**ORIGINAL ARTICLE**

**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 Perfroma.

Results: A total of 95 female patients of age above 18 years were included. Mean age of patients, was 35.4 ±10.7 years. Mean duration of breast pain was 4.27±3.9 months. The ultrasound findings which showed benign pathologies include, Benign lesion 13.8% were intermediate.

- **Halamar:** 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

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**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 usual symptom of breast cancer. The pain due to breast cancer is only 1.2-6.7% cases3.

Akrey1 studied to to OPD of 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 Perfroma.

- **Halamar:** 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

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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

<table>
<thead>
<tr>
<th>Age Group</th>
<th>Frequency</th>
<th>%age</th>
</tr>
</thead>
<tbody>
<tr>
<td>18-25</td>
<td>21</td>
<td>22.1</td>
</tr>
<tr>
<td>25-35</td>
<td>30</td>
<td>31.6</td>
</tr>
<tr>
<td>35-45</td>
<td>27</td>
<td>28.4</td>
</tr>
<tr>
<td>45-55</td>
<td>14</td>
<td>14.7</td>
</tr>
<tr>
<td>&gt;55</td>
<td>03</td>
<td>3.2</td>
</tr>
<tr>
<td>Total</td>
<td>95</td>
<td>100</td>
</tr>
</tbody>
</table>

Table 2: Types of Mastalgia

<table>
<thead>
<tr>
<th>Types of Mastalgia</th>
<th>Frequency</th>
<th>%age</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cyclic pain</td>
<td>65</td>
<td>68.4</td>
</tr>
<tr>
<td>Non cyclic pain</td>
<td>30</td>
<td>31.6</td>
</tr>
<tr>
<td>Total</td>
<td>95</td>
<td>100</td>
</tr>
</tbody>
</table>

Table 3: Ultrasonography findings

<table>
<thead>
<tr>
<th>Ultrasound Findings</th>
<th>Frequency</th>
<th>%age</th>
</tr>
</thead>
<tbody>
<tr>
<td>Normal</td>
<td>52</td>
<td>54.7</td>
</tr>
<tr>
<td>Benign lesion</td>
<td>10</td>
<td>10.5</td>
</tr>
<tr>
<td>Fibroadenoma</td>
<td>13</td>
<td>13.7</td>
</tr>
<tr>
<td>Simple cyst</td>
<td>06</td>
<td>6.4</td>
</tr>
<tr>
<td>Abscess</td>
<td>05</td>
<td>5.3</td>
</tr>
<tr>
<td>Duct ectasia</td>
<td>07</td>
<td>7.4</td>
</tr>
<tr>
<td>Total</td>
<td>95</td>
<td>100</td>
</tr>
</tbody>
</table>

Table 4: Age and type of mastalgia

<table>
<thead>
<tr>
<th>Age Group</th>
<th>Cyclic pain</th>
<th>Non cyclic pain</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>18-25</td>
<td>19(90.5%)</td>
<td>02(9.5%)</td>
<td>21</td>
</tr>
<tr>
<td>25-35</td>
<td>29(96.7%)</td>
<td>01(3.3%)</td>
<td>30</td>
</tr>
<tr>
<td>35-45</td>
<td>15(55.6%)</td>
<td>12(44.4%)</td>
<td>27</td>
</tr>
<tr>
<td>45-55</td>
<td>02(14.3%)</td>
<td>12(85.7%)</td>
<td>14</td>
</tr>
<tr>
<td>&gt;55</td>
<td>0(0.0%)</td>
<td>03(100%)</td>
<td>03</td>
</tr>
<tr>
<td>Total</td>
<td>65(68.4%)</td>
<td>30(31.6%)</td>
<td>95</td>
</tr>
</tbody>
</table>

Table 5: Marital status and mastalgia

<table>
<thead>
<tr>
<th>Marital status</th>
<th>Types of mastalgia</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cyclic</td>
<td>Non cyclic</td>
<td></td>
</tr>
<tr>
<td>Single</td>
<td>26(96.3%)</td>
<td>1(3.7%)</td>
</tr>
<tr>
<td>Married</td>
<td>39(57.4%)</td>
<td>29(42.6%)</td>
</tr>
<tr>
<td>Total</td>
<td>65(68.4%)</td>
<td>30(31.6%)</td>
</tr>
</tbody>
</table>

Chi square test=13.565 Association is positive

Table 6: Parity and mastalgia

<table>
<thead>
<tr>
<th>Parity</th>
<th>Types of mastalgia</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cyclic</td>
<td>Non cyclic</td>
<td></td>
</tr>
<tr>
<td>Nulliparous</td>
<td>31(91.2%)</td>
<td>3(8.8%)</td>
</tr>
<tr>
<td>Primiparous</td>
<td>13(81.3%)</td>
<td>31(18.8%)</td>
</tr>
<tr>
<td>Multiparous</td>
<td>21(46.7%)</td>
<td>24(53.3%)</td>
</tr>
<tr>
<td>Total</td>
<td>65(68.4%)</td>
<td>30(31.6%)</td>
</tr>
</tbody>
</table>

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 18 years above, were included. The mean duration of breast pain was 4.3±3.9 months. The study conducted by Noureen and Farhativ included 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 al^6 and Naz et al2010^7 which also had normal ultrasound results in majority. But in Noureen and Farhat, 2016^6 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)^6. 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)^6, and (Sinha et al) 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 ultrasonography 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

6. Sinha, A., Sharma, SK., Abdilahi, K et al. Role of Imaging Techniques in Evaluating Mastalgia at a Tertiary Care Hospital.