

Original research article

Clinical-pathological study design of operable breast carcinoma

Dr. Sujatha Dasari

MS General Surgery, Assistant. Professor, Department of General Surgery, Kakatiya Medical College, Warangal, Telangana, India

Corresponding Author:

Dr. Sujatha Dasari

Abstract

Background and Objectives: To research the numerous clinical and pathological breast cancer operable presenting characteristics. Deciding on the institutional medication regimen and reducing breast mutilation surgery.

Methods: 60 patients who were all admitted to the Department of General Surgery, Kakatiya Medical College, Warangal, Telangana, India, participated in a prospective research. To obtain a definitive diagnosis and organize therapy as per stage, a thorough history, clinical examination, and investigation were completed.

Results: During the research period, 60 individuals were examined; the mean age at which operable breast carcinomas develop is 48.54 years. A person with a favourable family history. Mainly in patients with an early menarche. The most frequent appearance (100%) is a lump. 98% of the patients in the study reported having IDL as their HPE. 56% of the people in our research sample had stage II illness.

Conclusion: Breast operable carcinoma prevalence is higher in middle-aged populations. Infiltrating ductal carcinoma is the most frequent histological type and tumor is the most frequent presenting complaint. The best therapy is one that uses several modalities. Currently, breast cancer is discovered early because to regular screening mammography and a health education campaign.

Keywords: Breast carcinoma, tumour, menopause, HPE report, clinical TNM staging

Introduction

Breast carcinoma is the most frequent main cause of mortality for those between the ages of 20 and 59 among adult women. Breast cancer incidence will rise with higher socioeconomic level.

Currently, younger age groups are reporting it as well. The morbidity and mortality of the condition will be considerably reduced by early detection and treatment. The participant's stage of illness when they come to the medical services determines the course of therapy. When used routinely, screening mammography for women over 50 will lower cancer mortality by 33%. The breast conserving surgery may be scheduled if they are found early^[1, 2, 3]. When a patient is at an advanced stage, they need vigorous therapy since there will be serious side effects. Breast cancer treatment calls for a multi-modal strategy that incorporates surgery, radiation, and chemotherapy. This research aims to examine patients with operable breast cancer, who are candidates for surgery^[3, 4, 5].

It covers both early breast cancer sufferers (stage 1, stage 11A and stage 11B) and operable LABC patients (stages 111A and 111B), who may be taken for surgery right away or after receiving neoadjuvant therapy. In this paper, an effort is made to investigate the various potential risks, the disease's evolutionary biology, clinical characteristics, the stage of demonstration, the correlation between FNAC and the post-operative clinical and pathological report, the status of the hormone receptors and the treatment of operable breast cancer [5, 6, 7].

Material and Methods

After receiving participants' written consent, researchers performed a cross-sectional prospective study on 60 patients at Department of General Surgery, Kakatiya Medical College, Warangal, Telangana, India from November 2021 to October 2022.

Information was gathered by a thorough history, thorough physical examination, investigation, routine investigation, full blood count, blood sugar, urea, creatinine, and a regular urine sample. The insurance covered some of the specific tests, including an ultrasound of the breast and axilla, a chest X-ray, a mammogram, a fine-needle aspiration/tru-cut biopsy, a liver function test, an ultrasound of the abdomen and pelvis, a skeletal survey, an electrocardiogram, and a check for receptor status^[7, 8].

The patient with early-stage breast cancer was treated with surgery, adjuvant chemotherapy, hormone

treatment and radiation. After surgery, a patient with stage III illness receives adjuvant chemotherapy, hormone treatment, and radiation therapy. Percentages and frequency counts were used for statistical analysis, which was calculated using Microsoft Excel 2010.

Inclusion criteria

1. Individuals between the ages of 20 and 80.
2. A FNAC-positive result is required for all patients with a breast lump.
3. Patients in stages I, II, or III of the disease.

Exclusion criteria

1. Those who suffer from noncancerous breast illness.
2. The number of guys diagnosed with breast cancer.
3. Inoperable, late-stage breast cancers.
4. People who have breast cancer that has spread and is inflammatory.
5. A lump in the breast that returned after surgery for breast cancer.

Results

Table 1: Age distribution

Age Class Intervals	Observations	Percentages
21-30	5	8.3
31-40	10	16.6
41-50	25	42
51-60	13	22
61-70	5	8.3
71-80	2	3.3
Total	60	100
Age		Observations
Number of Observations		60
Mean Age		48.54
Standard Deviation		10.54

Ages in our sample vary from 21 to 80. The lowest age restriction in our research is 26 and the greatest age limit is 80. On average, patients present at the age of 48.5. The majority of our patients are between the ages of 41 and 50.

Table 2: Symptoms

Age Class Intervals	Observations	Percentages
Lump	60	100
Pain	12	20
Nipple Retraction	11	18.3
Nipple Discharge	2	3.3
Skin Dimpling	5	13.3
Peau d'orange	2	3.3
Skin Tethering	2	3.3

Nipple discomfort (20%), retraction (11%), and discharge (11%), but always a lump (100%).

Table 3: Duration of symptoms

Duration of Symptoms	Number of Observations	Percentage
2 months	30	50
3-6 months	19	32
7-12 months	11	18.3

In our analysis roughly 30 (50%) of the patients reported with duration of less than 2 months. About 19 (32%) patients came with length of 3-6 months and about 11 (18.3%) of the patient.

Table 4: Comorbidities

Co-morbid conditions	Number of Observations	Percentage
Nil	30	56
Diabetes Mellitus	13	22
Hypertension	5	6
DM+HT	8	12

Hypothyroid	2	2
Hysterectomy	2	2
Total	60	100

In our research out of 60 patients, 13 (22%) of them having DM, 5(6%) of them having HT, and 8(12%) of them having both DM & HT. This reveals DM and HT having they are high risk factor for the development of carcinoma breast.

Table 5: Diet

Diet	Observations	Percentage
Vegetarian	6	10
Non-Vegetarian	54	90
Total	60	100

Fifty-four (90%) of the participants in our research were not vegetarians. This provides significant evidence between a high-fat diets with an increased risk of breast cancer.

Table 6: Age of menarche

Age of menarche in Years	Number of patients	Percentage
10 to 11	18	30
12 to 13	29	48.3
14 to 15	9	15
16 to 17	4	6.6
Total	60	100

In our research the age at menarche varies from 10-17 years, the lowest age of menarche is 10years and the maximum age at menarche is 17 years. The typical age of menarche is 12.44. Breast cancer risk increases with the timing of menarche.

Table 7: Menopause period

Menopause Status	Number of Observations	Percentage
1	9	15
2	16	26.67
3	35	58.33
Total	60	100

Out of 60 patient, 35 of them post-menopausal and 16 of them perimenopausal. According to the results of this research, postmenopausal women have a higher risk of developing breast cancer.

Table 8: Marital status

Status	Number of Observations	Percentage
Married	59	98
Unmarried	1	2
Total	60	100

Of the 60 patients, just one (2%) was unmarried.

Table 9: Age at first birth

Age at First Birth	Number of Observations	Percentage
0	11	18.3
20	13	21.6
25	26	43.3
30	8	13.33
35	2	3.33
Total	60	100

Sixty people, or 43.3%, had a high incidence of carcinoma breast by age 25.

Table 10: Parity

Parity	Number of Observations	Percentage
Nulliparous	11	18.3
Parity 1	12	20

Parity 2	21	35
Parity 3	8	13.33
Parity 4	4	6.66
Parity 5	4	6.66
Total	60	100

Out of 60 patients, most of the patient (78%) belongs to 1 or 2 child birth. Higher the parity fewer the chance of cancer breast.

Table 11: Breast Feeding

Breast Feeding in months	Number of Observations	Percentage
Nulliparous	11	18.3
1 to 12	27	45
13 to 24	16	26.6
25 to 36	6	10
Total	60	100

Patients with several children were more common in our sample. 11 of were nulliparous and were not breast fed. Except 11, all of the women breast fed. About half of our patients (45%) had been breastfed for less than a year.

Table 12: Family history of breast cancer

Breast Cancer	Observations	Percentage
Present	1	2
Absent	59	98
Total	60	100

Our research shows that around 2% of female participants had a good family history.

Table 13: Breast side involvement

Side of Breast Involved	Number of Observations	Percentage
Left	37	62
Right	23	38
Total	60	100

Thirty-seven individuals (or 62% of the total) in our research had left-sided breast cancer.

Table 14: Quadrant of involvement

Quadrant of Involvement	Number of Observations	Percentage
UOQ	31	51.66
UIQ	7	11.66
LOQ	5	8.33
LIQ	4	6.66
Central	11	18.33
Multicentric	2	3.33
Total	60	100

UOQ lump was the most common presentation type in our analysis, accounting for 31 patients (51.66%), followed by central, UIQ, LIQ, LOQ and multicentric. Cancer of the breast is quite common in UOQ.

Table 15: Size of tumour

Size of Tumour	Number of Observations	Percentage
<2 cms ²	6	10
2-5 cms ²	38	63.33
>5 cms ²	16	26.66
Total	60	100

In our research 3(6%) patient presented with less than 2cm, 38(63.3%) presented with 2-5cm sized tumour and 16(26.66%) of those had >5 cm tumour.

Table 16: HPE report

HPE Report	Observations	Percentage
IDL	51	85
IDL+LVI	2	3.33
IDL++VE Margin	2	3.33
IDL+LVI +Ve Margin	2	3.33
IDL+PERINODAL	2	3.33
SC	1	1.66
Total	60	100

98% of the patients HPE results revealed IDL.

Table 17: Clinical TNM Staging

Clinical TNM Staging	Number of Observations	Percentage
1A	4	6.6
11A	14	23.33
11B	22	36.66
111A	10	16.66
111B	10	16.66
Total	60	100

In our research 22 (36.66%) of the patient with stage 11B, followed by 14 (23.33%) with stage 11A, 10 (16.66%) them with 111A and 10 (16.66%) stage 111B and last comes stage 1A (6.6%).

Table 18: Treatment Given

Treatment Given	Number of Observations	Percentage
MRM+AC+HT	37	61.66
MRM+AC+RT+HT	6	10
NAC+MRM+AC+RT+HT	17	28.3
Total	60	100

In our research 17(28.3%) patient under gone NAC followed by MRM then AC, RT, HTs. There were 37 (or 61.66%) patients that underwent MRM+AC+HT. MRM+AC+RT+HT was performed on 6 (10%).

Table 19: Post-Operative Complications

Post-Operative Complications	Observations	Percentage
UE	45	75
Seroma	8	13.33
Wound gapping	2	3.33
Arm oedema	2	3.33
Flap necrosis	1	1.66
Brachial neuralgia	1	1.66
WI	1	1.66
total	60	100

In our research patient 8 (13.33%) of them experienced seroma, which is the most prevalent after surgical complication identified.

Table 20: Hospital Stay

Hospital Stay	Number of Observations	Percentage
< 10 days	44	73.34
> 10 days	16	26.66
Total	60	100

In our research patient 44 (73%) of them remained fewer than 10 days, 16 (27%) patients stayed more than 10 days.

Discussion

Participants' ages spanned a wide range, from 21 to 80. There is always a lump as the first sign of breast cancer.

Third, the median duration of symptoms for individuals who sought care was less than two months was little over half. About half of the individuals in our studies had both DM and HT. This evidence links both DM and HT to an elevated risk of breast cancer. The average age of menarche in our sample was

12.49 years. There is a correlation between early menarche and an increased risk of cancer^[9, 10, 11]. A third of the participants in the research were considered "post-menopausal". Nearly half of patients (48%) have their first child beyond the age of 25. We found that between 76% and 80% of them had just one or two children. This demonstrates that the greater the risk of cancer, the lower the parity. There is a favourable family history in around 2% of cases. In our research, the most frequent form of participation was on the side (64%). 58% of patients presented with lump in the UOQ. Cancer of the breast most often spreads here. Sixty-eight percent of patients reported with tumours measuring between 2 and 5 centimetres in diameter. Sixty percent of patients presented with axillary lymph nodes. The vast majority (98%) of cases of IDL may be attributed to this particular histopathological subtype. Forty percent of patients in our research were diagnosed at stage 11B, followed by stage 11A^[12, 13, 14]. Our study found that the average age at which operable breast cancer occurs to be 48.54, while the study found it to be about 43.8. Our findings suggest that the peak age for developing breast cancer is between the ages of 41 and 50, a difference of almost 46 percentage points from the study group's average age of 33^[15, 16, 17]. In contrast to the findings of the Rakesh Chopra study's research group, which found that 13% of participants were at Stage 11 of our study, 8% were at Stage 11, and 56% were at Stage 1. Tumor sizes varied from 2 centimetres in our study (6%) to 5 centimetres in the Rakesh Chopra study (32%) and from 2 centimetres in our study (8%) to 5 centimetres (26%). Compared to the aforementioned study, in which 42% of patients were negative for nodal positivity and 58% were positive, 60% of our subjects were nodal positive [18,19,20]. Our research has shown that IDL accounts for close to 100% of the variation seen, thus his estimate of 98% is not far off. In contrast to his study's findings of around 47%, 23%, and 30%, our research shows that 56% of cases are ER PR negative, 30% are ERPR +ve and 14% are HER 2 neu^[19, 20].

Conclusion

Sixty patients participated in our cross-sectional prospective research. The following findings were made. After cervical cancer, carcinoma is the most frequent kind of cancer in women. 41-50-year-olds make up the bulk of the involved population. The median onset age is 46. Patients who reach menarche at a younger age are more likely to get the condition. If there is less than two copies of a gene, there is a higher likelihood that it may become cancerous. Breast cancer is more common in never-pregnant women. Breast cancer most often manifests as a painless lump. Most prevalent among persons who consume a high-fat, non-vegetarian diet. Only 2% of our patients had a history of cancer in their families. In most cases of breast cancer, the disease will affect the left breast.

The upper outside quadrant of the breast is the most typical location for cancer to spread to. Upon first evaluation, the majority of patients were found to have a diameter of less than 5 centimetres. In our research, stages 11 and 111 were the most typical forms of presentation. Diagnostic FNAC is the gold standard for breast cancer. The vast majority of cases of cancer have an infiltrating ductal histology. Multimodality treatment, which includes surgical, chemotherapeutic, hormonal, and radiotherapeutic interventions, is the standard of care. We routinely perform modified radical mastectomy on all early breast cancer patients in our nation due to low patient satisfaction with the standard mastectomy and a lack of access to other treatments like radiation and chemotherapy.

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References

1. Short practice of surgery Bailey and Love 26th edition.
2. Schwartz's principles of surgery 9th edition.
3. American society of clinical oncology 9th edition by Rakesh chopra. 2001;19:106-111.
4. Chandra AB. Problems and prospects of cancer of the breast in India J Indian Med Assoc. 1979;72:43-5.
5. Kuraparathy S, Reddy KM, Yadagiri LA, Yutla M, Venkata PB, Kadainti SV, *et al.* Epidemiology and patterns of care for invasive breast carcinoma at a community hospital in southern India. World J Surg. Oncol. 2007;5:56.
6. Rosai J. Rosai and Ackerman's Surgical Pathology. 10th ed. New Delhi: Reed Elsevier India Private Limited; Chapter 20, Breast; c2011. p. 1659-1770.
7. Van de Rijn M, Perou CM, Tibshiranai R, Haas P, Kallioniemi O, Kononen J, *et al.* Expression of cytokeratins 17 and 15 identifies a group of breast carcinomas with poor clinical outcome. Am J Pathol. 2002;161(6):1991-6.
8. Agarwal G, Pradeep PV, Aggarwal V, Yip CH, Cheung PS. Spectrum of breast cancer in Asian women. World J Surg. 2007;31:1031-40.
9. AJCC Cancer Staging Manual. 6th ed. Chicago, Illinois USA: Springer; c2002. p. 227-8.

10. Akhtar M, Akulwar V, Gandhi D, Chandak K. Is locally advanced breast cancer neglected disease? *Indian J Cancer*. 2011;48:403-5.
11. Greenall MJ, Wood WC. Cancer of the breast. In: Morris PJ, Wood WC, eds. *Oxford Textbook of Surgery*. 2nd Edn. New York; Oxford University Press Inc. 2000;2:11-91.
12. Haagensen C, Stout A. Carcinoma of the breast II-criteria of operability. *Ann Surg*. 1943;118:1032-1051.
13. Kakarala M, Rozek L, Cote M, Liyanage S, Brenner DE. Breast cancer histology and receptor status characterization in Asian Indian and Pakistani women in the U.S. a SEER analysis. *BMC Cancer*, 10, 191.
14. Toniolo PG, Levitz M, Zeleniuch-Jacquotte. A prospective study of endogenous estrogens and breast cancer in postmenopausal women. *J Natl Cancer Inst*. 1995;87:190-197.
15. Spicer DV, Pike MC. Sex steroids and breast cancer prevention. *Monogr. Natl. Cancer Inst*. 1994;16:139-147.
16. Sainsbury RC. The Breast. In Russell RCG, Bulstrode CJK, Williams NS. Eds. *Bailey and Love's Short practice of surgery*. 24th Edn. London; Hodder Education; c2004. p 837.
17. Patient delay and stage of diagnosis among breast cancer patients in Germany-a population based study *Br J Cancer*. 2002 Apr;86:7.
18. Haagensen CD. *Diseases of the Breast*. Philadelphia; WB Saunders, 1971. p. 478-502.
19. Schaake-Koning C, Van der Linden EH, Hart G, Engelsman E. Adjuvant chemo and hormonal therapy in locally advanced breast cancer: a randomized clinical study. *Int. J Radiat. Oncol. Biol. Phys*. 1985 Oct;11(10):1759-63.
20. Hortobagyi GN, Ames FC, Buzdar AU, Kau SW, McNeese MD, Paulus D, *et al*. Management of stage III primary breast cancer with primary chemotherapy, surgery and radiation therapy. *Cancer* 1988;62(12):2507-16.