IOSR Journal of Dental and Medical Sciences (IOSR-JDMS)
e-ISSN: 2279-0853, p-ISSN: 2279-0861.Volume 25, Issue 5 Ser. 4 (May. 2026), PP 15-18
www.iosrjournals.org

Idiopathic Granulomatous Mastitis Presenting As Recurrent Breast Abscess: A Case Report

Arjun Chaudhary, Sanjeev Agarwal, Dushyant Kumawat,
Yogesh Kumar Baberwal
Department Of General Surgery, Geetanjali Medical College And Hospital, Udaipur, Rajasthan, India

Abstract
Idiopathic Granulomatous Mastitis (IGM) is a rare benign inflammatory breast disorder that often mimics infectious mastitis or malignancy, leading to delayed diagnosis and repeated ineffective interventions. We report the case of a 31-year-old non-lactating woman who presented with recurrent left breast abscesses unresponsive to antibiotics and multiple incision and drainage procedures. Serial imaging showed progressive and recurrent collections, while repeated microbiological investigations were consistently negative. Histopathology demonstrated fluctuating findings, ultimately confirming necrotizing granulomatous mastitis. After exclusion of infectious, malignant, and systemic granulomatous diseases, a definitive diagnosis of IGM was established, and corticosteroid therapy was initiated. This case highlights the diagnostic complexity, variable histopathology, and recurrent course of IGM, underscoring the importance of histological confirmation and a multidisciplinary approach for effective management.

Keywords: *Idiopathic granulomatous mastitis; Recurrent breast abscess; Granulomatous inflammation; Corticosteroid therapy*

Date of Submission: 19-05-2026 Date of Acceptance: 29-05-2026

I. Introduction

Idiopathic Granulomatous Mastitis (IGM) is a rare, benign, chronic inflammatory disorder of the breast characterized by a heterogeneous clinical presentation and an incompletely understood etiology, posing significant diagnostic and therapeutic challenges [1,2]. It predominantly affects women of reproductive age, frequently with a history of pregnancy and lactation, although occurrence in non-lactating individuals has been reported. Histopathologically, IGM is defined by non-caseating granulomatous inflammation centered on breast lobules, often associated with microabscess formation and multinucleated giant cells, in the absence of identifiable infectious or systemic granulomatous causes [3,4]. Clinically and radiologically, IGM can closely mimic breast abscesses and malignancy, frequently resulting in diagnostic uncertainty, delayed diagnosis, and suboptimal management [5]. The absence of standardized treatment guidelines, coupled with a high risk of recurrence, further complicates clinical management. This case report describes a protracted and recurrent course of IGM in a non-lactating woman, underscoring the diagnostic complexity and the importance of a multidisciplinary approach to optimize outcomes.

II. Case Report

A 31-year-old female (P2L2A0) with regular menstrual cycles and no history of lactation presented with a 20-day history of a painful left breast lump associated with fever. Examination revealed erythema, dilated veins, and a firm-to-hard, tender mass measuring approximately 4 × 2 cm in the upper inner quadrant adjacent to the nipple–areolar complex, without nipple discharge or local temperature rise. Ultrasonography showed an irregular heterogeneously hypoechoic lesion (48 × 22 mm) with indistinct margins, suggestive of a breast abscess. She was initially treated with antibiotics with a plan for follow-up.

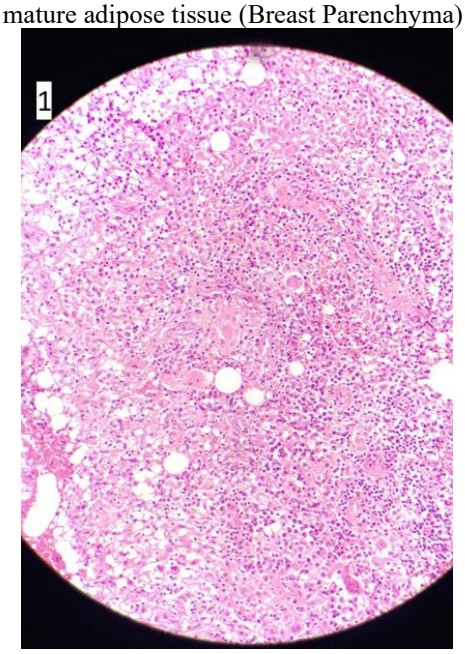
One month later patient presented with findings of local warmth, tenderness, fluctuation, and erythema. Repeat ultrasonography demonstrated a large retroareolar and upper inner quadrant abscess measuring 74 × 51 × 52 mm with surrounding fat stranding. Emergency incision and drainage yielded approximately 200 ml of pus. Microbiological evaluation, including bacterial culture, KOH mount, Ziehl–Neelsen staining, GeneXpert, and acid-fast bacilli culture, was negative. Histopathology revealed chronic necrotizing granulomatous mastitis. The patient was discharged on intravenous antibiotics and analgesics.

Approximately 1.5 months later, she re-presented with recurrent symptoms, including local warmth, tenderness, fluctuation at the 12 o'clock position, induration at the 3 and 9 o'clock positions, and pus discharge. Ultrasonography showed diffuse edema with multiple small collections (4–7 cc). Incision and drainage at three sites drained approximately 100 ml of pus. Repeat microbiological studies were negative. Histopathology showed acute on chronic mastitis with mixed inflammatory infiltrates, without granuloma, dysplasia, or malignancy.

One month later, persistent symptoms prompted a third drainage. Examination revealed multiple surgical wounds with fluctuation and healthy granulation tissue. Ultrasonography showed multiple pus pockets, the largest measuring 1.5 × 1.3 × 3 cm. Minimal pus was drained. Histopathology confirmed acute on chronic necrotizing granulomatous mastitis, establishing a diagnosis of IGM. The patient was discharged on oral antibiotics.

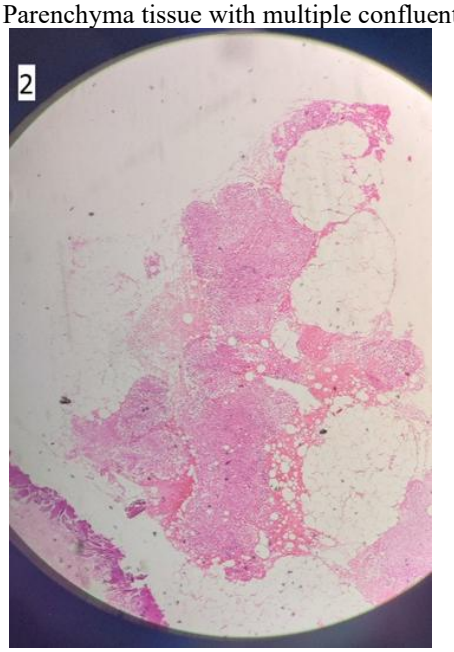
Three months later, she developed another recurrence with tenderness, erythema, and local warmth. Ultrasonography revealed multiple small collections involving all quadrants of the left breast and the nipple–areolar complex (2–3 cc). Given the recurrent course and prior histopathology, a diagnosis of IGM with recurrent breast abscess was made. Aspiration was planned, and rheumatologic evaluation was undertaken. Investigations including serum calcium, albumin, 24-hour urinary calcium, serum ACE (Angiotensin-Converting Enzyme), c-ANCA (Cytoplasmic Anti-Neutrophil Cytoplasmic Antibodies), and p-ANCA (Perinuclear Anti-Neutrophil Cytoplasmic Antibodies) were performed, and corticosteroid therapy was initiated. The patient was discharged on oral antibiotics with follow-up advice.

1. H&E Stain section shows multiple confluent granulomatous and Langerhans type of giant cells & chronic inflammatory cell infiltrating into mature adipose tissue (Breast Parenchyma)



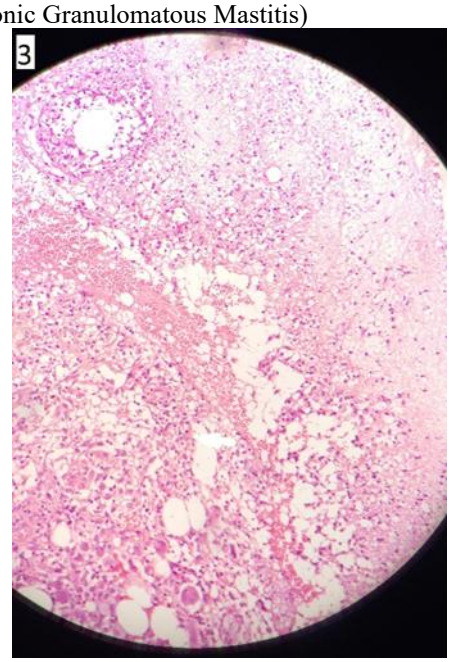
20x X 10x = 100x (Magnification)

2. H&E Stain section shows Breast Parenchyma tissue with multiple confluent granulomas



2x X 10x = 20x (Magnification)

3. H&E Stain section shows foci of necrosis with acute inflammatory exudate & granuloma formation involving breast parenchyma (Acute on Chronic Granulomatous Mastitis)



20x X 10x = 200x (Magnification)

III. Discussion

This case underscores the diagnostic and therapeutic challenges associated with IGM, a rare chronic inflammatory breast disorder. The presentation with recurrent breast masses and abscesses mimicking infectious mastitis is characteristic and often leads to misdiagnosis and ineffective antibiotic-based management [1]. The clinical overlap with bacterial infection and malignancy further contributes to diagnostic uncertainty.

Repeated microbiological investigations, consistently negative for pathogens including acid-fast bacilli, were essential in excluding infectious etiologies such as tuberculosis, a key differential diagnosis in granulomatous breast disease [3]. Histopathological evaluation remains central to diagnosis and typically demonstrates non-caseating granulomas centered on breast lobules with associated microabscess formation [4]. In this case, fluctuating histopathological findings, ranging from granulomatous mastitis to acute on chronic inflammation without granulomas, reflect variability in disease activity and tissue sampling, a recognized diagnostic limitation in IGM. Exclusion of other granulomatous conditions and malignancy, supported by comprehensive laboratory evaluation including markers for sarcoidosis and vasculitis, is critical for definitive diagnosis [6].

Although repeated incision and drainage procedures provided temporary symptomatic relief, they failed to address the underlying non-infectious, inflammatory process, resulting in recurrence. This highlights the limited role of surgical management alone in IGM [7]. Initiation of corticosteroid therapy, following exclusion of infectious causes and multidisciplinary evaluation, represents a key step in management, targeting the underlying immune-mediated inflammation [2]. IGM predominantly affects parous women of reproductive age, although it may also occur in non-lactating individuals, as observed in this case [1,4].

IV. Conclusion

This case vividly illustrates the complexities in diagnosing and managing Idiopathic Granulomatous Mastitis. The recurrent nature of breast abscesses, despite multiple surgical drainages and antibiotic courses, coupled with consistently negative microbiological results and characteristic histopathological findings of non-caseating granulomas, ultimately led to the diagnosis of IGM. The involvement of a multidisciplinary team, including general surgeons, pathologists, and rheumatologists, was crucial in navigating the diagnostic labyrinth and implementing an appropriate treatment strategy. This case emphasizes that IGM should be considered in the differential diagnosis of recurrent breast abscesses in women of reproductive age, even in the absence of active lactation, and that early initiation of corticosteroid therapy, following rigorous exclusion of infectious etiologies and other granulomatous diseases, is essential for improving patient outcomes and preventing further recurrence.

References:

[1] Benlghazi A, Messaoudi H, Belouad M, Ait Bouhou R, Elhassani Mm, Kouach J. Idiopathic Granulomatous Mastitis: A Challenging Case Report And Comprehensive Review Of The Literature. Int J Surg Case Rep 2024;118:109555. Https://Doi.Org/10.1016/J.Ijscr.2024.109555.

[2] Younis S, Emayof M, Hossen M. Idiopathic Granulomatous Mastitis: A Case Report. Alqalam Journal Of Medical And Applied Sciences 2025;8:32–5. Https://Doi.Org/10.54361/Ajmas.258105.

[3] Gupta N, Vats M, Garg M, Dahiya Ds. Bilateral Idiopathic Granulomatous Mastitis. Bmj Case Reports Cp 2020;13:E234979. Https://Doi.Org/10.1136/Bcr-2020-234979.

[4] Timirau Wm, Sari E, Shahid M, Guzman N, Villegas A. Idiopathic Granulomatous Lobular Mastitis: A Case Report. Hca Healthcare Journal Of Medicine 2024;5:13. Https://Doi.Org/10.36518/2689-0216.1684.

[5] Ahmed H, Steinhoff M, Al-Merekhi H, Abu Shaikha S. Idiopathic Granulomatous Lobular Mastitis Emulating Breast Carcinoma: A Case Report. J Med Case Rep 2025;19. Https://Doi.Org/10.1186/S13256-025-05548-W.

[6] Hamsho S, Alaswad M, Alsmodi H, Sleiay M, Hoha G, Alcheikh S. Idiopathic Granulomatous Mastitis With Extramammary Manifestations: A Case Report. Annals Of Medicine & Surgery 2023;85:6192–5. Https://Doi.Org/10.1097/Ms9.0000000000001397.

[7] Tang Els, Ho Csb, Chan Pmy, Chen Jjc, Goh Mh, Tan Ey. The Therapeutic Dilemma Of Idiopathic Granulomatous Mastitis. Ann Acad Med Singap 2021;50:598–605. Https://Doi.Org/10.47102/Annals-Acadmedsg.2020645.