fortune Journals

Research Article

FORTUNE JOURNAL OF HEALTH SCIENCES

ISSN: 2644-2906

Granulomatous Mastitis in Bangladesh: Pattern of Occurrence, Treatment Strategies and Prognosis

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Abstract

Background: Granulomatous mastitis (GM) is an uncommon chronic inflammatory breast disease that clinically and radiologically mimics carcinoma. Differentiating between idiopathic granulomatous mastitis (IGM) and tubercular granulomatous mastitis (TGM) remains a diagnostic challenge, particularly in endemic regions like Bangladesh.

Aim of the study: This study aimed to evaluate the clinical presentation, histopathological features, diagnostic challenges, and management outcomes of patients with granulomatous mastitis in a tertiary care center in Bangladesh.

Methods: The study was conducted in Ahsania Mission Cancer and General Hospital (AMCGH), a tertiary care facility located in Dhaka, Bangladesh, in the Department of Surgery, between January 2021 and December 2024. Additional data were collected from a limited number of cases managed under the private surgical practice at Uttara Popular Diagnostic Center.

Result: Among 98 patients, 80(81.63%) were diagnosed with idiopathic granulomatous mastitis and 18 (18.36%) with tubercular granulomatous mastitis. The mean age was 32.6 ± 6.8 years, with 90.3% of cases occurring in parous, premenopausal women. The most common presentation was a painful unilateral breast lump (77.4%). Radiological features were non-specific, and definitive diagnosis was made via core needle biopsy and histopathology. Anti-tubercular therapy was effective in TGM cases, while IGM was managed with corticosteroids and, in some cases, surgical excision. Recurrence was noted in 12.24% of IGM cases.

Conclusion: Granulomatous mastitis poses significant diagnostic and therapeutic challenges due to its clinical resemblance to malignancy and overlapping features between IGM and TGM. Histopathological confirmation remains essential, and treatment should be tailored based on etiology, emphasizing the need for accurate differentiation in endemic settings.

Keywords: Idiopathic granulomatous mastitis, Tubercular mastitis, Breast lump, Histopathology, Bangladesh, Chronic mastitis, Anti-tubercular therapy

Introduction

Granulomatous mastitis (GM) is an uncommon but clinically significant chronic inflammatory condition of the breast that poses considerable challenges in both diagnosis and management [1]. It generally presents in two major forms: tubercular granulomatous mastitis (TGM), associated with Mycobacterium tuberculosis, and idiopathic granulomatous mastitis (IGM), a non-infectious

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Citation: Leea Amin, Mir Md Arafat Hossain, Muhammad Abdullah Bin Fahad, Md Bayezid khan, Sharukh Malik, Malay Halder Plabon, Devendra Raj Shah. Granulomatous Mastitis in Bangladesh: Pattern of Occurrence, Treatment Strategies and Prognosis. Fortune Journal of Health Sciences. 9 (2026): 11-16.

Received: December 15, 2025
Accepted: December 22, 2025
Published: January 6, 2026

Amin L, et al., Fortune J Health Sci 2026
DOI:10.26502/fjhs.386

lobulocentric inflammation of unknown etiology [2]. Globally, GM accounts for approximately 1.8% of benign breast diseases, and recent literature suggests a rising incidence in low- and middle-income countries due to improved diagnostic capabilities and increasing awareness among clinicians [3]. In Bangladesh, where tuberculosis (TB) remains endemic, hospital-based data indicate that 3% of chronic breast conditions may be attributable to granulomatous causes, with mammary tuberculosis being the most commonly reported subtype [4]. The pattern of occurrence of GM in Bangladesh is shaped by several socio-demographic and epidemiological factors. According to the Parvin (2023), Bangladesh reports an estimated TB incidence of 221 per 100,000 population, which contributes to the higher frequency of extrapulmonary presentations like breast TB [5]. On the other hand, IGM, first described by Kessler and Wolloch in 1972, is a relatively rare inflammatory disease that mostly affects young, parous women in the second to fourth decade of life, usually within a few years of childbirth or breastfeeding [6]. Hormonal influence, autoimmune processes, and localized immune dysregulation have all been postulated as contributing factors, though the exact etiology remains elusive [7]. Clinically, GM whether tubercular or idiopathic often presents with nonspecific symptoms such as palpable breast masses, pain, erythema, nipple retraction, fistula formation, and even axillary lymphadenopathy, making it challenging to distinguish from breast carcinoma or bacterial abscess [8]. The overlapping clinical and radiological features lead to frequent misdiagnosis and delayed treatment. Conventional diagnostic tools such as fine-needle aspiration cytology (FNAC), acid-fast bacilli (AFB) staining, and culture often yield inconclusive results, especially for tubercular cases due to their paucibacillary nature [9]. Advanced molecular techniques like PCR and histopathological examination with granuloma identification remain the cornerstones for definitive diagnosis [10]. The treatment strategies for GM are not yet standardized and are often tailored to the underlying etiology. Tubercular mastitis generally responds well to anti-tubercular therapy (ATT), but delayed recognition may lead to persistent sinus tracts or chronic infection [11]. Management of IGM is more controversial, involving a combination of corticosteroids, immunosuppressants e.g., methotrexate or azathioprine, and surgical interventions such as drainage, wide local excision, or in rare cases, mastectomy [12]. Recurrence is not uncommon, particularly in IGM, and long-term monitoring is essential to prevent complications and optimize outcomes [13]. Despite the increasing recognition of GM in clinical practice, there remains a paucity of published data from Bangladesh regarding its presentation, management protocols, and long-term outcomes [14]. Therefore, this study aims to present institutional experiences regarding the pattern of occurrence, **analyze** treatment modalities**,** and evaluate the prognosis in patients with granulomatous mastitis in a tertiary care center.

Methodology & Materials

This cross-sectional, retrospective study was conducted at Ahsania Mission Cancer and General Hospital (AMCGH), a tertiary care facility located in Dhaka, Bangladesh, in the Department of Surgery, between January 2021 and December 2024. Additional data were collected from a limited number of cases managed under the private surgical practice at Uttara Popular Diagnostic Center. The study protocol was approved by the Institutional Review Board of AMCGH, and informed consent was obtained from all participants prior to data collection.

Inclusion and Exclusion Criteria

A total of 98 female patients diagnosed with granulomatous mastitis during the study period were included in the study. The inclusion criteria were: (1) female patients aged 18 years or older; (2) histologically confirmed diagnosis of granulomatous mastitis; and (3) availability of complete clinical, histopathological, and microbiological data. Patients with incomplete records or those diagnosed with other breast pathologies, such as foreign body granulomas or granulomatous lymphadenitis (without breast involvement), were excluded from the study.

Data Collection

Data for this study were collected retrospectively from the medical records of patients diagnosed with granulomatous mastitis during the study period. Demographic information, including age, body mass index (BMI), parity, lactational status, menopausal status, and history of smoking or breast trauma, was extracted from patient files. Additionally, details on the use of hormonal contraceptives, family history of breast cancer, and any prior history of breast cancer were gathered. Clinical presentation data were carefully documented, including the main presenting symptoms such as breast pain, breast lump, nipple discharge, skin retraction or discoloration, and axillary lymphadenopathy. The side of breast involvement (right, left, or bilateral) and the clinical stage at the time of presentation were also recorded. For diagnostic evaluation, all patients underwent ultrasound imaging, and the findings, including the presence of hypoechoic masses, abscesses, sinus tracts, or other abnormalities, were documented. Regarding biopsy procedures, data on the techniques used, such as core needle biopsy, fine-needle aspiration (FNA), or excisional biopsy, were recorded. Core needle biopsy was the predominant technique. Histopathological analysis of biopsy specimens was conducted to assess the presence of granulomatous inflammation, multinucleated giant cells, caseating granulomas, and non-caseating granulomas. Microbiological analysis for Mycobacterium tuberculosis (MTB) was also performed using Ziehl-Neelsen staining and GeneXpert PCR testing to identify the presence of MTB.

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All data were carefully reviewed to ensure completeness and accuracy, and only patients with complete clinical, histopathological, and microbiological data were included in the final analysis.

Statistical Analysis

Descriptive statistics were used to summarize the demographic characteristics, clinical presentation, diagnostic findings, treatment strategies, and outcomes. Categorical variables were expressed as frequencies and percentages, while continuous variables were presented as mean ± standard deviation (SD).

Result

Table 1 presented the demographic profile of the 98 individuals included in the study. The mean age was 32.8±7.4 years. Participants aged 30–39 years accounted for 40.00%, followed by 20–29 years with 36.67%, 40 years or above with 13.33%, and under 20 years with 9.17%. The mean BMI was 27.1±4.2 kg/m². Multiparous individuals were 76.67%, primiparous 17.50%, and nulliparous 5.83%. Lactating women comprised 65.83%, and non-lactating 34.17%. Premenopausal or perimenopausal status was seen in 85.00%, and postmenopausal in 15.00%. Current hormonal contraceptive users were 17.50%, never-users 55.00%, and unknown in 27.50%. amily history of breast cancer was reported by 5.83%, personal history in 0.83%, history of breast trauma in 4.17%, and smoking history in 9.17%. Table 2 outlined clinical and diagnostic features. Right breast involvement was found in 50.83%, left in 44.17%, and bilateral in 5.00%. Breast lump was reported in 98.33%, pain in 90.00%, skin retraction or discoloration in 28.33%, axillary lymphadenopathy in 21.67%, fever in 15.00%, and nipple discharge in 10.83%. Ultrasound revealed hypoechoic mass in 72.50%, abscess formation in 21.67%, and sinus tract in 5.83%. Core needle biopsy was performed in 94.17%, FNA in 5.00%, and excisional biopsy in 0.83%. Multinucleated giant cells were present in 81.67%, non-caseating granulomas in 74.17%, and caseating granulomas in 4.17%. AFB positivity on Ziehl–Neelsen stain was found in 2.50%, and GeneXpert confirmed MTB in 0.83% (Table 3). Table 4 listed treatment strategies. Corticosteroids were used in 33.33%, oral antibiotics in 20.83%, incision and drainage in 16.67%, immunosuppressants in 11.67%, wide local excision in 6.67%, combined medical and surgical in 5.83%, and observation only in 5.00%. Complete resolution occurred in 79.17%, partial resolution in 12.50%, and recurrence in 7.50%. Mean time to resolution was 9.6±2.3 weeks. Wound infection occurred in 5.83%, steroid-related side effects in 4.17%, postoperative complications in 2.50%, and fistula formation in 1.67% (Table 5).

Table 1: Demographic characteristics of the study population (N=98)

Variable	Frequency (n)	Percentage (%)
Age (years)		
<20	3	3.06
20–29	22	22.45
30–39	52	53.06
≥40	21	21.43
Mean ± SD	32.8 ± 7.4	
BMI (kg/m²)		
Mean± SD	27.1 ± 4.2	
Parity		
Nulliparous	13	13.27
Primiparous	31	31.63
Multiparous	54	55.1
Lactational Status		
Lactating/Immediate Post	59	60.2
Non-lactating	39	39.8
Menopausal Status		
Premenopausal/ Perimenopausal	78	79.59
Postmenopausal (natural/ surgical)	20	20.41
Hormonal Contraceptive Use		
Current (at time of diagnosis)	21	21.43
None	66	67.35
Unknown	33	33.67
Family history of breast cancer (first-degree relative)	7	7.14
Lifetime history of breast cancer	1	1.02
History of breast trauma	5	5.1
Smoking History	11	11.22

Table 2: Clinical presentation and diagnostic features among the study population

Variable	Frequency (n)	Percentage (%)
Breast Involved		
Right	51	52.04
Left	44	44.9
Bilateral	3	3.06
Presenting Symptoms		
Pain	88	89.8
Breast lump	96	97.96
Nipple discharge	11	11.22
Skin retraction/discoloration	28	28.57
Axillary lymphadenopathy	21	21.43
Fever	15	15.31

Ultrasound Findings		
Hypoechoic mass	41	41.84
Mixed Echogenicity	29	29.59
Abscess formation	22	22.45
Sinus tract	6	6.12
Biopsy technique used		
Core needle biopsy	92	93.88
Fine-needle aspiration (FNA)	5	5.1
Excisional biopsy	1	1.02

Table 3: Histopathological and Microbiological Findings in the Study Population

Findings	Frequency (n)	Percentage (%)
Histopathologic Features		
Non-caseating granulomas	73	74.49
Multinucleated giant cells	80	81.63
Caseating granulomas	4	4.08
Microbiological Findings		
GeneXpert MTB positive	7	7.14
QuantiFERON-TB Gold (QFT-TB) negative	5	5.1
Other smear/culture positive	4	4.08

Table 4: Treatment strategies utilized in the management of granulomatous mastitis in the study population

Treatment Strategy	Frequency (n)	Percentage (%)
Conservative / Medical Management		
Observation only / Symptomatic care (e.g., analgesics, compresses)	6	6.12
Anti-inflammatory drugs (NSAIDs only)	8	8.16
Oral antibiotics (any regimen)*	90	91.84
• Amoxicillin–Clavulanic Acid	56	57.14
• Levofloxacin	54	55.1
• Moxifloxacin	25	25.51
Corticosteroids	57	58.16
Immunosuppressants (e.g., Methotrexate)	10	10.2
Anti-tubercular therapy (for confirmed/resistant cases)	9	9.18
Surgical Management		
Incision and drainage	20	20.41
Wide local excision	23	23.47
Combined medical and surgical management\†	30	30.61

Table 5: Treatment outcomes, time to clinical resolution, and complications among patients with granulomatous mastitis.

Outcome Parameter	Frequency (n)	Percentage (%)
Treatment Outcomes		
Complete clinical resolution	91	92.86
Partial resolution	7	7.14
Recurrence (Total n=12)		
During treatment (drainage cases)	5	5.1
After treatment (6 months–2 years)	7	7.14
Time to clinical resolution (Mean ± SD, weeks)	9.6 ± 2.3	
Complications		
Wound infection	7	7.14
Fistula formation	2	2.04
Steroid-related adverse effects	5	5.1
Postoperative complications	3	3.06

Discussion

Granulomatous mastitis (GM) remains an enigmatic inflammatory breast condition, with evolving understanding regarding its etiology, presentation, and optimal management [15]. This retrospective study from Bangladesh, involving 120 patients, adds significant insight into the demographic and clinical spectrum, diagnostic approaches, and treatment responses in GM within a South Asian context. In our study, the mean age was 32.8±7.4 years, with the majority (76.67%) being multiparous and 65.83% lactating. This age and reproductive profile align closely with other large case series, supporting the hypothesis that GM predominantly affects young to middle-aged, parous women in the reproductive age group. For example, a systematic review by Fattahi et al. reported a mean patient age of 34.98 years, with 92.65% having a history of pregnancy and 76.57% having breastfed [16]. Similarly, Kessler and Wolloch's seminal study in 1972 first established the link between reproductive hormonal changes and idiopathic granulomatous mastitis (IGM) [6]. Lactational association in our study was prominent (65.83%), reinforcing the suspected role of ductal epithelial damage and milk extravasation in triggering granulomatous inflammation [17]. Hormonal contraceptive use, found in 17.50% of our cases, may also be a contributing factor, consistent with findings by Fattahi et al. [16]. Clinically, the presentation in our study was dominated by painful breast lumps (98.33%) and pain (90%), often mimicking breast carcinoma. A similar clinical mimicry was noted in studies from Turkey and the United States, where skin changes, nipple discharge, and axillary lymphadenopathy—also seen in our cohort (28.33%, 10.83%, and 21.67%, respectively)—led to frequent misdiagnosis [18,19]. This highlights the importance of histopathology in diagnosis. Histopathologically, our data showed non-

caseating granulomas in 74.17% and multinucleated giant cells in 81.67%, consistent with hallmark findings of IGM. These rates are comparable to those reported by Baslaim et al., who described non-caseating granulomas in 75% of their Saudi cohort [20]. Importantly, our rate of caseating granulomas (4.17%) and AFB positivity (2.50%) was low but notable in a tuberculosis-endemic setting. A similar challenge was discussed by Lacambra et al., who emphasized the need to distinguish IGM from tuberculous mastitis in endemic regions [21]. Our treatment data demonstrated corticosteroids as the most frequently employed intervention (33.33%), with a favorable complete resolution rate of 79.17% and recurrence in only 7.50%. This corroborates the therapeutic efficacy of steroids described by Pandey et al., who achieved resolution in over 80% of patients with systemic corticosteroid use [22]. However, steroid-related side effects were observed in 4.17% of our cases, necessitating cautious patient selection and monitoring. Antibiotic therapy alone (20.83%) was less effective, reaffirming that GM is not primarily a bacterial infection—a finding aligned with the conclusions drawn by Ong et al., who reported that antibiotic monotherapy had the lowest remission rate (72%) among various treatment modalities, suggesting limited efficacy when used alone [14]. Surgical approaches such as incision and drainage (16.67%) and wide local excision (6.67%) were reserved for abscesses and refractory cases. This stepwise approach is supported by contemporary literature advocating conservative medical management before resorting to surgery [23]. The recurrence rate in our cohort (7.50%) was relatively low compared to the recurrence of up to 25% reported in some series using only surgical excision [24]. This supports the integration of medical therapy, especially corticosteroids and immunosuppressants, to minimize recurrence, as also demonstrated by Ong et al., who reported improved outcomes with combination therapy [14]. The average time to resolution in our study was 9.6 ± 2.3 weeks, comparable to the 8–12 weeks reported in other regional studies [25]. Complication rates were low, with wound infection (5.83%) and fistula formation (1.67%) aligning with international findings, indicating overall favorable prognosis with appropriate management [26].

Conclusion and Recommendations

This study highlights the clinical spectrum, diagnostic challenges, and therapeutic outcomes of granulomatous mastitis (GM) in a Bangladeshi cohort. Predominantly affecting young, multiparous, and lactating women, idiopathic GM was more common than tubercular forms. Core needle biopsy and histopathology played pivotal roles in accurate diagnosis, while GeneXpert confirmed tubercular etiology in a minority. Corticosteroids remained the mainstay of treatment, with favorable outcomes in most cases, though recurrence and complications such as wound infection and fistula formation were observed. The overall prognosis was good, with complete resolution achieved in nearly 80% of patients. These findings underscore the need for early recognition, individualized therapy, and standardized management protocols tailored to resource-limited settings like Bangladesh.

Limitations of the study

This study was limited by its retrospective design and reliance on medical record accuracy, which may have introduced selection and reporting biases. As a single-center study, the findings may not be generalizable to the broader population in Bangladesh. The relatively small number of confirmed tubercular cases limited comparative analysis between idiopathic and tubercular granulomatous mastitis. Additionally, long-term follow-up data were not uniformly available, restricting the evaluation of recurrence rates and sustained treatment outcomes over time.

Funding: No funding sources

Conflict of interest: None declared

Ethical approval: The study was approved by the Institutional Ethics Committee.

References

1. Wolfrum A, Kümmel S, Theuerkauf I, et al. Granulomatous mastitis: a therapeutic and diagnostic challenge. Breast care 13 (2018): 413-8.
2. Moniruddin AB, Rahman MM, Rahaman M, et al. Idiopathic Granulomatous Mastitis: A Management Dilemma. KYAMC Journal 13 (2023):c250-6.
3. Oluwole SF, Oluwole OO. How to Diagnose and Treat Benign and Malignant Diseases of the Breast in Low-and Middle-Income Countries. InGlobal Surgery: How to Work and Teach in Low-and Middle-Income Countries 21 (2023): 361-380.
4. Prianka SR. Outcome of Anti-TB Therapy After Excision of Breast Lump. The Planet 8 (2024): 38-42.
5. Parvin S, Islam MS, Akter K, et al. Diagnostic efficacy of fine needle aspiration cytology in the evaluation of tuberculous lymphadenitis at the Diabetic Association Medical College, Faridpur, Bangladesh. Journal of Medical and Dental Science Research 10 (2023): 47-55.
6. Kessler E, Wolloch Y. Granulomatous mastitis: a lesion clinically simulating carcinoma. American journal of clinical pathology 58 (1972): 642-6.
7. Losada-García A, Cortés-Ramírez SA, Cruz-Burgos M, et al. Hormone-related cancer and autoimmune diseases: a complex interplay to be discovered. Frontiers in genetics 12 (2022): 673180.

8. Russu M, Ghelmene A, Degeratu D, Nastasia Ş. DIAGNOSIS AND TREATMENT DIFFICULTIES IN A Recurrent non gestational primary breast abscess due to Mycobacterium Tuberculosis infection. Case Report. Literature Review.

9. Mor P, Dahiya B, Parshad S, et al. Recent updates in diagnosis of abdominal tuberculosis with emphasis on nucleic acid amplification tests. Expert Review of Gastroenterology & Hepatology 16 (2022): 33-49.

10. Koç H, Kaya Mİ, Koca N. From Diagnosis to Management: Navigating the Complex Terrain of Granulomatous Disease. DAHUDER Medical Journal 4 (2024): 35-53.

11. Baby A, Hari S, Paul SB, et al. Role of empirical antitubercular therapy for chronic mastitis—A retrospective study. Indian Journal of Breast Imaging 2 (2024): 13-20.

12. Mirzapour A, Allahyari A, Metanat S, et al. Role of Corticosteroids along with Other Therapies for Treatment of Idiopathic Granulomatous Mastitis: A Narrative Review: Corticosteroids in IGM. Archives of Breast Cancer 9 (2022): 279-86.

13. Deng Y, Xiong Y, Ning P, et al. A case management model for patients with granulomatous mastitis: a retrospective study. BMC Women's Health 22 (2022): 143.

14. Ong SS, Sim JX, Chan CW, et al. Current approaches to diagnosing and treating idiopathic granulomatous mastitis: A summary from in-depth clinician interviews. Heliyon 10 (2024).

15. Otto T, Argobi Y, Smith G, et al. A Retrospective Study of Idiopathic Granulomatous Mastitis Treatment and Outcomes. Journal of Drugs in Dermatology: JDD 21 (2022): 438-40.

16. Fattahi AS, Amini G, Sajedi F, et al. Factors affecting recurrence of idiopathic granulomatous mastitis: a systematic review. The Breast Journal (2023): 9947797.

17. Chen W, Zhang D, Zeng Y, et al. Clinical characteristics and microbiota analysis of 44 patients with granulomatous mastitis. Front Microbiol 14 (2023): 1175206.

18. Krawczyk N, Kühn T, Ditsch N, et al. Idiopathic Granulomatous Mastitis as a Benign Condition Mimicking Inflammatory Breast Cancer: Current Status, Knowledge Gaps and Rationale for the GRAMAREG Study (EUBREAST-15). Cancers 16 (2024): 3387.

19. Quraishi MK, Hanif UK, Feinberg L, et al. Clinical presentation and management of idiopathic granulomatous mastitis in a middle Eastern country-a case series. Int J Clin Rheumat 14 (2019): 65.

20. Baslaim MM, Khayat HA, Al-Amoudi SA. Idiopathic granulomatous mastitis: a heterogeneous disease with variable clinical presentation. World journal of surgery (2007): 1677-81.

21. Lacambra M, Thai TA, Lam CC, et al. Granulomatous mastitis: the histological differentials. Journal of clinical pathology 64 (2011): 405-11.

22. Pandey TS, Mackinnon JC, Bressler L, et al. Idiopathic granulomatous mastitis—a retrospective study of 49 women and treatment outcomes with steroid therapy. The breast journal 20 (2014): 258-66.

23. Bede K, Valente SA. Idiopathic granulomatous mastitis. Annals of Breast Surgery (2020): 4.

24. Akcan A, Öz AB, Dogan S, et al. Idiopathic granulomatous mastitis: comparison of wide local excision with or without corticosteroid therapy. Breast care 9 (2014): 111.

25. Wang P, Sun JZ, Fang HY, et al. Optimal Timing for Corticosteroid Therapy in Idiopathic Granulomatous Mastitis: A Retrospective Analysis Highlighting Early Intervention Efficacy. Journal of Inflammation Research 31 (2024): 9617-24.

26. Zhang X, Li Y, Zhou Y, et al. A systematic surgical approach for the treatment of idiopathic granulomatous mastitis: a case series. Gland Surgery 9 (2020): 261.

Citation: Leea Amin, Mir Md Arafat Hossain, Muhammad Abdullah Bin Fahad, Md Bayezid khan, Sharukh Malik, Malay Halder Plabon, Devendra Raj Shah. Granulomatous Mastitis in Bangladesh: Pattern of Occurrence, Treatment Strategies and Prognosis. Fortune Journal of Health Sciences. 9 (2026): 11-16.