International Journal of Medical Science and Research
www.medicaljournals.in
Online ISSN: 2664-8768, Print ISSN: 2664-875X
Received: 04-05-2024, Accepted: 25-05-2024, Published: 19-06-2024
Volume 6, Issue 2, 2024, Page No. 32-34

Story of masquerading breast carcinoma clinical dilemma; Cytology pride

K Geetha Mala[1], Pooja S C[2*], Rashmi K Patil[3], Rekha M Haravi[4]
[1] Assistant Professor, Department of Pathology, Belagavi Institute of medical sciences, Belagavi, Karnataka, India
[2] Department of Pathology, Belagavi Institute of medical sciences, Belagavi, Karnataka, India
[3] Associate Professor, Department of Pathology, Belagavi Institute of medical sciences, Belagavi, Karnataka, India
[4] Professor and Head, Department of Pathology, Belagavi Institute of medical sciences, Belagavi, Karnataka, India

Abstract
Background: Idiopathic Granulomatous Mastitis (IGM) is a rare chronic breast disease affecting young women. Herein we present a case report of a lady presented to the surgery department with complaints of enlarging left breast mass and discharging sinuses since 4 months of duration. The case was clinically and radiologically diagnosed as breast carcinoma. Fine needle aspirations and wide excision of the lesion showed features of granulomatous mastitis. The diagnosis is by exclusion with cytology and histologic studies being the confirmatory.

Keywords: Granulomatous mastitis, breast carcinoma, cytology

Introduction

Idiopathic Granulomatous Mastitis (IGM) was first reported by Kessler and wolloch in 1972 [1]. It is a rare chronic breast disease affecting young women most commonly seen in parous women of reproductive age [1]. Clinically manifests as enlarging breast mass that mimics a breast carcinoma and can be associated with pain, lymphadenopathy, nipple or skin retraction and even with discharging sinuses [1].

IGM is diagnosed after excluding the other causes of granulomatous lesions in the breast [2]. The histological sections shows non caseating granulomas and most of the time it is diagnosis of exclusion [3]. Definitive treatment protocol has not been identified yet, literature recommend surgical removal or medical treatment with antibiotics, corticosteroids, immunosuppressants and anti-inflammatory drugs as treatment options [4]. Here we report a case of idiopathic granulomatous mastitis which clinically mimicked breast carcinoma.

Case Details

A 28 year women, presented to the surgery department with complaints of enlarging left breast mass of 5x4cm and three overlying discharging sinuses since 4 months of duration (Fig 1). There was no significant past or family history. Ultrasonography done showed ill-defined hypoechoic mass with three tubular extensions reaching the overlying skin surface, hence reported as infective etiology with sinus formation and axillary lymphadenopathy but possibility of breast neoplasm cannot be ruled out. The case was clinically diagnosed as breast carcinoma.

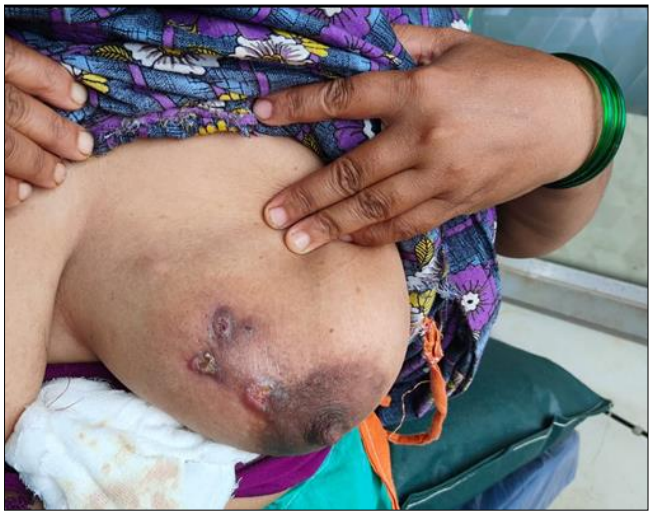

Fig 1: Clinical image showing left breast mass of 5x4cm with three discharging sinuses

Fine needle aspiration cytology (FNAC) done showed multiple epithelioid cell granulomas, scattered epithelioid cells in the background of neutrophils, plasma cells, lymphocytes with lymph node also showing granulomas (Fig 2a-d). Ziehl Neelsen (ZN)stain for acid fast bacilli was negative, thus cytologically diagnosed as granulomatous mastitis. The patient underwent wide excision and histopathology also showed features of granulomatous mastitis (3a, b). Culture, CBNAAT and special stains for bacteria, mycobacteria and fungi were negative, finally the case was reported as IGM. The patient was discharged with drugs and doing well with follow up.

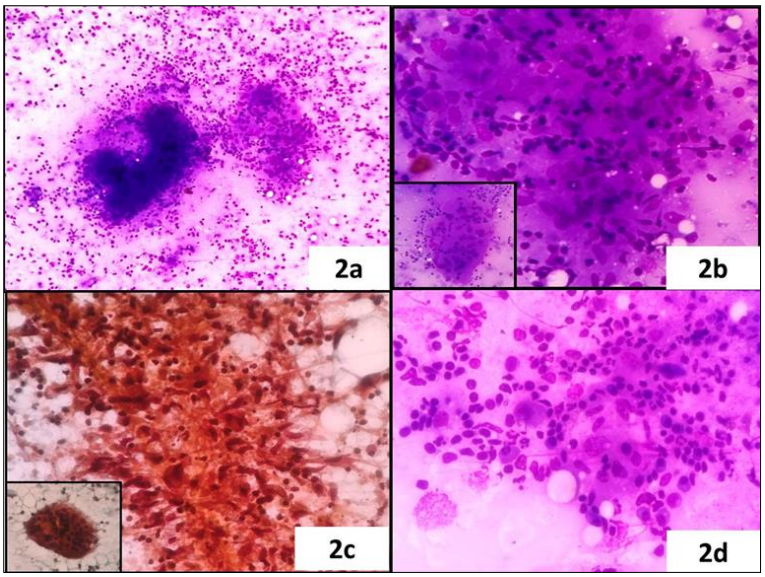

Fig 2a: Breast cytology highly cellular smear with epithelioid cell granulomas (Giemsa 10x) **Fig 2b:** Cytology smear with granuloma and inset showing giant cell (Giemsa 40x) **Fig 2c:** Cytology smear with granuloma and inset showing giant cell (Pap 40x) **Fig 2d:** Background showing scattered neutrophils and plasma cells (Giemsa 40x)

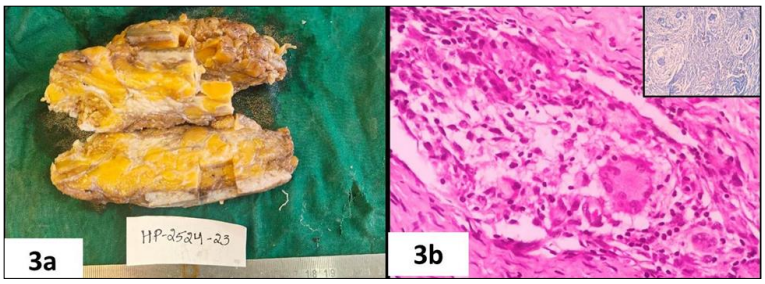

Fig 3a: Gross image showing breast parenchyma with firm rubbery areas **Fig 3b:** Granuloma with giant cells (H&E 40x) inset showing ZN stain negative

Discussion

IGM is a rare chronic inflammatory breast disease first described by Kessler and Wallooch in 1972 [1]. Literature search hypothesized autoimmune or hypersensitivity reaction as the etiopathogenesis [1, 5]. They present as an enlarging palpable mass with or without involvement of skin ulceration, sinuses and enlarged lymph nodes. Non specific imaging findings and clinical manifestation makes it very similar in appearance to malignancy which correlated with our study [1, 5]. Hence, this clinical entity poses diagnostic dilemma.

Punyashetty Kajal B *et al* [6] studied 24 cases of IGM, all patients presented with breast lump, 4 cases with abscess, 3 with axillary lymphadenopathy and one with discharging sinuses which was also seen in our case. G M K T se *et al* [7] had done FNAC's of 8 cases which had granulomas, epithelioid cells without necrosis and 6 of them showed predominantly neutrophils with other inflammatory cell which is similar to our case.

FNAC as a diagnostic tool in reporting IGM has been debated and some studies confirms its useful role in preventing from unnecessary radical surgery [8-10]. Presence of epithelioid cells singly scattered or forming granulomas has been reported in all cases of granulomatous mastitis in the literature, akin to our index case [1, 5, 8]. Paramount features of absent caseous necrosis and negative ZN stain for acid fast bacilli were also in favour of IGM. Further, confirmation by histopathological examination is in consensus with present case [1-5]. The entity has good prognosis with medical and surgical line of management [8, 9, 10].

Conclusion

IGM is a challenging chronic unusual but distinctive disease of breast. The diagnosis is by exclusion with cytology as an initial investigation and histologic studies being the confirmatory. The present case report emphasizes the awareness of this rare entity which masquerades clinically as breast carcinoma

References

1. Halim NA, Uthman I, Rammal R, Assi HI. Idiopathic Granulomatous Mastitis Presenting as a Breast Pseudotumor: Case Reports with Review of the Literature. Case Rep Rheumatol,2018:27:412-26.
2. Bakaris S, Yuksel M, Ciragil P, Guven MA, Ezberci F, Bulbuloglu E. Granulomatous mastitis including breast tuberculosis and idiopathic lobular granulomatous mastitis. Can J Surg,2006:49(6):427-30.
3. Hashmi MU, Masood A, Yaseen S, Azam H. Idiopathic Granulomatous Mastitis: A Rare Confrontation. Cureus,2021:13(11):e19420.
4. Shabani S, Sadeghi B, Zarinfar N, Sarmadian R. Idiopathic granulomatous mastitis: A case report and literature review. Clin Case Rep,2023:11(9):e7819.
5. Kuba S, Yamaguchi J, Ohtani H, Shimokawa I, Maeda S, Kanematsu T. Vacuum-assisted biopsy and steroid

therapy for granulomatous lobular mastitis: report of three cases. Surg Today,2009:39(8):695-9.
6. Kajal, B Punyashetty, *et al*. "Granulomatous Mastitis: A Masquerading Entity." *Indian Journal of Pathology: Research and Practice*,2017:6:398-403.
7. Tse GM, Poon CS, Law BK, Pang LM, Chu WC, Ma TK. Fine needle aspiration cytology of granulomatous mastitis. J Clin Pathol,2003:56(7):519-21.
8. Kumarasinghe MP. Cytology of granulomatous mastitis. Acta Cytol,1997:41:727-30.
9. Yip CH, Jayaram G, Swain M. The value of cytology in granulomatous mastitis: a report of 16 cases from Malayasia. Aust N Z J Surg,2000:70:103-5.
10. Gangopadhyay M, De A, Chakrabarti I, Ray S, Giri A, Das R. Idiopathic granulomatous mastitis-utility of fine needle aspiration cytology (FNAC) in preventing unnecessary surgery. J Turk Ger Gynecol Assoc,2010:11(3):127-30.