not help in arriving at the diagnosis. Medical treatment has been tried with limited success. Surgery remains the treatment of choice both for diagnostic and therapeutic purpose and histopathology clinches the diagnosis.

Conflict of interest statement

We declare that we have no conflict of interest.

Acknowledgement

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