International Journal Dental and Medical Sciences Research
Volume 4, Issue 2, Mar-Apr 2022 pp 226-231 www.ijdmsrjournal.com ISSN: 2582-6018

"Mastalgia in Patients with Fibrocystic Breast Changes and the Non-Surgical Treatment"

Farid Ahmed[1], Gouranga Kumar Bose[2], Md. Rafiqul Alam Talukder[3]
[1]*Assistant Professor (Surgery), Sheikh Hasina Medical College, Tangail, Bangladesh*
[2]*Assistant Professor (Surgery), Sheikh Hasina Medical College, Tangail, Bangladesh*
[3]*Assistant Professor (Anaesthesia), Sheikh Hasina Medical College, Tangail, Bangladesh*

Submitted: 15-03-2022 Accepted: 25-03-2022

ABSTRACT

Introduction: Mastalgia (breast pain) was described in the medical literature as early as 1829 and is a common complaint amongst women of child bearing age, women commonly suffers from fibrocystic breast changes as well as mastalgia. Which may occur separately or in combination. Mastalgia occur due to hormonal imbalance-oestrogen excess, progesterone deficiency.

Objective: To assess the Mastalgia in Patients with Fibrocystic Breast Changes and the Non-Surgical Treatment.

Materials and Methods: It was a Prospective longitudinal study carried out in Surgery dept., Sheikh Hasina Medical College Hospital, Tangail, Bangladesh from January 2019 to December 2021. The inclusion criteria were women of reproductive age group and patients diagnosed as fibrocystic breast disease by clinical, radiological or cytological examinations within the study period. Patients with suspected breast lesion or diagnosed breast malignancy, pregnant, lactating women and who were planning to have pregnancy in near future, history of any breast surgery or having congenital disability of breast were excluded from this study.

Results: Total numbers of respondents were 23 patients. Highest respondents of our study were aged between 31 to 35 years (30.4%). Mean age of the respondents were 30.24±6.93 years of SD. After 6 months follow up, 34.78% had pain improvement in non-pharmacological group. Significant difference had been found every Facets Inco rated within Domains. Here VAS 0-2 was considered as pain improvement and VAS 4 and above was considered as non-improvement of pain. In this study quality of life (QOL) in non-pharmacological treatment receiving group- in physical domain: pain 34.85%, physical health 9(39.1%) energy and fatigue 8(34.8%) and sleep and rest 10(43.5%) had improvement. In psychological domain: 7(39.1) had improvement of self-esteem, 9(39.1) had improvement in concentration/ attention and 6(26.1) had improvement in negative feeling. In social relationship domain: in personal relationship 8(34.8%) and in sexual life 7(30.4%) had improvement. Chronologically they are menstrual irregularity (17.3%), weight gain (13.0%), headache (8.6%), nausea (4.3%), acne (4.3%) and nonspecific side effects (8.6%). Beside headache (13.0%), nausea (4.3%), dyspepsia (4.3%) and nonspecific side effects (8.6%) due to Bromocriptine. Whereas only 8.6% had bloating and 4.3% had headache due to Evening Primrose oil (EPO). Here a single patient sometimes complained of multiple side effects.

Conclusion: Fibrocystic changes are occasionally associated with breast pain. Fibrocystic changes of the breast commonly affect women in their third or 4th decades and should not be considered a disease but rather a phase of breast development and involution. Mastalgia caused by fibrocystic changes has been treated by a vast array of remedies ranging from simple re-assurance and a change in lifestyle, to non-pharmacological and pharmacological agents, the latter may be associated with serious side effects

Keywords: Mastalgia, Fibrocystic, Breast Changes, Non-Surgical Treatment.

I. INTRODUCTION

Mastalgia (breast pain) was described in the medical literature as early as 1829 and is a common complaint amongst women of child bearing age [1], women commonly suffers from fibrocystic breast changes as well as mastalgia. Which may occur separately or in combination [2]. Mastalgia occur due to hormonal imbalance-oestrogen excess, progesterone deficiency, changes in progestin/oestrogen ratio, differences in receptor sensitivity, disparate secretion of follicle-stimulating hormone (FSH) and luteinizing hormone (LH), low androgen levels, and high prolactin levels have all been implicated as the cause for mastalgia. Fibrocystic Breast Disease (FCBD) is the most common non-cancerous breast disease in women. Fibrocystic breast changes as well as mastalgia are common conditions that women suffer from. Breast pain is most common amongst women aged 30–50 years. They may occur separately or in combination. The nature of these changes as well as the associated

factors responsible for their development are not fully understood by many who treat patients suffering from breast pain. Unfortunately, mastalgia caused by fibrocystic breast changes is treated by breast specialists as well as by those not specialized in breast diseases. Mastalgia caused by fibrocystic breast disease is treated by breast specialists as well as by those not specialized in breast diseases [3]. Unfortunately, these patients are treated inappropriately for prolonged duration with non-pharmacological management by Evening Primrose Oil, [4] in a fear of more side effects of pharmacological managements by certain drugs6. Inappropriate selection of non-pharmacological treatment as a first line management option, sometimes creates financial burden and unchanged or recurrence of clinical symptoms [5]. Recent population based and breast clinic-based studies suggest that up to 70% of women experience breast pain in their lifetime [6].In the 10th revision of the International Statistical Classification of Diseases and Related Health Problems, (the ICD-10), fibrocystic disease or fibrocystic changes also known as chronic cystic mastitis and fibrocysticmastopathy is classified under 'benign mammary dysplasia' category N60, and in case of 'diffuse cystic mastopathy' sub-category N60.1.Fibrocystic changes of the breast involve various histological findings in both asymptomatic and symptomatic women, and are common in both groups. Fibrocystic changes and mastalgia are two different things although they commonly occur together. They can also occur separately, making the association between breast pain and fibrocystic histology inconsistent [5].Moreover, 10% of symptomatic participants had suffered breast pain for over half their lives. Of the symptomatic participants, 41% and 35% reported breast pain affecting the quality of life [7]. Fifteen percent of women who present to a breast clinic with mastalgia will require treatment [7,8]. Non pharmacological options of medical managements includes some life style modifications (LSM) like- an appropriately fitting and supportive bra, avoidance of caffeine drinks, reduction of dietary fat, increase fiber rich diet, physical exercise to reduce weight and relaxation training are said to be helpful for the treatment of mastalgia10 and some nutritional supplementations like oil of evening primrose (EPO) will help more than half of these women [9,10]. For those with intractable symptoms, Pharmacological options of medical management like- an anti-gonadotropin, Danazol6, or a prolactin inhibitor like bromocriptine [5], may be tried. Very rarely, it is necessary to prescribe an anti-estrogen, for example tamoxifen [11,12], or a luteinizing hormone-releasing hormone (LHRH) agonist to deprive the breast epithelium of estrogenic drive. Surgical interventions have a limited role in the management of mastalgia [5] but last-resort options for unresponsive and severe debilitating breast-pain include mastectomy with reconstruction [13].

II. MATERIALS AND METHODS

It was a Prospective longitudinal study carried out in Surgery dept., Sheikh Hasina Medical College Hospital, Tangail, Bangladesh from January 2019 to December 2021. The inclusion criteria were women of reproductive age group and patients diagnosed as fibrocystic breast disease by clinical, radiological or cytological examinations within the study period. Patients with suspected breast lesion or diagnosed breast malignancy, pregnant, lactating women and who were planning to have pregnancy in near future, history of any breast surgery or having congenital disability of breast were excluded from this study.

A thorough history of each patient was obtained and careful physical examination carried out of each patient. Hormonal assay and USG of both breasts were done in every patient but Mammography and FNAC were done only in suspected cases to exclude FBD and occult breast carcinomas, particularly in patient having family history of breast diseases. Non-pharmacological treatments receiving group were given life style modification (LSM) advices along with Evening Primrose Oil (EPO).

The LSM advices were wearing a supportive bra, exercise to reduce weight, reduction of mental stress by relaxation therapy, some dietary advises such as reduction of fat and caffeine intake, increase dietary fiber intake, etc. Evening Primrose Oil (EPO) was given orally in a dose of 1000mg thrice daily.

Mastalgia was measured by VAS score and QOL were calculated by modified WHO-QOL scoring (field trial version) in each follow up. Any side effects, willingness to continue the treatment were also asked to every patient in each follow up. No treatment was changed before 3 months of therapy, no matter what the response was. This study focused simply of medical treatments of mastalgia and their responses of QOL at beginning and after 6 months of treatment.

Treatments

General: A wide variety of therapies are used, but danazol is the most commonly used by 75% of surgeons. Breast specialists tend initially to use methods that are associated with fewer side-effects

International Journal Dental and Medical Sciences Research
Volume 4, Issue 2, Mar-Apr 2022 pp 226-231 www.ijdmsrjournal.com ISSN: 2582-6018

and reserve stronger treatments such as danazol and bromocriptine for more difficult cases. Hormonally active medications are more effective for patients with CM and are prescribed only for patients with severe prolonged symptoms [14, 15].

Nonpharmacological Interventions: Education and reassurance: Education and reassurance are integral parts of the management of mastalgia and should be the first-line of treatment [16]. Researchers have found no clear hormonal or specific pathological processes that explain cyclical breast pain [17]. However, certain associations and factors cannot be ignored (Table 1).

Table 1: Factors with possible relation to the development of Fibrocystic Changes of the breast.

Factors possibly related to Fibrocystic Breast Changes	
01	Age
02	Hormones
03	Premenstrual syndrome
04	Duct ectasia
05	Stress
06	Smoking
07	Caffeine

Clinical Features: Fibrocystic breasts are lumpy or nodular and although the breast changes categorized as "fibrocystic" are normal; they can cause breast pain and tenderness that is usually related to the period [17]. This glandular texture may be finely granular, nodular, or even grossly lumpy. Breast pain and palpable mass are the symptoms most frequently described by women presenting to general practitioners or breast clinics [18,19].CM accounts for approximately 2/3 of breast pain in specialty clinics, whereas non- CM accounts for the remaining 1/3 [20]. CM typically presents during the third or the fourth decade of life and the symptoms tend to persist with a relapsing course [20]. It usually starts during the luteal phase of the menstrual cycle and increases in intensity until the onset of menses, when it dissipates [6]. Mastalgia may be severe enough to influence usual daily activities [11]. In spite of that, mastalgia generally is underreported. Remission often occurs with hormonal events such as pregnancy or menopause. Only 14% of women with CM experience spontaneous resolution; however, 42% experience resolution at menopause [18]. The outcome can be successful in most patients with reassurance, non-pharmacological measures and in some instances one of several effective medications [20].

III. RESULTS

Total numbers of respondents were 23 patients. Highest respondents of our study were aged between 31 to 35 years (30.4%). Mean age of the respondents were 30.24±6.93 years of SD (Table 2).

Table 2: Age Distribution among Respondents (n=23)

Age Group	Frequency	Percent
18- to 20 yrs	2	8.6
21- to 25 yrs	5	21.7
26- to 30 yrs	6	26.0
31- to 35 yrs	7	30.4
36- to 40 yrs	2	8.6
41- to 45 yrs	1	4.3
Total	23	100.0

After 6 months follow up, 34.78% had pain improvement in non-pharmacological group. Significant difference had been found every Facets Incorated within Domains. Here VAS 0-2 was considered as pain improvement and VAS 4 and above was considered as non-improvement of pain (Table 2).

International Journal Dental and Medical Sciences Research
Volume 4, Issue 2, Mar-Apr 2022 pp 226-231 www.ijdmsrjournal.com ISSN: 2582-6018

Table 3: Distribution of the Respondents by 6 months follows up of non-pharmacological Treatment using QOL parameters.

Facets Incorated within Domains	Non pharmacological (n=23)		P value
	Improved	Not Improved	
Domains of QOL			
Pain	8(34.85)	15(65.2)	*0.006
Physical health	9(39.1%)	14(60.9%)	*0.008
Physica domain			
Energy & Fatigue	8(34.8%)	15(65.2%)	*0.001
Sleep & Rest	10(43.5%)	13(56.5%)	*0.05
Self esteem	7(39.1%)	16(69.6%)	*0.031
Psychological domain			
Concentration/Attention	9(39.1%)	14(60.9%)	*0.002
Negative Feeling	6(26.1%)	17(73.9%)	*0.003
Social Relationship			
Personal Relationship	8(34.8%)	15(65.2%)	*0.151
Sexual Relationship	7(30.4%)	16(69.6%)	*0.08

In this study quality of life (QOL) in non-pharmacological treatment receiving group- in physical domain: pain 34.85%, physical health 9(39.1%) energy and fatigue 8(34.8%) and sleep and rest 10(43.5%) had improvement. In psychological domain: 7(39.1) had improvement of self-esteem, 9(39.1) had improvement in concentration/ attention and 6(26.1) had improvement in negative feeling. In social relationship domain: in personal relationship 8(34.8%) and in sexual life 7(30.4%) had improvement (table-3).

Table 3: Distribution of side effects of non-pharmacological treatment options

Adverse Effect	Frequency	Percent
Danazole		
Weight gain	**3**	13.0
Menstrual irreguarity	**4**	17.3
Headache	2	8.6
Ana use	1	4.3
Acne	1	4.3
Non specific	2	8.6
Bromocriptine		
Headache	3	13.0
Ana use	1	4.3
Dyspepsia	1	4.3
Non specific	2	8.6
Evening Primrose Oil (EPO)		
Bloating	2	8.6
Headache	1	4.3

In this study majority of side effects occurred due to Danazole. Chronologically they are menstrual irregularity (17.3%), weight gain (13.0%), headache (8.6%), nausea (4.3%), acne (4.3%) and nonspecific side effects (8.6%). Beside headache (13.0%), nausea (4.3%), dyspepsia (4.3%) and nonspecific side effects (8.6%) due to Bromocriptine. Whereas only 8.6% had bloating and 4.3% had headache due to Evening Primrose oil (EPO). Here a single patient sometimes complained of multiple side effects (table-4)

IV. DISCUSSION

Mastalgia with or without breast lump in FBD is common complaint among the patients and a cause of significant anxiety and fear of female breast cancer in Bangladesh as well as all over the world. In this study maximum respondents were age between 31 to 35 years (33.3%). The mean age of the respondents were 30.24±6.93 years of SD. Similar observations were found in some previous studies by Scurr et al [21] and in a recent study done

by Godazandeh et al [22].In this study 51.1% respondents underwent non-pharmacological treatment by LSM and EPO on the selection criteria. In this study quality of life (QOL) in non-pharmacological treatment receiving group- in physical domain: pain 34.85%, physical health 9(39.1%) energy and fatigue 8(34.8%) and sleep and rest 10(43.5%) had improvement. In psychological domain: 7(39.1) had improvement of self-esteem, 9(39.1) had improvement in concentration/ attention and 6(26.1) had improvement in negative feeling. In social relationship domain: in personal relationship 8(34.8%) and in sexual life 7(30.4%) had improvement. Similar observation was seen in a previous study by Rajswaroob et al [23] where he showed drug treatment was significantly effective for mastalgia. In this study majority of side effects occurred due to Danazole. Chronologically they are menstrual irregularity (17.3%), weight gain (13.0%), headache (8.6%), nausea (4.3%), acne (4.3%) and nonspecific side effects (8.6%). Beside headache (13.0%), nausea (4.3%), dyspepsia (4.3%) and nonspecific side effects (8.6%) due to Bromocriptine. Whereas only 8.6% had bloating and 4.3% had headache due to Evening Primrose oil (EPO). Here a single patient sometimes complained of multiple side effects.Almost similar observation was seen in some previous study by Rajswaroob et al [23] and Neogi et al [24] and Nirhale et al [25].The ideal treatment for mastalgia caused by fibrocystic changes remains to be identified by sound recent randomized controlled clinical studies. These studies should be done on the simplest of remedies before being performed on the stronger remedies with considerable side-effects. Hopefully, the results revealed by these studies will open the path towards a systematic approach to the treatment of a common condition which many women suffer (or are deemed to suffer) from. Treatment should start with simple lifestyle changes and advance in a stepwise fashion to abstinence from certain substances to mild remedies and finally to stronger remedies only in those where other means fail. Only then can this condition be conquered with the least adverse effects. There are some limitations of this study. This study was performed in a single tertiary care hospital among small available population size.

V. CONCLUSION

Fibrocystic changes are occasionally associated with breast pain. Fibrocystic changes of the breast commonly affect women in their third or 4th decades and should not be considered a disease but rather a phase of breast development and involution. Mastalgia caused by fibrocystic changes has been treated by a vast array of remedies ranging from simple re-assurance and a change in lifestyle, to non-pharmacological and pharmacological agents, the latter may be associated with serious side effects. Some of these remedies are supported by good clinical evidence, while others continue to be used simply because the treating physician feels his/her patients respond to it.

REFERENCES:

[1]. Cooper A. Illustrations of the Diseases of the Breast, Part 1. London, England: Longman, Rees, Orme, Brown & Green; 1829.
[2]. Ader DN, South-Paul J, Adera T, Deuster PA. Cyclical mastalgia: Prevalence and associated health and behavioural factors. J PsychocsomObstet Gynecol. 2001; 22:71–6.
[3]. Marchant DJ. Inflammation of the breast. Obstetrics and Gynecology Clinics. 2002 Mar 1; 29(1):89-102.
[4]. Salati SA, Alhumaid AA. Mastalgia: A narrative literature review of current understanding and management. East and Central African Journal of Surgery. 2018 Jul 16; 23(1):42-51.
[5]. Cornell LF, Sandhu NP, Pruthi S, Mussallem DM. Current Management and Treatment Options for Breast Pain. InMayo Clinic Proceedings 2020; 95(3):574-580
[6]. Nicola LP.B,Shazia P.H.,CilonaC.Kirwan. Clinical management of idiopathic mastalgia: a systemic review. J Prime Health Care, 2018; 10(4): 312-323.
[7]. Nirhale DS, Dhende M, Shingade P, Chavan S, Sonawane T, Kulkarni G. A study on clinical profile and management of mastalgia. International Surgery Journal. 2018 Apr 21;5(5):1889-93
[8]. Scurr J, Hedger W, Morris P, Brown N. The prevalence, severity, and impact of breast pain in the general population. The Breast Journal. 2014 Sep; 20(5):508-13
[9]. Murshid, KR 2011, 'A review of mastalgia in patients with fibrocystic breast changes and the non-surgical treatment options', Journal of Taibah University Medical Sciences, vol. 6, no. 1, pp. 1–18.
[10]. Pruthi, S, Wahner-Roedler, DL, Torkelson, CJ, Cha, SS, Thicke, LS, Hazelton, JH & Bauer, BA, 2010, 'Vitamin E and evening primrose oil for management of cyclical mastalgia: A randomized pilot study', Alternative Medicine Review, vol. 15, no. 1, pp. 59–67.
[11]. Ortiz-Mendoza CM, Lucas Flores MA, Domville Ede G.Mastalgia treatment with

tamoxifen'. [Article in Spanish]. GinecolObstet Mex. 2003; 71:502-7.
[12]. Jain BK, Bansal A, Choudhary D, Garg PK, Mohanty D. Centchromanvstamoxifen for regression of mastalgia: a randomized controlled trial. International Journal of Surgery. 2015 Mar 1; 15:11-6.
[13]. Groen JW, Grosfeld S, Bramer WM, Ernst MF, Mullender MM. Cyclic and non-cyclic breast-pain: A systematic review on pain reduction, side effects, and quality of life for various treatments. European Journal of Obstetrics & Gynecology and Reproductive Biology. 2017 Dec 1; 219:74-93.
[14]. Dixon JM. Managing breast pain. Practitioner. 1999; 243: 484-486, 488- 489, 491.
[15]. Faiz O, Fentiman IS. Management of breast pain. IntJClinPract. 2000; 54: 228-232.
[16]. Rosolowich V, Saettler E, Szuck B, Lea RH, Levesque P, Weisberg F, Graham J, McLeod L, Rosolowich V; Society of Obstetricians and Gynecologists of Canada (SOGC). Mastalgia. J ObstetGynaecol Can. 2006; 28(1): 49-71; quiz58-60, 72-74.
[17]. Norlock FE. Benign breast pain in women: a practical approach to evaluation and treatment. J Am Med Womens Assoc. 2002 Spring; 57(2):85- 90.
[18]. BRIDGE Study Group. The presentation and management of breast symptoms in general practice in South Wales. Br J Gen Pract. 1999; 49: 811- 812.
[19]. Barton MB, Elmore JG, Fletcher SW. Breast symptoms among women enrolled in a health maintenance organization: frequency, evaluation, and outcome. Ann Intern Med. 1999; 130:651-657.
[20]. Davies EL, Gateley CA, Miers M, Mansel RE. The long-term course of mastalgia. J R Soc Med. 1998; 91: 462- 464.Breast pain: mastalgia is common but often manageable. Mayo Clin Health Lett. April 2000; 18:6.
[21]. Scurr J, Hedger W, Morris P, Brown N. The prevalence, severity, and impact of breast pain in the general population. The Breast Journal. 2014 Sep; 20(5):508-13.
[22]. Godazandeh G, Ala S, Motlaq TM, Sahebnasagh A, Bazi A. The comparison of the effect of flaxseed oil and vitamin E on mastalgia and nodularity of breast fibrocystic: a randomized double-blind clinical trial. Journal of Pharmaceutical Health Care and Sciences. 2021 Dec; 7(1):1-8.
[23]. Rajswaroob U, Kannan R, Kannan NS, Tirouaroul T. Effectiveness of centchroman on regression of fibroadenosis and mastalgia. Journal of clinical and diagnostic research: JCDR. 2016 Oct; 10(10):PC10-14.
[24]. Neogi P, Manwatkar S, Singh SK, Kola A, Imran Q, Katyayan I, Verma A. A comparative study of Centchroman, Tamoxifen and Danazol in management ofcyclicalmastalgia. International Surgery Journal. 2019 Jan 28; 6(2):365-8.
[25]. Nirhale DS, Dhende M, Shingade P, Chavan S, Sonawane T, Kulkarni G. A study on clinical profile and management of mastalgia. International Surgery Journal. 2018 Apr 21; 5(5):1889-93.