

## Mastalgia among Saudi Women in Western Region, KSA and Related Risk Factors

Suleiman Jastaniah\*, AlHassan Al-Maghrabi, Amaal AL-Dosari, Areej Alghamdi, Ashjan Attiah, Fatimah Najjar, Fawziah Alsalmi, Haneen Al-Maghrabi, Nabilah Sulaimani and Samaher Refae

Faculty of Medicine, Umm Alqura University, Makkah, Kingdom of Saudi Arabia

\*Corresponding author: Dr. Suleiman Jastaniah, FRCS (Ed), FACS, Trauma Fellowship Toronto University, Faculty of Medicine, Umm Al-Qura university, Makkah, P.O. Box 715, Kingdom of Saudi Arabia, Tel: 966-505539003; E-mail: [sa.jastaniah@hotmail.com](mailto:sa.jastaniah@hotmail.com)

Received date: February 01, 2017; Accepted date: March 13, 2017; Published date: March 20, 2017

Copyright: © 2017 Jastaniah S, et al. This is an open-access article distributed under the terms of the Creative Commons Attribution License, which permits unrestricted use, distribution, and reproduction in any medium, provided the original author and source are credited.

### Abstract

Mastalgia (defined as self-reported breast pain, unilateral or bilateral for a period of not less than two months) is one of the symptoms that might affect young ladies who seek medical advice.

**Method and Results:** Pretested questionnaire was used to collect data. 418 ladies aged (18-45 years) were included in the study, 340 had unilateral or bilateral breast pain for a period of not less than two months, either localized (54%) or generalized. 19.7% had the pain for more than 10 times per year. (77%) of those ladies were used to drink coffee once daily, (13%) of them were using contraceptive pills, and 49 patients were smokers and all of them had breast pain. (60.8%) were obese with significant P value (0.003).

**Conclusion:** Mastalgia is common among the Saudi population. Providing a good healthcare and preventing the risk factors will reduce the number of ladies visiting the outpatient department (OPD). The management should start with lifestyle changes, education and reassurance.

**Keywords:** Mastalgia; Breast pain; Caffeine; Smoking; Obesity

### Introduction

Mastalgia is one of the symptoms that affect the lifestyle of many ladies and they seek medical advice for it. Mastalgia is a breast pain which could be cyclical, non-cyclical, and extramammary (nonbreast) pain [1]. Cyclical mastalgia is related to menstrual cycle. Non-cyclical mastalgia could be constant or intermittent but is not associated with the menstrual cycle and often occurs after menopause. Extramammary pain arises from the chest wall or other sources. As physicians working in clinics, we found that many cases that complain of breast pain only, share most of the risk factors. So we decided to investigate those risk factors that increase the incidence of mastalgia among Saudi female population. Those risk factors include age, caffeine intake, smoking, using oral contraceptive pills, lactation and menstrual cycle. The height and weight are considered also as risk factors in our study as we thought that, they could have an effect (increase body mass index). Mastalgia is a common problem seen in the Western region which is not mentioned in the literature. The objectives of this study were to identify the risk factors that cause mastalgia, decreasing the frequency of pain attacks which could be controlled by eradicating or decreasing the risk factors, and to educate the female population about the risk factors which could decrease the occurrence of mastalgia. The study was a survey that was conducted by our research group.

Therefore, we will identify the risk factors for mastalgia among random Saudi women from the Western Region of the Kingdom of Saudi Arabia.

### Methodology

All the data used in this study was collected from Saudi females in their child bearing age; they were aged 18–45 years. We chose this age group due to the fact that breast infections commonly occur at this age group whereas the younger than 18 years and the older than 45 years were excluded due to the very low prevalence of infection and lactation expected (Q1).

The questionnaire contains 3 questions (Q 2, 3, 4) for assessing the site and the pattern of pain in mastalgia.

We categorized women into four groups based on the frequency of their breast pain in the past: "first time episode", "2-5 times", "6-10 times" and "more than 10 times" (Q 5).

The other question was used to create the difference between cyclic mastalgia or non-cyclic mastalgia which were often associated with premenstrual syndrome (PMS) and other cause of pain (Q 6).

We asked women whether they had lactated before or had pain during breastfeeding as it could be a cause of mastalgia especially soon after childbirth. The fact is that women breasts become painful and engorged few days after giving birth. A poor or improper latch of the baby while breastfeeding or using a breast pump incorrectly could also cause mastalgia (Q 7).

The other questions (Q 8, 9) were used to know the progress of lump, if she had found it before, or cyclic lump with menstruation.

We asked women about consuming some of the common drinks "soft drinks, coffee, tea, energy drinks or chocolate" to correlate any relationship with pain (Q 10, 11).

One of the most common side effects in women taking oral contraceptive pill was breast tenderness and pain. So, we asked whether they were using contraceptive pills to relate this as a possible cause of mastalgia (Q 12).

Women who were known to be smoking, we asked them about the types of tobacco they use to find if there was any correlation between smoking type and mastalgia (Q 13).

Normal activities and exercise, especially those large-breast women not wearing the proper support can cause some elements of disturbing mastalgia (Q 14). It was suggested that the primary anatomic support for the breast is the Cooper's ligaments. In an attempt to reduce breast movements, an external support has been developed (Q 15, 16).

We also asked about weight and height to calculate the body mass index and to find if there is a correlation with breast pain (Q 17, 18).

The use of topical nonsteroidal anti-inflammatory drugs (NSAIDs) and whether they reduce the pain associated with mastalgia (Q 19). Using an ointment, hot or cold compress, if prescribed to help reduce cyclical mastalgia (Q 20).

Finally, the presence of previous history of mass, mastitis or abscess in breast is the most common risk factor of mastalgia especially if it is diagnosed as malignant lump (Q 21, 22, 23). Also, we asked about any previous investigations (invasive "biopsy" or non-invasive "ultrasound/mammogram") to reach a diagnosis (Q 24, 25, 26) (Figure 1).

**The Questionnaire**

Personal data :

1) Name: \_\_\_\_\_

2) Nationality: \_\_\_\_\_

3) Marital status: \_\_\_\_\_

4) Which age group you belong to ?

18-25  
 26-35  
 36-45  
 46-55

5) Regarding the breast pain you experience is it?

Localized  
 Generalized

6) If it localized, in which quadrant do you feel it ?

Upper outer quadrant  
 Upper inner quadrant  
 Lower outer quadrant  
 Lower inner quadrant  
 Central area

7) Do you feel the pain ?

One breast only  
 Both breasts

8) How frequent do you feel this pain " per year " ?

0  
 First time episode  
 2-5 times  
 6-10  
 More than 10 times

9) Do you feel this breast pain prior to your period " menstrual cycle " ?

Yes  
 No

10) Are you lactating " or were you lactating when you experienced the pain " ?

Yes  
 No

11) Do you self-examine your breast: regularly ?

Yes  
 No

12) Have you ever felt a lump during self-exam ?

Yes  
 No

13) Do you regularly consume one of the following ?

Soft drinks  
 Coffee  
 Tea  
 Energy drinks  
 Chocolate  
 None

14) How frequent do you drink those per day ?

1-2 times  
 3-4 times  
 More than 4

15) Are you using oral contraceptive pills ?

Yes  
 No

16) Do you smoke any of the following ?

Cigarettes  
 Mir'assel  
 Shisha  
 none

17) Regarding the size of your bra do you use ?

one size bigger  
 one size smaller  
 fits your breast size exactly

18) do you wear sport bra when you experience the breast pain ?

Yes  
 no

19) How much do you weight .....

20) How much your height is .....

21) Do you use any of the following to relieve the breast pain ?

Aspirin  
 Adol  
 Dougriem  
 Voltaren  
 None

22) What about applying Ointment such as ?

Voltaren  
 Profland  
 heating pads  
 none

23) Did you seek medical help for your breast pain before ?

yes  
 no

24) If yes, what was the diagnosis ?

Mastitis  
 Fibroadenoma  
 Breast Abscess  
 Others

25) If there was a mass, was it ?

benign  
 malignant

26) Have you done ultrasound ?

yes  
 no

27) Have you done mammogram ?

yes  
 no

28) Did they perform biopsy on you ?

yes  
 no

Figure 1: The questionnaire.

## Results

Our study shows 340 out of 418 (81%) experienced breast pain (mastalgia); 238 were at age group (18-25) (70%), 46 at (26-35) (13.5%), 56 at (36-45) (16.5%). 185 (54%) were having localized pain and 155 (46%) generalized pain in the breast. Regarding the frequency of pain 131 (38.5%) of them experienced pain for 2-5 times per year, 64 (18.8%) of them for 6-10 times and 67 (19.7%) more than 10 times. In connection with premenstrual syndrome, 228 of those ladies experienced pain prior to period. For lactation, 200 of them were not lactating. About the progress of cystic lump, 255 (75%) of them were not experiencing self-examination and from those who perform the self-examination only 62 (18%) felt a lump. For consumption of common drinks, 246 (72%) are those ladies used to drink caffeine at least once daily. For contraceptive intake, only 22 (6.5%) ladies are using it. Smoking as a risk factor is significant. 49 ladies in the study group have breast pain (mastalgia) with P value=0.003. 30 ladies in the group who were using sports bra showed decrease in the severity of pain. As for body mass concern, 46 were under weight, 126 were average weight, 89 were overweight and 43 were obese. The study shows 77 of them are using medications for pain like pain killers. Only 56 (16%) ladies seek medical advice for breast pain. Finally, 234 ladies were not diagnosed out of those 340 ladies. For those who were having mass; only 4 of them were diagnosed to have cancer. 42 of them have done an ultrasound, 19 undergone mammograms and 13 of them undergone biopsy.

## Discussion

The prevalence of mastalgia among women was reported to be as high as 69% in the literature [2,3]. In order to provide effective therapy, both anatomical and physiological understanding of the breast has to be provided. Our study showed that 70% of the patients aged between (18-25) years old were experiencing breast pain. Regarding the pain site; whether it is one or both breasts, the results showed that it has insignificance importance, about 38.5% of them have 2-5 times per year and 228 of those ladies experienced breast pain prior to the menstrual cycle. 200 out of 340 were not lactating. Imbalance in estrogen and progesterone effects on the breast have been frequently implicated [2]. Hormonal assays of estrogen, progesterone, and prolactin have shown no consistent abnormalities despite of the relation to the menstrual cycles. Furthermore many women associated the onset and resolution of cyclical mastalgia with hormonal events, such as pregnancy and taking the oral contraceptive pill [4]. Some studies have shown hyper-responsiveness of prolactin to stimulation by thyrotropin-releasing hormone [5-7]. Some degree of cyclic mastalgia was experienced by nearly all women with varying degrees of severity. However, when it lasts for more than 5 days a month it can interfere with their sexual, physical, social and work activities [3]. Our study showed a strong correlation between drinking caffeine and breast pain. In fact, interest in caffeine as a causative agent in fibrocystic breast disease arose from two observational studies by Minton [8,9] and Eren et al. [10] in which resolution of signs and symptoms occurred in 85% of subjects who abstained from methylxanthines for a period of 8 weeks or more. That's why it is recommended women with breast pain should be advised to reduce caffeine intake. There was no clear relationship between breast pain and oral contraceptives (OCs) because only 22 out of 418 were taking it. Some studies shows that low-dose OCs (20 µg ethinyl estradiol) have found no increased of breast symptoms compared with placebo [11]. Others have shown that many women reported a reduction in severity and duration of cyclic breast

discomfort and premenstrual syndrome (PMS) while taking OCs [12]. A multi-institutional cross-section prevalence study found that women receiving long-acting parenteral progesterone for contraception reported significantly less breast pain than the control group [2]. Result also shows that smoking has direct effect on breast pain and it was significant with P value of 0.003. Therefore, the patients who experienced breast pain should quit or at least reduce the number of cigarettes taken daily based on a study that identified smoking as being a factor associated with mastalgia [10,12]. It also shows no significant relation between the size of the bra or wearing sport bra and breast pain, although Maha SA et al. showed a significant relief of symptoms in the group who were asked to wear sports brassieres for 12 weeks [13]. The patients who were not physically fit (under-weight, obese or over-weight) have a bigger chance of experiencing breast pain than average body weight patients. Lower dietary fat intake has been associated with less severe mastalgia [14]. By reducing dietary fat, other parameters that may be related to mastalgia are altered including mammographic breast density [15]. The study also shows that 77 of them have been using medications for pain like pain killer and 56 of those ladies went to doctors for that pain and asked for medical help. In one study, topical application of the non-steroidal anti-inflammatory agents (NSAIDs) diclofenac and piroxicam yielded satisfactory relief in 81% of 26 women with severe cyclic, non-cyclic and surgical scar-related breast pain [16]. Zafar et al. showed no difference between topical diclofenac and oral diclofenacin the treatment of mastalgia [1]. In another study, Rosolowich et al. recommended that topical non-steroidal anti-inflammatory gel such as diclofenac 2% in pluronic lethicin organogel be considered for pain control for localized treatment of mastalgia [17].

## Conclusion

Mastalgia is a common complaint among female Saudi population that raises the number of patients presenting at the Outpatient Clinic. It is a real problem that requires both clinical and social understanding. However, the real cause of mastalgia is not well understood yet. Education and reassurance are important parts which should be the first line of management. Providing a good health care and preventing the risk factors play an essential part. Women with breast pain are advised to reduce the caffeine intake per day and smoking should be stopped or at least to minimize the number of cigarettes taken daily. Being overweight or underweight has been associated with more incidence of mastalgia. Therefore, reduction in dietary fat and good nutrition are recommended.

## Acknowledgement

I would like to thank Prof. AlBager Al Faki for reviewing the manuscript.

## References

1. Zafar A, Rehman A (2013) Topical diclofenac versus oral diclofenac in the treatment of mastalgia-a randomized clinical trial. *Rawal Medical Journal* 38: 371-374.
2. Euhus DM, Uyehara C (1997) Influence of parenteral progesterone on the prevalence and severity of mastalgia in premenopausal women. *Journal of the American College of Surgeons* 184: 596-604.
3. Ader DN, Shirver CD (1997) Cyclic mastalgia: Prevalence and impact in outpatient breast clinic sample. *J Am Coll Surg* 185: 466-470.
4. Davies EL GC, Gateley CA, Miers M, Mansel RE (1998) The long-term course of mastalgia. *Journal of the Royal Society of Medicine* 91: 462-464.
5. Rea N BF, Gentile A, Parmeggiani U (1997) Prolactin response to thyrotropin-releasing hormone as a guideline for cyclical mastalgia treatment. *Minerva Medica journal* 88: 479-487.
6. BeLieu RM (1994) Mastodynia. *Obstet Gynecol Clin North Am* 21: 461-477.
7. Smith RL, Pruthi S, Fitzpatrick L A (2004) Evaluation and management of breast pain. *Mayo Clin Proc* 79: 353-72.
8. Minton JP, Abou-Issa H, Reiches N, Roseman JM (1981) Clinical and biochemical studies on methylxanthine-related fibrocystic breast disease. *Surgery* 90: 299-304.
9. Minton JP, Foeking MK, Webster DJ, Matthews RH (1979) Caffeine, cyclic nucleotides, and breast disease. *Surgery* 86: 105-109.
10. Eren T, Aslan A, Ozemir IA, Baysal H, Sagiroglu J, et al. (2016) Factors effecting mastalgia. *Breast Care (Basel)* 11: 188-193.
11. Coney P, Washenik K, Langley RG, DiGiovanna JJ, Harrison DD (2001) Weight change and adverse event incidence with a low-dose oral contraceptive. *Contraception* 63: 297-302.
12. Ader DN, South-Paul J, Adera T, Deuster PA (2001) Cyclical mastalgia: Prevalence and associated health and behavioral factors. *Psychosom Obstet Gynecol* 22: 71-76.
13. Maha SAAH (2000) Sports brassiere: Is a solution for mastalgia. *The Breast Journal* 6: 407-409.
14. Goodwin PJ, Miller A, Del Giudice ME, Singer W, Connelly P, et al. (1998) Elevated high-density lipoprotein cholesterol and dietary fat intake in women with cyclic mastopathy. *Am J Obstet Gynecol* 179: 430-437.
15. Boyd NF, Greenberg C, Lockwood G, Little L, Martin L, et al. (1997) Effects at two years of a low-fat, high- carbohydrate diet on radiologic features of the breast. *J Natl Cancer Inst* 89: 488-496.
16. Irving AD, Morrison SL (1998) Effectiveness of topical non-steroidal anti-inflammatory drugs in the management of breast pain. *J R Coll Surg Edinb* 43: 158-159.
17. Rosolowich V, Saettler E, Szuck B, Lea RH, Levesque P, et al. (2006) Mastalgia. *J Obstet Gynaecol Canada* 28: 49-71.