



CLINICAL PRESENTATION OF CHRONIC GRANULOMATOUS MASTITIS IN INDIA-A CASE SERIES

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ABSTRACT Chronic granulomatous mastitis (CGM) a rare benign inflammatory breast entity characterised by lobulocentric granulomas. The nonspecific manifestations and varied demographic features of this condition, as well as similarities in presentation with other breast conditions, pose substantial diagnostic and treatment challenges. This is a retrospective observational study of 89 patients at a tertiary health care centre in Aurangabad, Maharashtra. Results were noted and found to be, mostly, in consensus with other International Studies with some subtle differences specific to Indian population. CGM was observed to be present most commonly in parous women of reproductive age group. It was observed to present with a lump in present with associated signs of inflammation.

KEYWORDS : Mastitis, Breast Granuloma, Abscess

INTRODUCTION-

Chronic granulomatous mastitis (CGM) was first described as a benign disease entity in 1972 by Kessler and Wolloch(1). It is also called Idiopathic Granulomatous mastitis. CGM is a rare benign inflammatory breast entity characterised by lobulocentric granulomas. It is a rare differential diagnosis with an estimated incidence of 2.4 per 100,000 women and 0.37% in the US.(2) The rarity of the disease causes a lack of valid data. The etiology of IGM is still hypothetical, and no consensus on disease management exists.(3)

Hence, the diagnosis and treatment of a patient with CGM is a challenge for the clinician as well as for the patient who often has to suffer a protracted disease course with a significant impact on quality of life. CGM has a persistent and recurrent disease course and affects parous premenopausal women with a history of lactation. The most common clinical sign is a palpable tender mass.

However, the nonspecific manifestations and varied demographic features of this condition, as well as similarities in presentation with other breast conditions, pose substantial diagnostic and treatment challenges. Definitive diagnosis of CGM is especially important as it can mimic Carcinoma breast as well as Tuberculosis of breast; both conditions a very serious and common health concern in India.

This study will mainly focus on the clinical and demographic features in patients of CGM presenting Dr Hedgewar Rughalaya. It a retrospective observational study, hence no additional intervention was performed for the study.

MATERIAL AND METHODS-

A retrospective, observational study at a tertiary care centre in Aurangabad, Maharashtra over a period of 2 years.

DURATION OF STUDY: from July 2019 to July 2021

STUDY POPULATION: Female patients, between age group 18-75 years. All patients presenting to the OPD and definitively diagnosed with CGM and treated for the same at Dr Hedgewar Hospital, Aurangabad were included in the study. All patients who agreed to the informed consent document were included in the study.

A sample size of 89 was calculated using the formula,

$$N = Z^2 [P(1-P)] / d^2$$

Where,

N = sample size

Z = 1.96, with confidence level 95%

P = anticipated population proportion (taken as 0.37)

d = absolute precision required on either side of proportion (taken as 0.1)(Reference- Lwagna SK and Lameshaw S, Sample size determination in health study WHO Geneva 1991)(4)

INCLUSION CRITERIA:

1. Patient more than 18 year of age & less than 75 years of age.
2. Patients presenting to the OPD with breast lump/pain and eventually diagnosed with Chronic Granulomatous Mastitis.
3. Patients who presented to DHR general surgery OPD with confirmed diagnosis of CGM done outside and were eventually treated at the study institute.
4. Patients who are willing to participate in the study.

EXCLUSION CRITERIA:

1. Patients less than 18 year of age & patients of more than 75 years of age.
2. Patients not confirmed as CGM after triple assessment.
3. Patients with previous history of breast malignancy.
4. Patients who refused any further investigations or were not willing to participate in the study.

RESULTS AND DISCUSSION-

In this observational study of 89 patients with definitive diagnosis of chronic granulomatous mastitis, most patients were in the 18-40 years age group.

1. 38.2% patients were in 10-30 while another 38.2% were in 31-40 years age group.
2. 96.6% women were parous, with 73% being multiparous. Mean years since childbirth were 4.03 years.
3. Breast lump was the presenting feature in 56.2% patients, 32.6% presented with breast lump along with signs of inflammation like pain, redness and discharging sinuses.
4. There was a significant preference to any quadrant in location of the lump, though 30.3% patients presented with a retro areolar lump. Rest of the quadrants of the breast were involved in an almost equal proportion.
5. Only 11.2% patients presented with only pain and redness.
6. Axillary lymph nodes were enlarged in 21% (19) of patients.

FIGURE 1- Female patient with CGM presenting with a huge lump in left breast with signs of inflammation, resembling an abscess.



FIGURE 2- female patient presenting with CGM in left breast. Multiple healed sinus tracts on left breast can be seen.



DISCUSSION-

In our study, held at a tertiary care centre in Aurangabad spanned a period of 18 months and 98 patients participated in the study. Our findings in this study aim to help clinicians diagnose CGM in patients, thus facilitating early treatment. Due to a lack of large-scale studies on CGM, there is not a clear consensus on its diagnosis or treatment.

CGM presents with a lump in breast with or without any signs of inflammation including multiple discharging sinuses. Due to clinical presentations (mass, erythema, swelling, fistula formation) and radiological findings (abscess formation, enlarged lymph nodes, hypo echoic lesions, calcifications, and asymmetric increased density), it may be confused with carcinomas or infections like tuberculosis. As per our observations in this study, a systematic triple assessment approach is extremely helpful in diagnosing CGM. Treatment, though prolonged, when given appropriately leads to complete remission of the disease. Patients with CGM have an excellent prognosis when they are appropriately treated with oral steroids or second-line immunosuppressive agents like methotrexate. However, surgical excision is an option for patients in whom medical therapy is unsuccessful.

While most of the findings in our study are similar to previously conducted studies in different countries, there have been certain differences in this regional study making this significant in accurate and timely diagnosis and treatment of CGM in India. CGM being a mimicker of both Carcinoma breast and Tuberculosis of breast, it is vital to rule out CGM so patients can be diagnosed with more serious conditions in a timely manner. With a clear idea about the clinical presentation, clinicians can suspect CGM in patients and get a definitive diagnosis. The only way to definitively differentiate CGM from its common differential diagnoses is histopathology report. The findings on HPE are very specific to CGM. It should always be stained with hematoxylin and eosin stains, gram stains for differentiation of sarcoidosis or TB, fast stains and Grocott's methenamine silver(5) With this study, we have analysed and presented an overview of the age distribution, clinical presentation, type of imaging modality used and treatments given to patients of CGM in our institute. This can be useful in early diagnosis and proper treatment of CGM.

1. In our study, The mean (SD) of Age (Years) was 34.43 (9.72). The median (IQR) of Age (Years) was 33.00 (28-40). Very similar to a study by Emre TEKGÖZ, Seda ÇOLAK et al, all patients were in the reproductive age group with an average age of 37.2+/- 6.6 years.(6)

2. According to our study, only 3.4% of the participants were nulliparous. 23.6% of the participants had one P1 while a majority, 73.0%, of the participants had more than equal to 2 children. Thus, in our study 96.6% patients had one or more children. In these patients, the mean years since the last childbirth was 4.03 years, with a median of 3 years. Whereas, in a study by Bilal Al-Khaffaf et al, only 56% of patients in the study had given birth within past 5 years.(7) According a study by Azlina AF et al, majority of patients had at least one child and has given birth in the past 1 year.(8)

3. In our study, 56.2% patients presented with only a lump in breast. Another 32.6% presented with a breast lump accompanied by signs of inflammation like redness, pain, induration, discharging sinuses etc. According to a study by Ila Gautham BA et al, all patients presented with a lump in breast with 17% having accompanying signs of inflammation.(9)

4. In this study, all quadrants of the breast were involved in an almost equal proportion. In separate studies by Hee Ri Na Seo et al(10) and Aziz Firzah Azlina et al, (8) there there was no preference for any quadrant.

5. In our study, axillary lymphadenopathy was present in 13% cases of CGM. Axillary lymphadenopathy is seen in 15% of cases diagnosed with CGM in a study by Jeffery E. Illman, Simone B. Terra et al (11)

CONCLUSION-

1. Patients of CGM are most commonly in the reproductive age group 18-40 years of age.

2. Most of the patients are parous women, within 4 years of childbirth with a history of breastfeeding.

3. Breast lump was presenting clinical feature in majority of the patients; most also had accompanying signs of inflammation like redness, pain and discharging sinuses.

4. There is no preference to any particular quadrant, but there is a slightly high occurrence in retro areolar region.

5. Lymphadenopathy is not present in majority of the patients.

Thus, CGM should be considered as a diagnosis in female, parous patients in the reproductive age group presenting with a lump in the breast with associated signs of inflammation.

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