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Clinicopathological Study and Management of Carcinoma of The Breast

Ajay Raja A, Lakshmana R*, Abhilash M, Govinda Raju Chintada, Jeyakumar S, Pravindhas A

Department of General Surgery, SRM Medical College Hospital and Research Centre, SRM Institute of Science Technology (SRM IST), SRM Nagar, Kattankulathur, Kancheepuram, Chennai - 603203, Tamilnadu, India

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ABSTRACT

Worldwide, breast cancer is the most frequently diagnosed life-threatening cancer in women and the leading cause of cancer death in women.In India, breast cancer accounts for 19% of all cancers in women and is second only to lung cancer as a cause of cancer deaths. Many early breast carcinomas are asymptomatic; pain or discomfort is not usually a symptom of breast cancer. Breast cancer is often first detected as an abnormality on a mammogram before it is felt by the patient or healthcare provider. Surgery and radiation therapy, along with adjuvant hormone or chemotherapy when indicated, are now considered the primary treatment for breast cancer. For many patients with low-risk early-stage breast cancer, surgery with local radiation is curative. In India, Breast cancer is the second most common malignancy among women next to the Ca cervix. Since it presents as a painless lump, patients neglect and come to the hospital often late. This study is an attempt has been made to study the various risk factors, the natural history of the disease, clinical features, and mode of spread, pathological types, staging and management of breast cancer. Since most cases presented to us either in the Early or Locally Advanced stage, they were included in the study. For the diagnosis of breast lesions, Triple Assessment should be involved to characterize the lesions, which include clinical examination, imaging and FNAC/ Biopsy for histopathological correlation.

*Corresponding Author

Name: Lakshmana R
Phone: +919790828131
Email: lakshmar@srmist.edu.in

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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 Bishwanath 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

Table 1: Age Incidence in Different Studies

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

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. 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

Table 2: Presenting complaints in different studies

Complaints	Percentage of cases in our study	Percentage of Gang	Percentage of Yorkshire series
Lump	76%	74	84
Lump with ulceration	2%	6.48	-
Lump with skin changes	8%	-	-
Lump with pain	10%	13.89	5
Nipple discharge	4%	2.78	2

Table 3: Site incidence in different studies

Quadrant	Percentage in our study	Percentage of Gang	Percentage of Das and Sen
UOQ	58%	48	60
UIQ	14%	18	12
LOQ	6%	10	10
LIQ	12%	12	6
Central	10%	12	12

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

Table 4: Histopathological sub type in different studies

Type	Percentage in Our study	Percentage in Rosens	Percentage in Macdivitt
IDC(NOS)	80	75	78.10
Medullary	16	9	4.38
Lobular	4	10	8.70
Mucinous	-	2	-
Tubular	-	2	-

Clinical TNM staging

In the present study, there were no cases belonging to the stage I disease. There were 26% cases of stage II disease (10% stage II A, 16% stage II B), 68% of cases belonged to stage III (30% III-A and 38% B cases) and 6% belonged to stage IV disease. Other studies by Gange *et al.* (1982) reported 25% of stage I disease, 25% of stage II disease, 31% of stage III disease, 19% of stage IV disease. Although the majority of cases in the Gang et al. series was also staged III, they had an equal distribution of cases among other stages with a predominance of stage III.

Advanced presentation of the disease may be due to illiteracy, negligence and lack of awareness about carcinoma breast in the people in this locality of lower socio-economic strata.

Duration of symptoms

Logically length of the history should correspond to the stage of the disease. This was shown by Das *et al.* (2012) but our study was in contrast to that study although in our study, majority of cases of stage II had symptom duration of less than two months, and the majority of stage III had six months duration, cases with stage III disease were seen with all duration of the symptom. From this, we can confirm that the stage of disease doesn't depend on the only duration of symptoms but also other factors like tumor invasiveness, age of the patients, hormonal dependency of the tumor.

Histopathological subtype

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 mastectormy (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 curative 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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