Clinicopathological Study and Management of Carcinoma of The Breast

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INTRODUCTION
Breast cancer is major public health for women throughout the world.

Breast cancer is the most frequently diagnosed cancer in women and the second most frequent cause of cancer death.

Over the past several decades, there has been a fairly steady and large increase in the incidence of the disease. 1 in 8 women have a lifetime risk of developing breast cancer (Devita and Rosenberg, 2001).

As breast cancer is a devastating disease so, it is important for the surgeon to rule out carcinoma with the minimal invasive investigation and thereby prevent the patient to undergoing surgery. Breast cancer results from uncontrolled proliferation of malignant cells resulting appearance of lump or mass in the breast. (Dye et al., 2010).

As carcinoma of the breast is quite a common clinical problem encountered in surgical practice, this study is an attempt to identify various risk factors, modes of presentation and to treat them by various surgical modes of management. (Dye et al., 2010)
Aims and Objectives

1. To study the etiology of carcinoma of the breast in patients age between 20-60yrs.
2. To study the pathology, clinical manifestations diagnosis of carcinoma of the breast.
3. To study the incidence of malignancy in carcinoma of the breast.
4. To study the modalities of treatment.

METHODOLOGY

Study Design
Prospective Study

Study Period
February 2014- February 2016

Method of Collection of Data
Data will be collected in a pretested proforma meeting the objectives of this study.

The first 50 patients who were admitted with a history of a lump in the breast were taken into study.

Inclusion Criteria
All proven cases of carcinoma breast.

Exclusion Criteria
Male breast carcinoma.

The clinical study of the first 50 proven cases of breast carcinoma was done by interviewing, clinical examination and by doing relevant investigations as required and treating depending upon the severity and stage of the disease.

RESULTS AND DISCUSSION

As the study is a descriptive study, the results obtained from the study were compared with the similar studies available in the literature, and as no hypothesis were formed or tested.

This study involved no control group, 50 cases admitted to the surgical ward with proved carcinoma breast were studied in detail.

Age incidence
In the present series majority of patients belonged to the age group between 41-50 years.

The youngest patient was of 23 years and the oldest was 65 years.

The average age of the patients affected was 46.02 years which is in concordance to the age of 45.8 years quoted by Das et al. (2012). Table 1

Socio economic status
In the present series, the majority of patient belongs to the lower economic strata of the society. This may be due to the fact that the present study was conducted in kattankulathur, which caters mainly for the poorer section of the society.

Diet
A diet high in fat has been positively associated with breast cancer in international correlation studies. A recent prospective study suggests a significant association between saturated fat (found mostly in high-fat milk, buttermilk, meat, cakes and biscuits) and breast cancer risk.

In our study, 80% of patients were consuming a mixed diet, most of them having a non-vegetarian diet frequently. Only 20% of patients were vegetarians. This may be attributed to the fact that fat intake, particularly animal fat, may cause a small increased risk of breast cancer but probably does not play as large a role as was once thought.

Menstrual status
Among the 50 female patients studied, 32 were postmenopausal and 18 were premenopausal, postmenopausal women constitute 64% and premenopausal 36%. Whereas in the List and Eisenberg series, there were 70% of postmenopausal and 30% of premenopausal women.

The least age for the attainment of menarche was 10 years and the maximum age was 15 years. The majority attained menarche before 13 years (70%). A case-control study conducted by Bhawanath Mukherjee (Das et al., 2012) showed no relation to the age of menarche with breast cancer. Earlier age at menarche is a high-risk factor with a relative risk of 1-2 according to a study by Hulka and Moorman (2001).

Parity
Nulliparity is definitely a high-risk factor with a relative risk of 1.1-2.0 according to Hulka and Moorman (2001) but the present study had only nil nulliparous women. 47 patients (94%) had one to four children, and the remaining 6% had more than four children up to 5 children.

Breastfeeding
In our study, all cases are parous women who had breastfed their children for three to six to twelve months. Lactation is one of the risk factors that still need to be studied because of conflicting findings in epidemiological studies and uncertainty regarding biological plausibility. A study conducted by Lai et al. (1996), suggested that women who have lactated show a protective effect against breast cancer.
Table 1: Age Incidence in Different Studies

<table>
<thead>
<tr>
<th>Age Group (Years)</th>
<th>Percentage of cases in our study</th>
<th>Percentage of Gang</th>
<th>Percentage of Das and Sen</th>
</tr>
</thead>
<tbody>
<tr>
<td>21-30</td>
<td>4</td>
<td>6</td>
<td>3.3</td>
</tr>
<tr>
<td>31-40</td>
<td>26</td>
<td>27</td>
<td>23.8</td>
</tr>
<tr>
<td>41-50</td>
<td>38</td>
<td>33</td>
<td>36.2</td>
</tr>
<tr>
<td>51-60</td>
<td>26</td>
<td>26</td>
<td>25.2</td>
</tr>
<tr>
<td>61-70</td>
<td>6</td>
<td>5</td>
<td>7.6</td>
</tr>
</tbody>
</table>

However, the duration of lactation did not show an influence in reducing the risk of breast cancer.

Age at Menarche

Early age at menarche has been consistently associated with an increased risk of breast cancer. The average age of menarche fell from around 16-17 years to 11-13 years today. The relative risk of premenopausal breast cancer is reduced by an estimated 7% for each year that menarche is delayed after 12 years.

In our series, 82% of patients had their menarche between 11-13 years, which supports the fact that early menarche is associated with a long exposure of breast tissue to estrogen stimulation. It is reported that women with menarche age of 10 or 11 years showed 2.2 times higher risk for breast cancer compared to women who had their first menstrual period at 12 years and above according to Williams and Lawrence (1999).

Family History

A family history of the breast in first or second-degree relatives is associated with an increased risk of the disease. The risk is greatest in patients with first-degree relatives, especially if under the age of 50 when the disease develops. The relative risk is 1.7 to 2.5 in women with first-degree relatives compared to 1.5 with second-degree relatives.

In our study, 3 patients in our series had a family history of breast cancer with a first and second-degree relative.

Presenting complaints

In the present series, lump in the breast was the presenting complaint in 76%. But after retrospectively examining all patients had a lump, a lump in the breast with ulceration of the skin was present in 2%, lump in the breast with skin changes was present in 8%. A painful lump in the breast was found in 10% of cases and nipple discharge was seen in 4% of cases. Table 2

Side

In our series, 68% had right-sided and 32% had left-sided pathology, showing predominance of the right side. Hai and Shrivastava (2003) series, which had 53% Right side pathology and 45.80% left side pathology and 1.20% bilateral disease, also showed right-sided predominance. But in the Gange et al. (1982) series, there were 49% right side and 51% left side pathology in their series conducted among the Indian population.

Site

Our study revealed that the upper outer quadrant (58%) was the most commonly involved site for carcinoma breast, followed by the upper inner quadrant; Lower inner quadrant each constituting 12%, central quadrant constituting 10%, lower outer quadrant constituting 6%. The occurrence of carcinoma more in UOQ is explained by the fact that UOQ has more breast tissue than other areas. Table 3

Size of the tumor

In our series, none of the cases had a tumor size less the 2cm, 13 cases (26%) had tumor greatest diameter between 2-5 cm and 37 cases (74%) more than 5cm as the greatest diameter. This is comparable to Gange et al. (1982), who had 39.81% cases size of less than 5 cm in diameter and 60.85% of cases had size more than 5 cm. This shows the ignorance and late presentation of the disease in our people.

Fixity

26% of cases were fixed to the skin on clinical presentation, and about 10%, that is 5 cases, were fixed to pectoralis major muscle. Surgery was offered to reduce the tumor burden in such patients. Das et al. (2012), in his series, had 24% of cases, which were attached to the skin, and 56% not attached to the skin. Our study is comparable to the findings of his series.

Involvement of opposite breast and opposite axilla

In our study group, none of the cases involved opposite breast or opposite axilla.

Clinical TNM staging

In the present study, there were no cases belong-
Table 2: Presenting complaints in different studies

<table>
<thead>
<tr>
<th>Complaints</th>
<th>Percentage of cases in our study</th>
<th>Percentage of Gang Yorkshire series</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lump</td>
<td>76%</td>
<td>74</td>
</tr>
<tr>
<td>Lump with ulceration</td>
<td>2%</td>
<td>6.48</td>
</tr>
<tr>
<td>Lump with skin changes</td>
<td>8%</td>
<td>-</td>
</tr>
<tr>
<td>Lump with pain</td>
<td>10%</td>
<td>13.89</td>
</tr>
<tr>
<td>Nipple discharge</td>
<td>4%</td>
<td>2.78</td>
</tr>
</tbody>
</table>

Table 3: Site incidence in different studies

<table>
<thead>
<tr>
<th>Quadrant</th>
<th>Percentage in our study</th>
<th>Percentage of Gang</th>
<th>Percentage of Das and Sen</th>
</tr>
</thead>
<tbody>
<tr>
<td>UOQ</td>
<td>58%</td>
<td>48</td>
<td>60</td>
</tr>
<tr>
<td>UIQ</td>
<td>14%</td>
<td>18</td>
<td>12</td>
</tr>
<tr>
<td>LOQ</td>
<td>6%</td>
<td>10</td>
<td>10</td>
</tr>
<tr>
<td>LIQ</td>
<td>12%</td>
<td>12</td>
<td>6</td>
</tr>
<tr>
<td>Central</td>
<td>10%</td>
<td>12</td>
<td>12</td>
</tr>
</tbody>
</table>

Table 4: Histopathological sub type in different studies

<table>
<thead>
<tr>
<th>Type</th>
<th>Percentage in Our study</th>
<th>Percentage in Rosens</th>
<th>Percentage in Macdivitt</th>
</tr>
</thead>
<tbody>
<tr>
<td>IDC(NOS)</td>
<td>80</td>
<td>75</td>
<td>78.10</td>
</tr>
<tr>
<td>Medullary</td>
<td>16</td>
<td>9</td>
<td>4.38</td>
</tr>
<tr>
<td>Lobular</td>
<td>4</td>
<td>10</td>
<td>8.70</td>
</tr>
<tr>
<td>Mucinous</td>
<td>-</td>
<td>2</td>
<td>-</td>
</tr>
<tr>
<td>Tubular</td>
<td>-</td>
<td>2</td>
<td>-</td>
</tr>
</tbody>
</table>

In our series, 80% of cases were of infiltrating ductal carcinoma (not otherwise specified) type, 16% were medullary, and 4% were lobular carcinoma (Russell et al., 2000; Rosen, 1979). Table 4

Treatment

Modified radical mastectomy (Simple mastectomy and axillary clearance) was done in all the cases. All tumors greater than 0.5 cm were subjected to radiotherapy. Chemotherapy was given to patients who had clinically palpable lymph nodes and tumor size > 1 cm both in pre and postmenopausal patients. Hormonal therapy was given to receptor-positive patients. Cases with skin ulceration were treated with toilet mastectomy and skin grafting.

Patient with stage IV treatment given was not cura-
tive but measured taken to prolong survival and enhance a woman's quality of life.

Among the cases that required radiotherapy were referred to Adyar cancer institute Chennai. Cases were followed till the end of the study. During the follow-up period, one case had local recurrence at the chest wall, as they did not receive postoperative radiotherapy or chemotherapy as advised.

The patients with chest wall recurrence were subjected to excision of the local recurrence again and advised postoperative radiotherapy. One patient had postoperative lymphedema following modified radical mastectomy.

CONCLUSION

50 cases of carcinoma breast were evaluated in the present prospective study and the following conclusions were drawn: Carcinoma breast is a disease more common in the female sex. The highest incidence was found between the fourth and fifth decade of life. A mixed diet predisposes to the development of breast cancer. Age of menarche and breast-feeding as risk factors could not be proved in our study. Carcinoma breast is common on low socioeconomic status (since we get most patients from a low socio-economic group) in contrast to the western population. A lump in the breast is the most common presenting complaint. The upper outer quadrant is the common site for breast cancer. Most cases belonged to Stage II and Stage III, which reflected the negligence and innocence of patients. FNAC is an effective method of establishing a diagnosis of breast cancer as all cases had malignancy in histopathological examination postoperatively. Infiltrating ductal carcinoma was the common histopathological type. Early and locally advanced-stage breast cancers are best treated with simple mastectomy and axillary clearance, radiotherapy, chemotherapy and hormonal therapy. A multidisciplinary approach is to be followed, with surgery playing a vital role. Even though there has been a significant improvement in the management of the disease in the last few decades, the effective cure of the disease requires reporting to the hospital in earlier stages of the disease, which is lacking in this locality. The study emphasizes the need for awareness and public education regarding carcinoma breast and its early detection. The simple and effective methods of detecting the disease early like self-breast examination, clinical breast examination should be made aware among the people as screening studies like mammography may not be cost-effective in this region of the community.

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Conflict of Interest

The authors declare that they have no conflict of interest.

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REFERENCES


