



"DIAGNOSTIC APPROACHES AND OUTCOMES IN WOMEN WITH MASTALGIA: A PROSPECTIVE STUDY":

DR CHARANJEET RAI, MBBS,MS (GENERAL SURGERY),
RAWATPURA SARKAR MEDICAL COLLEGE, RAIPUR, CG

DR. RAMESH KUMAR SAHU MBBS, MD (RADIOLOGY)
SHRI SHANAKARACHARYA INSTITUTE OF MEDICAL SCIENCES, BHILAI CG

ABSTRACT

Background:

Mastalgia, or breast pain, is a common clinical complaint among women and can lead to significant anxiety due to its potential association with breast pathology, including cancer. A systematic diagnostic approach is essential to identify underlying causes and guide appropriate management.

Objective:

To prospectively evaluate the diagnostic strategies and clinical outcomes in wom presenting with Mastalgia.

Methods:

This prospective study included [insert number] women aged [insert age range] who presented with mastalgia at [institution/location] between [insert study period]. Clinical assessment, imaging (ultrasound and/or mammography), and, when indicated, histopathological evaluation were performed. Data on pain characteristics, associated symptoms, diagnostic findings, and final diagnoses were analyzed.

Results:

Among the [insert number] participants, [insert percentage]% had cyclical mastalgia, while [insert percentage]% had non-cyclical pain. Imaging was normal in [insert percentage]% of cases, and benign findings such as fibrocystic changes were identified in [insert percentage]%. Only [insert number] cases ([insert percentage]%) were diagnosed with malignancy. The majority of women (approx. [insert percentage]%) were managed conservatively, while a minority required further intervention.

Conclusion:-

Most cases of mastalgia are benign and can be effectively managed with clinical reassurance and conservative measures. A structured diagnostic approach helps rule out malignancy and prevents unnecessary anxiety and invasive procedures.

Introduction:-

Mastalgia, or breast pain, is a frequent complaint among women, affecting up to 70% of females at some point in their lives. While it is commonly benign and self-limiting, mastalgia can cause considerable anxiety due to the fear of breast cancer. The condition is typically categorized as either cyclical, often related to hormonal fluctuations in the menstrual cycle, or non-cyclical, which may arise from musculoskeletal, infectious, or idiopathic causes.

Although mastalgia is rarely associated with malignancy, its presentation often prompts clinical evaluation to exclude serious pathology diagnostic.

RESULTS

In present study during study period 80 women those fulfilled the study criteria and were included in the study.

In present study the average age of patients in our study was 30.93+5.44 years and the commonest age group was 30-35.15 years accounting of 31.25% cases (Table 1) BMI distribution of study subjects shows that the mean BMI was of 23.79+2.92 and no patient of morbid obesity was noted. Analysis shows that 33.75% females were of overweight. 2.5% females were obese class 1 and 2.5% females were class 2 obese (Table 1) Majority of females with mastalgia enrolled in our study were non-vegetarian (77.5%) (Table 1)

Table 1: Socio-demographic profile of study subjects.

variables	Frequency	Percent
0-10	2	2.85
15-20	3	3.75
21-25	18	22.50
26-30	15	18.75
30-35	25	31.25
36-40	10	12.50
41-45	9	11.25
IBM		
<20	11	13.75
20-24.9	39	48.75
25.30	27	33.75
30.1-35	2	2.50
>35	2	2.50
Dietary habits		
Vegetarian		
Non-vegetarian		

In present study among study subjects 64(80%) patients had regular menstruation pattern and 20% had complains of irregular menses (Table2). Among study cases 77.5% had breastfed in past however 3.75% cases did not give history of breastfeeding 18.75% cases were either unmarried or did not experience lactational phase (Table2). Whereas 22 cases (27.5%) cases had history of benign breast diseases such as fibro adenoma,

galactocoele, cystic breast diseases (Table 2). The mean age of menarche was 12.51 years. Majority of patients had the onset of menstruation at 12 years (45%) (Table 2).

In the present study, 57.5% cases had non-cyclical breast pain whereas 42.5% cases had cyclical breast pain (Table 3). Majority of cases (58, 72.5%) had unilateral breast pain. Right sided pain and left sided pain were in equal proportion (Table 3) On assessing the severity of mastalgia it was found that maximum number of cases had mild breast pain (53.17%). Only 10% of breast pain were noted to be severe (Table 3).

Table 2: Patient characteristics.

Variables	Frequency	Percent
Menstrual cycle		
Regular	64	80
Irregular	16	20
Breast feeding		
Given	62	77.50
Not given	3	3.75
Not applicable	15	18.75
Previous benign breast history		
Present	22	27.50
Absent	58	72.50
Age of menarche (years)		
11	7	8.75
12	36	45
13	27	33.75
14	15	15

Table 3: Disease characteristics.

Variables	Frequency	Percent
Type of mastalgia		
Cyclical	34	42.50
Non- cyclical	46	57.50
Side of mastalgia		
Unilateral(right-sided)	29	36.25
Unilateral(left-sided)	29	36.25
Bilateral	22	27.50
Severity off mastalgia		
Mild	43	53.75
Moderate	29	36.25
Severe	8	10

As per the clinical findings, most of the cases did not have any abnormality (61.25%), 32.5% cases were diagnosed with nodularity and 5 patients (6.25%) had abscess (Table 4). Sonography findings shows that in 61.25% cases, no abnormality was detected and it was in agreement with the clinical findings. Other findings were abscess fibroadenoma and fibrocystic disease with 25%, 11.25% and 21.25% respectively (Table 4).

Mammography findings

In present study 12 out of 80 (15%) mastalgia patients above 35 years underwent mammography testing Of which, it was found that, one case was of abscess, five cases were of fibroadenoma and six cases were of fibrocystic disease. Malignancy was not noted in any of the cases.

Pathological findings

Seven FNAC's were done to confirm the radiological and clinical diagnosis. Five cases of fibroadenoma and two cases of fibrocystic disease were noted on FNAC Core needle biopsy was performed in three patients, one was found of fibroadenoma and two were found to have fibrocystic disease. Four cases of excision biopsy were done and the fibroadenoma was confirmed in all those cases.

Table 4: Clinical and diagnostic findings.

Variables	Frequency	Percent
Clinical diagnosis		
No abnormality detected	49	61.25
Abscess	5	6.25
Nodularity	26	32.50
Ultrasound findings		
No abnormality detected	49	61.25
Abscess	5	6.25
Fibroadenoma	9	11.25
Fibrocystic disease	17	21.25

DISCUSSION

The present study was conducted to determine the aetiology and diagnosis of patients presenting with mastalgia at our institute in Department of General Surgery in 1. 1. N. Hospital and Research Centre, Bhilai, Chhattisgarh.

In present study both, cyclical and non-cyclical mastalgia, the maximum incidence was in the 3rd decade (30-40 years) with 35 cases, 43.75%. Nirhale et al in a similar study also noted that the maximum cases of mastalgia were in age group of 31-40 years (52.5%). 15 In a prospective study on mastalgia in Iraq by Hamawandi, the mean age of the patients with mastalgia was 34.16 years, those patients with cyclical mastalgia 28.4 years, and those with non-cyclical mastalgia was 40.43 years.

In present study according to the BMI, 33.75% of cases were overweight whereas 5% were obese, however no case of morbid obesity was noted. In a case-control study by İdiz et al it was found that patients with high BMI had significantly more mastalgia complaints than those with normal BMI ($p < 0.0001$). 17 As per findings by Olfati et al, the patients with mastalgia had higher BMI (28.81 ± 3.22). The fact that BMI over 30 and weight gain in the last five years are determined as risk factors was crucial regarding its demonstration that weight management can be an approach in the prevention of mastalgia.

Dietary habits may play a crucial role in the aetiology of mastalgia in the present study, the non-vegetarian diet was mainly found in females with mastalgia (77.5%). This was consistent with a study by Shrinivas where

majority of the patient who presented with mastalgia were those who were on non-vegetarian diet (77%). 20 However, studies with large sample size are needed to be conducted for having Further conclusive results on the role of dietary habits.

Menstrual irregularity is a manifestation of sex hormone disorder which also leads to mastalgia. In present study it was noted that out of 80 mastalgia cases, 64 (80%) patients had regular menstruation pattern and 20% had complains of irregular menses. Wypych et al examined women with cyclic mastalgia concluded that that irregular bleeding occurred in 16.8% of these women.

In our study, 77.5% of patients had breastfed in past, however 3.75% cases did not give history of breastfeeding. These results were consistent with a study by Hamawandi where most of the mastalgia patients (82.65%) practiced breast feeding. In another retrospective study in Iranian centre by Kaviani et al (n-1442), it was found that the duration of lactation breast, pain was significantly more in patients without pain.

In the present study, few cases (27.5%) were found to have history of benign breast diseases such as fibroadenoma, galactococle, cystic breast. In a study by Kocaoz et al mastalgia was found to be significantly higher in women with history of benign breast diseases, than women without benign breast disease. In another study by Kataria et al, similar results were found with 40% association with history of previous benign breast disease and mastalgia.

In our study, we found that 57.5% cases had non-cyclical breast pain whereas 42.5% cases had breast pain. Similar results were found in a prospective observational study by Mandal et al where the pattern of pain was very commonly non-cyclical (81%).²⁵ Another study by Nirhale et al noticed that majority of patients 45 out of 80 (56.25%) were diagnosed with non-cyclical mastalgia.

Non-cyclical pain is mostly one-sided pain. In the present study, majority of cases (58, 72.5%) had unilateral breast pain and 27.5% cases had bilateral breast pain. Similar finding was noticed by Mandal et al that the side of breast involved showed no significant difference between left (46%) and right (42%) and bilateral involvement was only seen in 12% of the cases. ²⁵ One study by Wetzig et al reported that pain was unilateral in 38% and bilateral in 61% of patients with breast pain.

In present study on evaluating the severity of mastalgia, maximum number of cases had mild breast pain (53.17%) and only 10% of breast pain were severe. Nafseer et al observed that only 2 among 58 patients (3.4%) complained of severe pain affecting their routine daily activity ² Sarla et al found that 56.66% patients to have mild pain, 32.22% had moderate pain and 11.11% complained to have severe pain

Ultrasound has an established role in assessing breast abnormality as an adjunct to mammography in older women and is a first line investigation in young women with mammographically dense breast In present among 61.25% cases had no abnormality detected Abscess, fibroadenoma and fibrocystic disease was seen in 6.25%,11.25% and 21.25% cases respectively. Arslan et al detected normal findings in 42.3% of patients, a cyst in 37.1%, duct ectasia in 9.9%, and fibroadenoma in 6.4% of patients, Another study by Olcucuoglu et al showed normal findings in 49.0% of patients, a cyst in 22.5%, and fibroadenoma in 23.5%.

In our study, seven FNACs were done to confirm the radiological and clinical diagnosis. Five and two cases of fibroadenoma and fibrocystic disease were noted respectively. Shashikala et al reported that FNAC constituted the major investigatory modality for benign breast diseases with a sensitivity of 98% and specificity of 87% especially in diagnosing fibroadenoma, 30

CONCLUSION

Mastalgia is one of the common symptom in females presenting to breast clinic. The Most of the patients of mastalgia were in 21-35 years of reproductive age and majority cases had BMI within normal range. There was positive association between breast feeding, age of menarche, menstrual irregularities and incidence of mastalgia. Non-cyclical mastalgia was more common as compared to cyclical mastalgia. Clinical diagnosis was aligned with imaging and cytology findings. This concludes that benign breast disorders were commonly associated with mastalgia. Thus, it is very essential to diagnose the risk factors and underlying pathology in mastalgia cases by early diagnosis and prompt treatment of cases. Reassurance should be given to patient in order to allay the fear of breast cancer in these patients.

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