

Original Research Article

# Correlation of clinical and sonological features in cases of mastalgia without a palpable lump

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## Abstract

**Background:** Mastalgia is defined as pain, dull ache or heaviness in the breast. The most common cause of mastalgia is Aberration of Normal Development and Involution (ANDI) of breast tissue [1]. It can occur during adolescence, pregnancy and perimenopause.

**Materials and methods:** Patients with complaints of breast pain in the age group 15-64 years with clinically no palpable mass attending to the surgical OPD in a tertiary care hospital between August 2013- August 2015 (two years) were included in the study. Out of 700 patients who presented with pain in one or both breast, 482 (68%) had fibroadenoma, 78 (11%) were fibroadenosis with nodularity in breast followed by 50 (7%) cases had abscess and 40 (5.7%) had mastalgia without any palpable lesion which are included in this study. Detail history with particular reference to age, duration of symptoms, side of preponderance, menstruation, marital status, parity, lactation, nipple discharge and tenderness are recorded. Pain is recorded by subjective numerical pain intensity scale of 0-10. Clinical findings with particular reference to tenderness, quadrants involved are recorded. Ultrasound of the breast was done for all cases and findings recorded to correlate with clinical features.

**Results:** Regarding age distribution, 18 (45%) patients belong to age group 26-35 years followed by 11 (27.5%) in age group of 36-45 years. 8 (20%) of patients were in the age group of 15-25 years. Remaining 3 (7.5%) were above 46 years. 20 (50%) had symptoms of < 1 month duration, 10 (25%) had duration of 1 - 6 months, 3 (7.5%) had symptoms for more than 6 months. 13 (32.5%) had pain on right side, 16 (40%) had pain on left side, 11 (27.5%) had pain both sides. Severity of pain varied from 1 – 10 with an average of 5.4. 36 (90%) are married, 4 (10%) are unmarried. 35 (87.5%) had children, 5 (12.5%) were nulliparous. 32 (80%) women are having regular menstrual cycles and 8

(20%) were not menstruating due to either following hysterectomy or attained menopause apart from 3 (7.5%) patients were lactating mothers.

**Conclusion:** The sonological findings of altered echogenicity and cystic changes can be the baseline while starting the treatment in patients with mastalgia without palpable lesion. These findings will also guide in assessing the response and follow-up of these patients.

## Key words

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Mastalgia, Clinical features, Sonological features, Correlation.

## Introduction

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Mastalgia is defined as pain, dull ache or heaviness in the breast. The most common cause of mastalgia is Aberration of Normal Development and Involution (ANDI) of breast tissue [1]. It can occur during adolescence, pregnancy and perimenopause. It can be cyclical and non-cyclical with peak incidence between 35-45 years [2]. When patient present with mastalgia associated with clinical findings of tenderness and nodularity or ill-defined lump a clinical diagnosis of fibroadenosis is entertained. Cases of mastalgia without clinical findings of nodularity or lump are still a challenge for diagnosis and management.

Ultrasound breast is one of the most convenient and painless investigation that can be done in women complaining of breast pain. According to Wayne state university study in 2008 [3], breast imaging alone provides reassurance in women who present with pain. The cross sectional study in utility of breast imaging in mastalgia by Nasreennaz, et al. [4] in Iraq in 2013 showed that duct ectasia is a major factor in determining the severity of mastalgia with no significance between cyclical and non-cyclical mastalgia. Hence breast imaging helps to identify the underlying pathology. This study was done to determine the underlying sonological features in mastalgia and correlate with clinical features. This study also aims to evaluate the relationship of age, menstruation, parity, side preponderance in mastalgia.

## Aim

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To identify the sonological features in cases of mastalgia with no palpable lump and correlate

the sonological features with the clinical features and to derive a baseline in management and follow-up of these patients.

## Materials and methods

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Patients with complaints of breast pain in the age group 15-64 years with clinically no palpable mass attending to the surgical OPD in a tertiary care hospital from August 2013 - August 2015 (two years) were included in the study.

Out of 700 patients who presented with pain in one or both breast, 482 (68%) had fibroadenoma, 78 (11%) were fibroadenosis with nodularity in breast followed by 50 (7%) cases had abscess and 40 (5.7%) had mastalgia without any palpable lesion which are included in this study. Other conditions included malignancy (4%), antibioma, and galactocele.

Detail history with particular reference to age, duration of symptoms, side of preponderance, menstruation, marital status, parity, lactation, nipple discharge and tenderness are recorded. Pain is recorded by subjective numerical pain intensity scale of 0-10. Clinical findings with particular reference to tenderness, quadrants involved are recorded.

Ultrasound of the breast was done for all cases and findings recorded to correlate with clinical features.

## Results

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Regarding age distribution, 18 (45%) patients belong to age group 26-35 years followed by 11 (27.5%) in age group of 36-45 years. 8 (20%) of patients were in the age group of 15-25 years.

Remaining 3 (7.5%) were above 46 years. 20 (50%) had symptoms of < 1 month duration, 10 (25%) had duration of 1 - 6 months, 3 (7.5%) had symptoms for more than 6 months. 13 (32.5%) had pain on right side, 16 (40%) had pain on left side, 11 (27.5%) had pain both sides. Severity of pain varied from 1 – 10 with an average of 5.4. 36 (90%) are married, 4 (10%) are unmarried. 35 (87.5%) had children, 5 (12.5%) were nulliparous. 32 (80%) women are having regular menstrual cycles and 8 (20%) were not menstruating due to either following hysterectomy or attained menopause apart from 3 (7.5%) patients were lactating mothers. Only 2.5% (1) patient had nipple discharge with breast pain. 97.5% (39) had tenderness predominantly in the upper outer quadrant. One patient had past history of Surgery for breast. In Ultrasound scanning 80% (32) showed increased echogenicity corresponding to the quadrant of tenderness.

## Discussion

Mastalgia is a common and enigmatic condition which occurs in about 70% [5] women at some stage of their lives. Women can present with breast pain due to various reasons like mastitis, breast abscess, breast cysts, benign breast tumours, breast cancers, Mondor's disease in addition to causes that may mimic like breast pain include chest wall trauma, rib fractures, costochondritis, fibromyalgia, herpes zoster, pericarditis, pulmonary embolus, pleurisy, psychological cause, and also medications.

According to a study by Yilmaz G in 2013 [5] ultrasound imaging may not be necessary and that medical therapy can be started directly in patients younger than or equal to 30 years of age.

In this study out of 700 patients presenting with breast pain, 40 cases had mastalgia without palpable lesion accounting to 5.7%. These cases of mastalgia without any clinical signs are a challenge for diagnosis and management. Among the 40 patients 9 (22.5%) patients had severe mastalgia which disturbed their normal activities.

In this study 80% of the patients had sonological features of increased echogenicity correlating to the clinical findings of tenderness and 40% (16) had cystic changes.

These findings can be the baseline findings to start treatment including medical therapy like vitamin E [8, 9] and reassurance. These sonological features can be used as adjuvant with clinical features in the treatment and follow-up of the cases.

Thus ultrasound findings will contribute significantly in the management of mastalgia without palpable lesion. These findings correlate with other studies like Yilmaz G study [6], Nasreen, et al. study [4], Jessica, et al. study [7].

## Conclusion

The sonological findings of altered echogenicity and cystic changes can be the baseline while starting the treatment in patients with mastalgia without palpable lesion. These findings will also guide in assessing the response and follow-up of these patients.

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