Original Research Article

An evaluation on clinical outline and management of mastalgia

Dushyant Kumar Rohit[1*], Omkar Thakur[2], Deepak Shrivastava[3], R.S. Verma[4]

[1]Associate Professor, Department of General Surgery, Bundelkhand Medical College &Associated Hospital, Sagar, Madhya Pradesh, India
[2]Assistant Professor, Department of General Surgery, Bundelkhand Medical College &Associated Hospital, Sagar, Madhya Pradesh, India
[3]Associate Professor, Department of General Surgery, Bundelkhand Medical College & Associated Hospital, Sagar, Madhya Pradesh, India
[4]Professor, Department of General Surgery, Bundelkhand Medical College & Associated Hospital, Sagar, Madhya Pradesh, India

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Abstract

Introduction: Mastalgia is repeatedly associated with breast nodularity which may be soft or it may occur without a distinct lump. A quantity of breast nodularity and mastalgia have been established in normal population. **Materials and Methods:** This study was conducted from May 2019 to June 2021. 110 patients were included in the study. A detailed study of clinical history of all the breast pathologies causing mastalgia was studied.Patients' past records related to breast pain were noted in the OPD. During detailed clinical examination, if any lumps were observed suspicious of carcinoma then these patients were advised radiographic investigations. **Results:** Various causes of mastalgia were observed: 51 (46.3%)due to fibroadenosis, 14 (12.7%) due to fibroadenoma, 11 (10%) due to mastitis, 08(7.2%)duetobreastabscess,04(3.6%)due to duct ectasia, 03(2.7%) due to galactocoele, 02 (2.7%) due to breast carcinoma and 17(15.4%) due to non-specific extra-mammary cause. **Conclusion:** In this study, the response to therapy was best with danazol, followed by bromocriptine and to topical NSAIDs. Danazol and bromocriptine are effective in treatment of mastalgia, though they show different side effect profiles and varying patient compliance.

Keywords: Mastalgia, Breast, Pain, NSAIDs. Danazol and bromocriptine

Introduction

Approximately 60 to 70 % of women experience some degree of breast pain at some stages of their lives, and in 10 to 20 % of cases, it is severe. it is the most common breast symptom in patients attending a breast clinic[1,2,3].

It is not unusual for women to have 2–3 days of mild breast pain premenstrually but 8–30% of women report moderate to severe breast pain with duration of 5 or more days each month[1].

Mastalgia is repeatedly associated with breast nodularity which may be soft or it may occur without a distinct lump. A quantity of breast nodularity and mastalgia have been established in normal population. It is usual for ladies to experience mild breast pain for two or three days during pre-menstrual phase. However, 8 to 30% of cases account for moderate to severe breast pain with duration of five or more days each month[1,2].

Breast pain is classified as cyclical mastalgia, noncyclical mastalgia and non-specific extra-mammary pain. Cyclical mastalgia is a breast pain that has clear relationship to the menstrual cycle. Non-cyclicalmastalgia may not be necessarily associated with menstrual cycle, may be constant or intermittent and often occurs after the menopause. Non-specific extramammary pain arises from the chest wall from other sources and is interpreted as having the cause within the breast[4].

*Correspondence
Dr. Dushyant Kumar Rohit
Associate Professor, Department of General Surgery, Bundelkhand Medical College &Associated Hospital, Sagar, Madhya Pradesh, India
E-mail: dushyant039@gmail.com

The severity of pain is also noted on a visual analogue scale (VAS, also called visual linear analogue). VAS is usually a horizontal line, 10 cm in length, anchored by word descriptors at each end. The patient marks on the line below, the point that they feel represents their perception of pain. The VAS score is determined by measuring in millimeter from the left hand end of the line to the point that the patient marks. On this VAS, the 0 indicates no pain and 10 indicate very severe excruciating pain in the breast. Most mastalgia experts consider any pain of ≥3 on a VAS of 0 to 10 to be significantly severe to require therapy[5].

The incidence of benign breast disease is thought to exceed that of carcinoma breast by perhaps a factor often or more, with no reliable statistics available for the country. The reason for many referrals by general practitioners is anxiety and fear of breast cancer on the part of the patient, the parent or her doctor. It is therefore important not only to treat the symptoms but also to allay any fears that may exist. It is imperative to emphasise that mastalgia does not imply any neoplastic process[6]. Nonsteroidal anti-inflammatory medications can be effective in up to 80 % of women and their usefulness is often underestimated. Diclofenac gel applied as local massage to painful areas of breast has been found to be more effective than placebo gel and ibuprofen gel in randomized trials[7].

Materials and Methods

ThisProspectivestudy was conducted in the Department of General Surgery, Bundelkhand Medical College &Associated Hospital Sagar Madhya Pradesh, This study was conducted from May 2019 to June 2021.110 patients were included in the study . The study was approved by institutional ethical committee. Inclusion Criteria was, Patients of age group 15-50 years were included, all patients suspected or diagnosed for breast pathology with mastalgia. Exclusion Criteria were, All proven cases of malignancies,

immunocompromised patients, all patients undergoing surgical removal of breast lump, pregnant females. A detailed study of clinical history of all the breast pathologies causing mastalgia was studied.

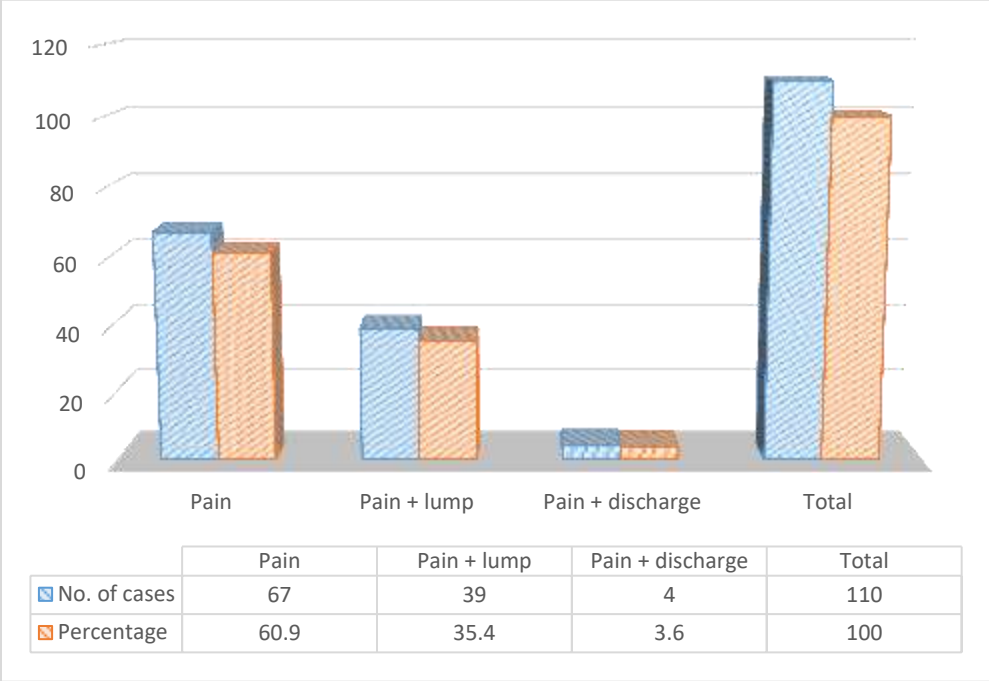
Local clinical examination and systemic examination were evaluated according to the proforma. Pain was evaluated using visual analog scale. The patients who were studied were randomly categorized into 3 groups and these are Danzol group, Bromocriptine group and Topical NSAIDs group respectively. The evaluation of pain was done using a visual analog scale, prior to giving the treatment and after giving the treatment each week for the first month and thereafter monthly for the next 6 months.

Patients' past records related to breast pain were noted in the OPD. During detailed clinical examination, if any lumps were observed suspicious of carcinoma then these patients were advised radiographic investigations like ultrasonography, if aged 40 years. FNAC was done in those patients having palpable breast lumps, lumps found in ultrasonography and mammography. This study included those patients whose FNAC reports revealed benign lesions.

The data was computed in Excel. Frequencies/descriptive, contingency coefficient and t-test were employed.

Results

In the present study, breast pain was the most common breast related symptom and accounted for 67 (60.9 %) patients (Table/fig-1).



	Pain	Pain + lump	Pain + discharge	Total
No. of cases	67	39	4	110
Percentage	60.9	35.4	3.6	100

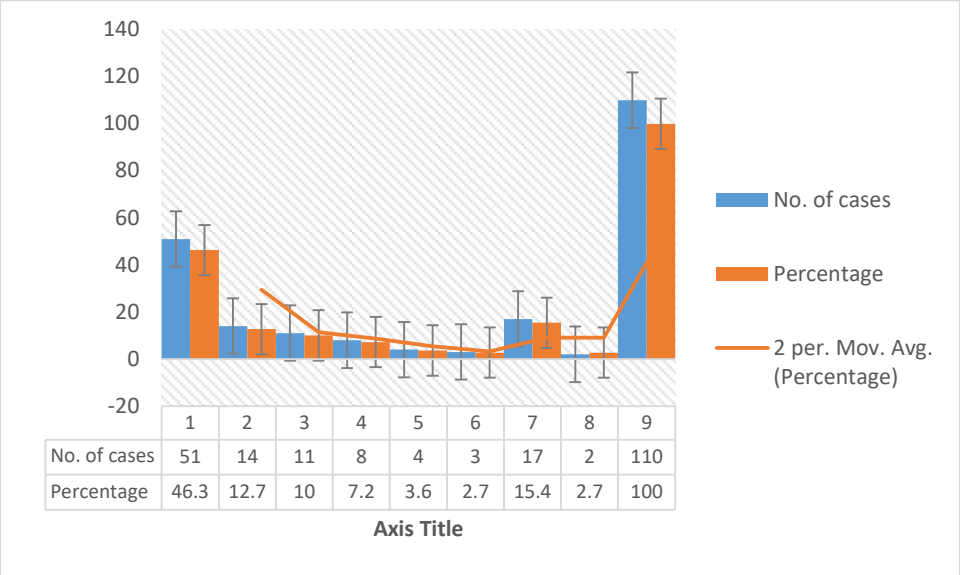
Table/fig-1: Distribution of patients according to chief complaints.

In the present study, 45 patients (40.9 %) presented with cyclical mastalgia. Amongst these, 25women (61%) belonged to the age group of 30-40years(Table2).

Table 2: Age distribution of patients with different types of mastalgia.

Age(years)	Cyclical type	Non-cyclical type	Non-specific type	Percentage
≤30	20	17	00	33.6
31-40	25	20	00	40.9
>40	00	06	22	25.4
Total	45	43	22	100

Various causes of mastalgia were observed: 51 (46.3%) due to fibroadenosis, 14 (12.7%) duetofibroadenoma, 11 (10%)due to mastitis, 08(7.2%)duetobreastabscess,04(3.6%) due to duct ectasia, 03(2.7%) due to galactocoele, 02 (2.7%) due to breast carcinoma and 17(15.4%) due to non-specific extra-mammary cause (Table/Fig-3).



	1	2	3	4	5	6	7	8	9
No. of cases	51	14	11	8	4	3	17	2	110
Percentage	46.3	12.7	10	7.2	3.6	2.7	15.4	2.7	100

Table/ Fig-3: Quantification of patients according to diagnosis.

In the present study, diclofenac gel showed the highest efficacy of approximately 77.03 %. Initial mean visual analog score of patients was 7.41 and at the end of 6months period, mean visual analog score was 1.54 (p=0.02)(Table 4). In the present study, 23patients with mastalgia were treated with danazol and 65.8%s how deficient response of the drug in terms of reduction of breast pain and nodularity. Mean visual analogs core in the beginning of treatment was 6.81 and mean visual analog score at the end of 6 months period was 3.01 (p = 0.03)(Table 6). In the present study, 58.9 % response rate was observed in patients on bromocriptine. Mean visual analog score at the beginning of the study was 7.31 and mean visual analog score at the end of 6 months period was3.71(p= 0.03)(Table4).

Table4: Comparison of visual analog score according the medications administered in study.

VAS score	Bromo criptine		Danazol		Diclofenacgel		FValue	PValue
	Mean	SD	Mean	SD	Mean	SD		
At1weeks	7.31	0.586	6.81	0.889	7.41	0.506	6.61	0.006
At2weeks	6.90	0.736	6.41	0.989	6.81	0.639	3.81	0.066
At3weeks	6.33	0.659	6.08	0.735	6.31	0.568	1.44	0.27
At2 months	5.61	0.674	5.61	0.683	5.61	0.703	0.06	0.97
At3 months	5.42	0.504	4.71	0.874	5.02	0.909	4.41	0.039
At4 months	4.11	0.361	4.00	1.000	4.11	0.994	0.19	0.87
At5 months	4.10	1.184	3.31	1.259	3.21	1.034	4.71	0.030
At6 months	3.71	1.553	3.01	1.547	1.57	1.064	5.19	0.03
%change	58.91		65.81		77.03			

Discussion

A history and examination will point to the diagnosis in most cases. A prospective pain diary is extremely helpful, as patient's recollection of events can be inaccurate and incomplete.

Nonsteroidal anti-inflammatory medications can be effective in up to 80 % of women and their usefulness is often underestimated. Diclofenac gel applied as local massage to painful areas of breast has been found to be more effective than placebo gel and ibuprofen gel in randomized trials[7]. Colak studied the effects of topical diclofenac gel on cyclic and noncyclical mastalgia in 108 patients: 60 with cyclic (group I) and 48 with noncyclical (group II). Patients withineach group were randomized to diclofenac gel or placebo cream, three times daily for 6 months. The pain score decreased significantly in diclofenac gel group compared to placebo. The benefit was seen in both cyclical and noncyclical breast pain. No side effect was reported in any group[7].

In the present study, approximately (39.8%) patients presented with non-cyclical mastalgia. These patients accounted for little more than one-third of all the cases in the study. In 2010, Lydia Cairncross observed that noncyclical mastalgia accounts for nearly one-third cases of mastalgia[8].

Rungruang B and Kelley JL observed that breast lump was not commonly associated with breast pain among 350 patients studied and most of the lumps were found to be non-carcinomatous[9]. In this study, the most common chief complaint was breast pain in 92 (70.77%) cases, followed by ache with lump in 29 (22.31) cases and ache with discharge in 9 (6.92%) cases. Comparable findings were found by Guerriero S et al., in which breast pain was recorded in 48% of the cases[10]. In another study, it was found that when the onset of mastalgia was in pre-menarche, the severity tends to be more and less amicable to treatment[11].

In the present study, fibroadenosis was the most common benign breast disorder affecting women accounted for (46.3 %) cases. Similar findings were observed by Furlong AJ et al, Dixon JM et al and Rahal RMS et al in 1994, 1996 and 2005 respectively, wherein they found approximately 50% women diagnosed with fibroadenosis[12,13].

Rosolowich V et al., observed that mastalgia tends to be the presenting complaint in 10-15% of carcinomatous lesions of breast[14]. Hormonal and nutritional basis have also been hypothesised in causation of mastalgia for a long time[15]. Danazol alleviates breast pain and softness in clinical trials. On the whole, 59% to 92% of women reported relief from pain after danazol treatment[16-20]. Typically, the early dosage is 200 mg/d with eventual tapering to lower-dose, 177 alternate-day, or luteal phase administration[21-23]. However, initial dosages of 50 to 400 mg/d

have been described in other studies[16,22]. Interestingly, danazol was associated with declined mammographic breast volume and density in 25 cases with breast pain, 23 of whom experienced complete resolution of symptoms[24]. Bromocriptine reduces serum prolactin. Three randomised controlled trials and one cohort work on bromocriptine reported the resolution of mastalgia in 65% of cases[25]. Side-effects comprise nausea, giddiness and hypotension in 69% of patients.

Conclusions

Cyclical mastalgia accounted for more proportion of patients than non-cyclical mastalgia. Common causes of mastalgia being fibroadenosis, followed by fibroadenoma, mastitis, breast abscess, duct ectasia, galactocoele, breast carcinoma and non-specific extra-mammary pathology. Breast pain is a common clinical condition among females of reproductive age groups. In this study, the response to therapy was best with danazol, followed by bromocriptine and to topical NSAIDs. Danazol and bromocriptine are effective in treatment of mastalgia, though they show different side effect profiles and varying patient compliance.

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