

Frequency of Breast Ultrasound Findings in patients presenting with Mastalgia

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ABSTRACT

Aim: To determine the frequency of different Mastalgia findings on breast ultrasound.

Methodology: This was a prospective, cross-sectional study, conducted at Radiology department of Shalamar Hospital, Lahore from 1st September 2021 to 29 February 2022. This study includes all patients having breast pain with at least one month of duration presenting to OPD or breast clinic of Shalamar Hospital. All patients were referred breast ultrasound after taking history and examination. The results of their breast ultrasound were recorded on Performa.

Results: A total of 95 female patients of age above 18 years were included. Mean age of patients, was 35.4 ±10.7years. Mean duration of breast pain was 4.27±3.9 months. The ultrasound findings which showed benign pathologies include, Benign lesion 10(10.5%), Fibroadenoma 13(13.7%), Simple cyst 8(8.4%), and Duct ectasia 7(7.4%). Abscess in the breast also diagnosed in 5(5.3%) patient. 52 (54.7%) females had normal breast ultrasound from which 37(71.2%) were with cyclic pain and 15(28.8%) were with non cyclic pain.

Conclusion: Females presenting with complaint of breast pain have different ultrasound findings. In the majority of patient, there was no abnormality found (normal ultrasound). Ultrasound helps to determine the cause of breast pain so that in case of any disease, specific treatment or further investigation advised and normal report provides reassurance to the patients by reducing fear and anxiety.

Key words: Breast ultrasound, Mastalgia, breast pain

INTRODUCTION

Mastalgia is also known as mastodynia and mammalgia, and has been described in medical literature since 1892¹. About two-thirds of women of their reproductive age experienced breast pain. The prevalence of mastalgia in the UK is about 60% while in Asian race it is 5%². In the nonexistence of any swelling and in young ladies, breast pain is a unusual symptom of breast cancer. The pain due to breast cancer is only 1.2-6.7% cases³.

Akreyi¹ studied to determine the role of breast ultrasound with localized or diffuse pain in the breast. 170 women with the mean age of 31years presenting with breast pain were referred to the Radiology Department of the Maternity and Rizgari Teaching Hospitals. Breast pain intensity evaluated as mild, moderate and severe. The USG assessment of the affected breast classified as: normal (29.9%), tubular (18.6%), duct ectasia (18.6%) and mass (32.8%). Among the 58 subjects having breast mass, USG showed 86.2% were benign and 13.8% were intermediate. Histopathologically, masses showed that 46.4% were fibrocystic changes, 20.7% were fibroadenoma, 24.1% were benign cysts, 3.4% were malignancies and 5.2% were breast infections.¹

A cross sectional study was completed by Noureen and Farhat (2016)⁴ to conclude the incidence of different USG findings in patients with mastalgia. 170 subjects with age 15-60 year were included. USG showed fibroadenoma in 22(31.4%), a simple cyst in 18(14.3%), malignancy in 1(1.4%) and 6(8.6%) cases with duct ectasia. Mastitis was observed in 3(4.3%) and 1(1.4%) had abscess. 27 cases i.e. 38.6% had normal breast results on USG and among them 81.5% had cyclic and 18.5% non cyclic breast pain⁴.

Alsalamy and Alattabi⁵ considered to assess the breast pain whether focal or diffuse pain with or without a conspicuous lump without history of breast cancer by using USG. This study incorporated 90 women with mean age of 32.9±8.38 yrs. The USG of the affected breast classify into four categories i.e. normal 60%, duct dilation 26.7%, solid mass 8.9%, cystic mass 4.4%. Duct ectasia is the most common cause of Mastalgia after normal reports⁵.

Sinha et al (2019)⁶ included 96 patients. Imaging results were unconstructive in 64(66.6%) cases and appeared benign in 20(20.8%) cases and one showed malignant results⁶.

Another study conducted by Nazneen et al. (2019)⁸ showed function of USG to assess TSH and Prolactin levels with mastalgia. Out of 100, 18 women (18%) had hypothyroidism (TSH >5). 8(8%) women with mastalgia had high serum prolactin levels. Decrease in mastalgia in 15 women with hypothyroidism and in all women with hyperprolactinemia was seen after suitable therapy.

Ojha et al (2021)⁹ studied to consider the diagnostic value of mammography and ultrasound in mastalgia without any conspicuous breast mass. Out of the 50 cases, 05(10%) were malignant, and 45(90%) were benign. The sensitivity and specificity of mammography were 60%, and 68% respectively, and of USG were 100% and 35.6%, respectively.

The objective of the study was to determine the frequency of different Mastalgia findings on breast ultrasound.

METHODS

Study Design: A prospective, cross-sectional, observational study

Setting: Radiology Department of Shalamar Hospital Lahore

Duration: Six Months from 1st September 2021 to 29 February 2022 after IRB permission.

Sample size: On the basis of prevalence of 60%, the calculated sample size is 95 with 95% confidence level and 10% margin of error.

Sampling Technique: Purposive Sampling technique

Study Population: Patients presenting with breast pain in OPD (breast clinic) of Shalamar Hospital was included after informed consent and referred to the Radiology department of Shalamar Hospital Lahore, for breast ultrasound from where data of the patients fulfilling the inclusion criteria, was recorded.

Inclusion Criteria:

- Women having pain in one or both breasts with at least one month of duration
- Women with age above 18

Exclusion Criteria:

- Any mass or lump
- Pregnant women
- Breast feeding women

Received on 26-12-2022

Accepted on 16-05-2023

- History of breast cancer
- Nipple discharge or retracted nipple

Data collection: After the endorsement from the SMDC-IRB and getting permission from Shalamar hospital, all females from Surgery OPD of Shalamar Hospital with the complaint of breast pain were included after informed consent. After taking history and breast assessment, USG breast was done. The data composed was analyzed using SPSS 25 version, with the significance of 10%. Comparison between variables was done by using Chi-square test.

RESULTS

A total of 95 patients, all women of age above 18 were involved. Mean age was 35.4±10.7 years. Mean duration of breast pain was 4.27±3.9 months.

Table 1: Age distribution

Age Group	Frequency	%age
18-25	21	22.1
25-35	30	31.6
35-45	27	28.4
45-55	14	14.7
>55	03	3.2
Total	95	100

Table 2: Types of Mastalgia

Types of Mastalgia	Frequency	%age
Cyclic pain	65	68.4
Non cyclic pain	30	31.6
Total	95	100

Table 3: Ultrasonography findings

Ultrasound Findings	Frequency	%age
Normal	52	54.7
Benign lesion	10	10.5
Fibroadenoma	13	13.7
Simple cyst	08	8.4
Abscess	05	5.3
Duct ectasia	07	7.4
Total	95	100

Table 4: Age and type of mastalgia

Age Group	Cyclic pain	Non cyclic pain	Total
18-25	19(90.5%)	02(9.5%)	21
25-35	29(96.7%)	01(3.3%)	30
35-45	15(55.6%)	12(44.4%)	27
45-55	02(14.3%)	12(85.7%)	14
>55	0(0.0%)	03(100%)	03
Total	65(68.4%)	30(31.6%)	95

Table 5: Marital status and mastalgia

Marital status	Types of mastalgia		Total
	Cyclic	Non cyclic	
Single	26(96.3%)	1(3.7%)	27
Married	39(57.4%)	29(42.6%)	68
Total	65(68.4%)	30(31.6%)	95

Chi square test=13.565 Association is positive

Table 6: Parity and mastalgia

Parity	Types of mastalgia		Total
	Cyclic	Non cyclic	
Nulliparous	31(91.2%)	3(8.8%)	34
Primiparous	13(81.3%)	31(8.8%)	16
Multiparous	21(46.7%)	24(53.3%)	45
Total	65(68.4%)	30(31.6%)	95

Chi square test=19.223 Association is positive

DISCUSSION

Many females consult to gynecologist for their breast problems. Breast pain is one of the most common problems that leads to consultation. Ultrasound is a good modality of choice in diagnosing of breast pain like other breast diseases after physical examination. In our study, 95 patients of means age 35.35 ±10.7 years with age group of 18years above, were included. The mean duration of breast pain was 4.3±3.9 months. The study conducted by Noureen and Farhat⁴ include 70 patient with age range of 18-65 years. Mean age of the patients was 30.1 year. Mean duration of breast pain was 5.3 months.

In this study, there is association of types of mastalgia with age group, marital status and parity. 65(68.4%) women have cyclic breast pain and 30(31.6%) have non-cyclic breast pain. In previous literature, there is non-significant association between the variables.

The study results were in favour of Sinha et al⁶ and Naz et al 2010⁷ which also had normal ultrasound results in majority. But in Noureen and Farhat, 2016⁴ normal ultrasound was reported only in 38.6% cases. The most common benign finding in our study was Fibroadenoma which agrees with (Noureen and Farhat, 2016)⁴.

In this study, second common finding was benign lesion. Women with Benign lesion were recommended for histopathology relationship. Similar results were reported by (Noureen and Farhat, 2016)⁴, and (Sinha et al)⁶ studies. The other ultrasounds results were simple cyst abscess and ductal ectasia also found out in this study.

CONCLUSION

Breast pain is most frequent symptom among female that cause anxiety and fear. Females presenting with breast pain have diverse ultrasound findings. In the widely held patients, there was no deformity found (normal ultrasound). Ultrasound helps to conclude the source of breast pain so that in case of any disease, precise treatment or more investigation advised and a normal report provides encouragement by reducing fear and anxiety.

Conflict of interest: Nil

REFERENCES

1. Akreyi, H. A. 2013. The role of breast ultrasound in assessing patients with mastalgia in Erbil, Iraq. Zanco Journal of Medical Sciences (Zanco J Med Sci), 17, 331-336
2. Alsalamy, HJ. & Alattabi, AS. 2018. Role of breast ultrasound in assessment of women with breast pain. Iraq Medical Journal, 2, 83-85.
3. Grullon, S & Bechmann, S. 2020. Mastodynia. Stat Pearls [Internet]. HEALTH, V. 2022. An Overview of Mastalgia [Online]. Available: <https://www.verywellhealth.com/mastalgia-medical-definition-430288> [Accessed 29 jan 2022].
4. Kataria, K., Dhar, A., Srivastava, A., 2014. A systematic review of current understanding and management of mastalgia. Indian Journal of Surgery, 76, 217-222.
5. Noureen, S & Farhat, J. 2016. Ultrasound findings in patients with mastalgia.
6. Sinha, A., Sharma, SK., Abhilashi, K et al. Role of Imaging Techniques in Evaluating Mastalgia at a Tertiary Care Hospital.
7. Naz, N., Sohail, S. & Memon, M. A. 2010. Utility of breast imaging in mastalgia. J Liaquat Uni Med Health Sci, 9, 12-6.
8. Nazneen, S., Kumari, A., Kashyap, J et al. 2019. Ultrasound and hormonal (Thyroid stimulating hormone and prolactin) evaluation in mastalgia. Journal of Indira Gandhi Institute Of Medical Sciences, 5, 158.
9. Ojha, R., Prakash, A., Verma, A et al. (2021) Role of Mammography and Ultrasound in Non-palpable lesions of the Breast presenting with Mastalgia and nipple discharge.