

## ESTIMATION OF RADIOLOGICAL AND PATHOLOGICAL PATTERNS IN A CASE OF MASTALGIA

A. Raghuraman<sup>1</sup>, DM. Anbu Subbiah<sup>1</sup>, M. Nachiappan<sup>1</sup>, M. Abdul Maliq<sup>1</sup>

<sup>1</sup>Assistant Professor, Department of General Surgery, Government Sivagangai Medical College and Hospital, Sivagangai, Tamilnadu, India.

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Corresponding Author:

**Dr. M. Abdul Maliq,**  
Email: drabdulmaliq@gmail.com.

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### Abstract

**Background:** Mastalgia is the most common breast symptom in patients attending any breast clinic. However, the causes of mastalgia are poorly understood, and current assessments and treatments are inadequate. Therefore, this study aims to correlate clinical diagnoses with pathological findings to improve our diagnostic skills. **Material & Methods:** A sample size of 200 patients from the surgery outpatient department with complaints of mastalgia underwent detailed history-taking and clinical examinations. Additionally, all patients underwent ultrasonography and fine-needle aspiration cytology (FNAC) when necessary. Patients with a lump size >3cm and a fibroadenoma diagnosis in FNAC underwent excisional biopsy. **Results:** Among the 200 patients who presented with mastalgia, 97 (48%) had complaints of breast lump/lumpiness, with ultrasonography revealing lump/nodularity/abscess in 88 (44%) patients, of which 84 (42%) patients underwent FNAC (excluding the 4 patients with abscess), and among the 32 patients diagnosed with fibroadenoma through FNAC, excision biopsy was performed, while interestingly, 4 (2%) patients with nodularity were initially missed during clinical examination, especially in the age group below 25 years, but these cases were subsequently detected through ultrasonography, demonstrating a nearly 100% correlation between ultrasonography and FNAC in diagnosing benign breast lesions. **Conclusion:** Non-cyclical mastalgia appears more prevalent than cyclical mastalgia among women in South India, warranting further evaluation. Additionally, a history of previous benign breast diseases or treatments is a risk factor for mastalgia. As for diagnostic tools, ultrasonography is the most effective method for young females.

## INTRODUCTION

Mastalgia is a general term for several conditions in which pain is present in one or both breasts. Mastalgia is the most common breast symptom in patients attending any breast clinic.<sup>[1]</sup> About 60 to 70 % of women experience some degree of mastalgia; 10 to 20 % of cases present with severe pain.<sup>[2]</sup> The common concerns of patients with mastalgia in OPD are the fear of cancer and the severe degree of pain affecting daily activity. Most patients with mastalgia can be managed with reassurance or simple drugs. In many patients, mastalgia is associated with breast nodularity that may be tender or without a clinically palpable lump. Some degree of mastalgia and breast nodularity is found in the normal population.<sup>[3]</sup> The most important responsibility of the clinician is to rule out benign breast disease or cancer and to reassure the patient.

In a study, Morrow M experienced the prevailing apathy towards females with mastalgia. It is the most common breast symptom presenting in surgical clinics.<sup>[4]</sup> Most patients come to the Doctor because of the fear of malignancy. However, the ratio of benign to malignant cases in clinics is 10:1. Adner et al. reported that patients with severe mastalgia interfered with sexual activity, physical activity and social activity.<sup>[5]</sup>

The clinical picture can be divided into cyclical and non-cyclical pain patterns by studying the simple clinical history. Despite the lack of concrete evidence, it seems likely that breast pain with a cyclical pattern is of hormonal origin. Breast pain, especially cyclical mastodynia, is rarely associated with malignant neoplasm of the breast.<sup>[6]</sup> Patients with mastalgia require treatment, but because of the spontaneous resolution of pain due to hormonal

events like pregnancy and menopause, the results of therapeutic response are difficult to assess.<sup>[7]</sup>

In addition, most of the causes of mastalgia are poorly understood, inadequately assessed and treated. Knowing the magnitude of the problem, there is a need to conduct a clinicopathological study on mastalgia.<sup>[8]</sup> The purpose of the study is to profile the natural history and different modes of clinical presentation to study concerning various radiological and pathological presentations so that we can make any alteration in treatment and approach. Also, we want to correlate the clinical diagnosis with histopathological diagnosis.

## MATERIALS AND METHODS

The prospective cohort study was performed on 200 female patients above 13 years attending the surgery department of Tirunelveli Medical College Hospital, with complaints of mastalgia from December 2016 to September 2018.

### Inclusion Criteria

Patients above 13 years of age who present with complaints of mastalgia with or without lump or nipple discharge. The study included lactating women and patients who were willing to follow-up.

### Exclusion Criteria

Patients with signs and symptoms suggestive of carcinoma breast. Pregnant patients who were unwilling to follow up were excluded from the study.

### Methodology

All the patients come to Tirunelveli Medical College Hospital Surgery dept. The features suggestive of mastalgia will be subjected to detailed history and clinical examination. All patients will be subjected to ultra-sonography, mammography (only in patients over 40 years of age), FNAC (as and when required), and routine investigations. The patients who have a lump and in whom surgery is contemplated will undergo excisional biopsy and histopathological examination of the excised lump.

Routine blood investigations were carried out, i.e., HB%, TC, DC, ESR, RBS, Urea, and Creatinine. Ultrasonography of the breasts and mammography as and when required (Mammography for patients above 40 years). The FNAC and Excisional biopsy were also carried out as per requirement. Pus culture and sensitivity were studied in the case of breast abscess.

## RESULTS

In the present study, a maximum of 78 (39%) were reported in the age group 21 to 25 years. Most patients were also reported for nodularity, lump, and abscess in the age group of 21 to 25 years as per clinical and USG/FNAC examination. The lumps were reported in 84 (42%) patients, and 88 (44%) patients showed cyclical mastalgia (Fig 1). Irregular menstruation was reported in 58 (29%) patients, of which 5 showed nodularity, and two were observed with lumps as per clinical and USG/FNAC

examination (Fig 2). 74 (37%) patients were found with previous benign breast diseases, of which 32 nodularity, three lumps and two abscess patients were observed as per clinical and USG/FNAC examination [Table 1].

Among the 74 patients with a previous history of benign breast diseases, 46 patients had pathological and radiological findings (37 patients with fibrocystic disease, 5 with fibroadenoma and 4 with abscess). Breastfeeding history is not applicable in 50% of unmarried patients (100). Of the remaining 100 patients, 94 (47%) gave positive breastfeeding history.

84 (42%) patients were found to have a lump/nodularity/abscess on clinical examination. Of 84 (42%) patients, 48(24%), 32(16%) and 4 (2%) patients had nodularity, lump breast and abscess on clinical examination. Whereas 88(44%) patients were found to lump/nodularity/abscess in USG findings. Of 88(44%) patients, 52 (26%), 32 (16%) and 4 (2%) patients had fibrocystic disease, fibroadenoma and abscess on USG/FNAC examination.

A total of 32 patients who had fibroadenoma in USG and FNAC went in for an excision biopsy. 28 patients had fibroadenoma, 2 had fibrocystic changes, and 2 had ductal carcinoma in situ (DCIS) [Table 1].

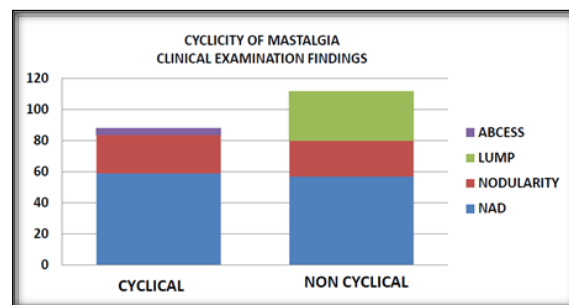


Figure 1: Correlation between cyclicity and clinical examination findings

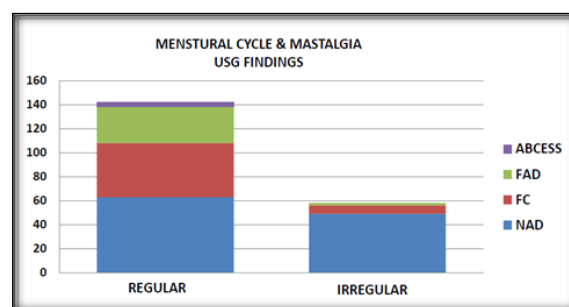


Figure 2: Correlation between the menstrual cycle and USG and FNAC findings

**Table 1: Observation of different evaluation parameters of patients**

Parameters	Frequency (%) (n=200)
<b>Age Group</b>	
15-20	44 (22%)
21-25	78 (39%)
26-30	42 (21%)
31-35	22 (11%)
36-40	10 (5%)
41-45	4 (2%)
<b>Lump</b>	
Present	84 (42%)
Absent	116 (58%)
<b>Type of mastalgia</b>	
Cyclical	88 (44%)
Non-Cyclical	112 (56%)
<b>Menstrual cycles</b>	
Regular	142 (71%)
Irregular	58 (29%)
<b>Previous benign breast diseases</b>	
Present	74 (37%)
Absent	126 (63%)
<b>Breast Feeding</b>	
Given	94 (47%)
Not given	6 (3%)
Not applicable	100 (50%)
<b>Clinical examination in patients with complaints of lump breast</b>	
Lumps	32(16%)
Nodularity	48 (24%)
Abscess	4(2%)
<b>USG correlation</b>	
FC(Fibrocystic Disease of the Breast)	52 (26%)
FAD(Fibroadenoma of the Breast)	32 (16%)
Abscess	4 (2%)
<b>FNAC findings</b>	
NOT APPLICABLE	116 (58%)
FC	52 (26%)
FAD	32 (16%)
<b>Excisional Biopsy results</b>	
Not applicable	168 (84%)
FC	2 (1%)
FAD	28 (14%)
DCIS	2 (1%)

## DISCUSSION

The exact cause of mastalgia is still unknown. Severe mastalgia can disrupt normal life by interfering with sleep relationships with husband and children and may also affect the occupation of working women.<sup>[1-2]</sup>

In the present study, a maximum of 78 (39%) were reported in the age group 21 to 25 years. Preece et al. found that the most frequent age group complaining of mastalgia was 31-45 years (45), closely followed by 41-45 years (40) and 36-40(32).<sup>[9]</sup>

Among the 88 patients presented with cyclical pain, 31pts found to have pathological and radiological findings (27 patients with fibrocystic disease and 4 with abscess). Among the 112 patients with non-cyclical pain, 57 were found to have pathological and radiological findings (25 patients with fibrocystic disease and 32 with fibroadenoma). In our study, similar results were observed; non-cyclical mastalgia is slightly more prevalent than cyclical mastalgia. Ader et al. reported similar findings in their investigations.<sup>[2]</sup>

Among the 142 patients presented with regular cycles, 79 patients were found to have pathological and radiological findings (45 patients with fibrocystic disease, 30 patients with fibroadenoma and 4 with abscess). Among the 58 patients presented with irregular cycles, 9 found pathological and radiological findings (7 patients with fibrocystic disease and 2 with fibroadenoma). Srivastav et al. conducted a similar study in north Indian women and observed similar results.<sup>[10]</sup>

A previous history of benign breast symptoms is found to be frequently associated with the patients currently presenting with mastalgia. History of previous benign diseases for which the patient had received medical or surgical treatment is elicited in 37% of individuals in our study. This was a significant positive correlation. These findings in the present study are from earlier reported studies.<sup>[11]</sup>

An epidemiological study by Srivastav et al. observed no significant relation between breastfeeding and mastalgia.<sup>[10]</sup> This study also found no significant correlation between breastfeeding and mastalgia. In our part of the world, breastfeeding practices are strong, and most mothers who

participated in the study gave a history of breastfeeding. Only 3% of women have not given breast milk. This seemingly increased incidence of breast pain among breastfed mothers is attributable to the strong breastfeeding practice of women who participated in the study.

Mastalgia as a clinical condition is far more prevalent than lump breasts. But lump breast draws the patient's attention to the previously prevalent breast pain and makes them approach a doctor for medical advice. In a clinical study published by Rungruang et al., breast lump was associated with breast pain presented in 29% of patients (n= 350). 97(48%) patients complained of breast lump/lumpiness. 84 (42%) patients were found to have a lump/nodularity/abscess on clinical examination. 88(44%) patients were found to lump/nodularity/abscess in USG. Among them, 84(42%) patients underwent FNAC (except for four abscesses). Thirty-two patients with fibroadenoma in USG and FNAC underwent excision biopsy.<sup>[12]</sup>

A total of 4 (2%) patients with nodularity were missed in clinical examination, especially in the age group below 25 years. USG picked these up. There seems to be a near 100% correlation between USG and FNAC, establishing the USG superiority in breast lesions. The 32 patients with USG and FNAC results as fibroadenoma and lesion more than 3cm in size underwent excision biopsy, and in those, 2 (1%) were found to have fibrocystic changes and 2(1%) were found to have DCIS.

## CONCLUSION

Non-cyclical mastalgia is more prevalent than cyclical mastalgia among women in south India, which needs more evaluation. Lumpiness of one or both breasts is a frequently associated complaint with mastalgia, which needs a detailed history, clinical examination and investigations to differentiate

benign from malignant lesions. A previous history of benign breast diseases or treatment is a risk factor for mastalgia, possibly due to improper diagnosis and management. USG is the best diagnostic tool for young females with dense breasts. Triple assessment for any breast lump or mastalgia forms the gold standard in diagnosis.

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