



CLINICO-PATHOLOGICAL STUDY OF BREAST CARCINOMA AT TERTIARY CARE HOSPITAL

Gynaecology

Suhrud V.Bangal* Medical Intern, Rural Medical College, Loni, Ahmednagar, Maharashtra, India
*Corresponding Author

Dr. Vidyadhar Bangal Professor and Head, Dept of Obstetrics and Gynaecology, Rural Medical College, Loni, Ahmednagar, Maharashtra, India

ABSTRACT

Introduction- Breast cancer is the commonest cancer in women worldwide with a widely variable incidence between countries and regions. The age standardized incidence rates range from 6.2 to 39.5 per 100,000 Indian women. **Material and Methods-** Present study was a retrospective record based observational study of 115 cases of carcinoma breast. **Results-** The mean age of women with cancer cervix was 51 years. It was observed that only 4 percent of women with cancer breast were nulliparous. Lump in breast was the presenting symptom in 76% cases. Only 10 percent of the women were in stage I. Highest percentage (44%) of cases of breast cancer had grade II disease. Ninety five percent cases had infiltrating ductal carcinoma. **Conclusion-** Majority of breast cancers are diagnosed at a relatively advanced stage. Regular preventive checkups will help to avoid the delay in diagnosis and its subsequent consequences.

KEYWORDS

Breast carcinoma, breast self examination, mammography

INTRODUCTION-

Breast cancer is the commonest cancer of urban Indian women and the second commonest in the rural women accounting for 25% of all cancer cases.^{1,2} Breast cancer is the commonest cancer in women worldwide with a widely variable incidence between countries and regions. The developed countries with a small proportion of the world population account for almost 50% of breast cancers diagnosed worldwide.³ The lowest breast cancer incidence is reported from Far Eastern and South-East Asian countries.^{4,5} In the developing countries of Asia, the health care burden on account of breast cancer has been steadily mounting. Over 100,000 new breast cancer patients are estimated to be diagnosed annually in India.^{5,6}

As per the ICMR data, breast cancer is the commonest cancer among women in urban registries, where it constitute more than 30% of all cancers in females.⁷ In the rural cancer registry, breast cancer is the second commonest cancer in women after cancer of the uterine cervix.⁷ The age standardized incidence rates range from 6.2 to 39.5 per 100,000 Indian women. The age standardized incidence rates vary from region, ethnicity, religion, with the highest incidence reported at 48.3 per 100,000 women in the Parsi community of Mumbai.⁷ The incidence of this disease has been consistently increasing, and it is estimated it has risen by 50% between 1965 and 1985.⁸ The rise in incidence of 0.5–2% per annum has been seen across all regions of India and in all age groups but more so in the younger age groups (< 45 years).⁹

Study objectives were to find out the clinical presentation, tumour size, clinical stages at the time of diagnosis and to understand the histopathological types, histological grades of breast cancers in women.

MATERIAL AND METHODS-

Present study was a retrospective record based observational study, carried out at department of Radiation oncology attached to tertiary care hospital in rural area. In the present study, 115 diagnosed cases of carcinoma breast, who were investigated and treated during one year period (January 2016 - December 2016) at Pravara Rural hospital were included for analysis. Information on age, parity, education, socioeconomic class, health awareness, symptoms and signs, clinical staging, tumour size, histo-pathological type, histological grading was collected. Statistical analysis was done by descriptive statistics as mean, SD, percentage, proportions etc.

RESULTS-

There were 115 cases of cancer breast under treatment during study period. Majority of the women (69 percent) women were in their 5th and 6th decade of their life. The mean age of women with cancer cervix was 51 years. Ten percent of women were below 40 years of age. (Table 1) Majority of women (62%) were illiterate or had education up

to 4th class. (Primary school education). Twenty five percent of women had secondary school education up to 10th standard. Large percentage of women (71%) belonged to lower and lower middle socioeconomic class as per modified Kuppaswami classification. It was observed that only 4 percent of women with cancer breast were nulliparous. Fifty percent of women had two children. (Table 2) Only 12 percent of women had consumed oral contraceptive pills in their life time and none of the women took any hormone replacement therapy following their menopause. None of the women had gone to hospital for preventive gynaecological or breast examination any time before development of cancer breast. None of the women practiced self breast examination in their life time. Women were not exposed to any health awareness programme regarding cancer prevention. Women presented with complaints of either lump in breast, enlargement of breast or unequal size of breast in 76% cases. Pain or discomfort in breast was the presenting complaint in 71% of cases. Discharge from nipple was presenting symptom in 10 % cases. (Table 3) It was observed that only 10 percent of the women were in stage I, 32 percent were in stage II, 38 percent in stage III and remaining 28 percent were in stage IV of the disease at the time of diagnosis. (Table 4) Maximum number of cases (53.04%) of cancer breast had tumour size of T2. In 20 percent cases the tumour size was T1 and in 22 percent it was T3. Only 5% cases had displayed tumour size of T4. (Table 5) Highest percentage (44%) of cases of breast cancer had grade II disease, followed by 24% cases of grade III and 20 percent cases of grade I and 7% of grade IV disease. (Table 6) Majority of cases (95%) had infiltrating ductal carcinoma, 2 % had medullary carcinoma of breast and there was one case each of papillary, mucinous, invasive adeno-carcinoma and invasive lobular carcinoma. (Table 7)

DISCUSSION-

Breast cancer is the commonest cancer in women worldwide with a widely variable incidence between countries and regions. The developed countries with a small proportion of the world population account for almost 50% of breast cancers diagnosed worldwide.³ The lowest breast cancer incidence is reported from Far Eastern and South-East Asian countries.^{4,5} In general, breast cancer has been reported to occur a decade earlier in Indian patients compared to their western counterparts. While the majority of breast cancer patients in western countries are postmenopausal and in their 6th and 7th decade, the picture is quite different in India with premenopausal patients constituting about 50% of all patients.⁵ More than 80% of Indian patients are younger than 60 years of age. In the present study 53% of women with breast cancer were below 50 years of age and 79% were below 60 years of age. Only 21% women were above 60 years of age. The average age of patients in 6 hospital-based cancer registries ranged from 44.2 years in Dibrugarh, 46.8 years in Delhi, 47 years in Jaipur, to 49.6 years in Bangalore and Chennai. A significant proportion of Indian breast cancer patients are younger than 35 years of age. In the

present study, about 10% cases were seen below the age of 40 years. This proportion varies between 11% (Tata Memorial Hospital (TMH) Mumbai)¹⁰ to 26% (SGPGIMS Lucknow)⁵. Age related findings of the present study completely match with the finding of other Indian studies. Young age has been associated with larger tumor size, higher number of metastatic lymph nodes, poorer tumor grade^{11,12}.

Late detection of cancer breast was seen in the present study. Only 9% cases were detected in stage I whereas 32%, 31% and 28% cases were detected in stage II, III and IV respectively. Similar observations were reported in other studies.¹³⁻¹⁵

The average breast tumor size in most centers is well over 5 cm, with almost 2/3 of these being grade III or II. At a major cancer centre in the city of Mumbai, 70% patients were reported as having grade III disease¹⁴. A high proportion of patients were reported to have a high S-phase fraction, aneuploidy and other bad prognostic features on histology. At SGPGI Lucknow, the average tumor size has been 5.4 cm.⁵ In the present study 20% cases had tumor size of less than 2 cms. Tumor size of 2-5cms was observed in 53% cases. Two third of the cases had tumor size above 2cms. The presentation seems similar in many other developing countries¹⁵.

In a study from New Delhi, the histo-morphological types seen in breast cancer patients indicates that invasive ductal carcinoma not otherwise specified was found to be the most common type (88%) followed by infiltrating lobular carcinoma (3.7%), colloid carcinoma (1.1%), ductal carcinoma in situ (1.1%), and metaplastic types (0.9%).¹³ At SGPGIMS Lucknow too, IDC is the commonest variety, with very few non-invasive cancers.⁵ In the present study, the commonest morphological type was infiltrating ductal carcinoma (94.78%). Medullary carcinoma of breast was seen in 1.76% cases. The percentage of cases with mucinous, papillary, invasive adenocarcinoma, infiltrating lobular carcinoma was 0.86% each. The morphological type of cancer breast observed in the present study co relate with the observations of other studies.¹¹⁻¹³

In the present study, the highest number of cases had grade II tumour (44.32%), followed by grade III tumour (28.86%). Highest number of cases had stage II tumour (30.92%), followed by stage III tumour (28.86%). 16.49% cases had stage II and grade II tumour. It was observed that tumour grading was increasing with advanced tumour stage. Similar findings were reported by other research workers.¹⁶⁻¹⁸ In the present study, 44% cases had grade II tumour and 68% cases had grade II plus III tumour. Similar observations were reported from other Indian studies.¹³⁻¹⁵

It was observed that majority of cases were diagnosed in advanced in operable stages of the disease, when it had already spread to distant organs. Women do not perform self breast examination due to lower level of education and cultural inhibitions. They either do not understand its importance or do not know how to perform it. When the symptoms appear or when the growth becomes obvious on the surface, they are brought to the hospital by the relatives. These women are provided a combination of radiation or chemotherapy with poor 10 year survival rates.

CONCLUSION-

Breast cancer is the commonest cancer in women. Owing to the lack of awareness of this disease and in absence of a breast cancer screening program, the majority of breast cancers are diagnosed at a relatively advanced stage. Illiteracy, fear of cancer detection, poor awareness, socio cultural norms, lack of screening facilities, high cost of treatment are some of the contributory factors in late detection of cancer breast cases. Awareness about self breast examination, improving screening and treatment facilities, improving facilities for receptor assay and reliable immune histo-chemical methods for staining will help in early detection and better treatment outcome of cancer breast. Considering the magnitude of the problem, it is necessary to have awareness programme in schools and colleges, about importance of simple measures like self breast examination. Regular preventive checkups will help to avoid the delay in diagnosis and its subsequent consequences.

TABLE-1 AGE WISE DISTRIBUTION OF CASES

SR. NO	AGE GROUP (YEARS)	NO. OF CASES (no=115)	%
1	<40	11	9.57

2	40-49	49	42.60
3	50-59	30	26.08
4	60-69	19	16.53
5	70-79	04	3.48
6	>80	02	1.74
	Total	115	100
	Mean $\pm$ SD	51.02 years $\pm$ 14.31 years	

TABLE-2 PARITY WISE DISTRIBUTION OF CASES

SR.NO	PARITY	NO OF CASES (n=115)	%
1	Nulli	05	4.34
2	1	12	10.43
3	2	58	50.43
4	3	30	26.08
5	>3	10	8.69

TABLE 3-DISTRIBUTION OF CASES AS PER CLINICAL PRESENTATION

Sr.No	Symptoms and Signs	No (n=115)	(%)
1	Lump in breast/Enlargement of breast /difference in size of breast	87	75.65
2	Pain /Discomfort in breast	82	71.30
3	Discharge from nipple	34	29.56
4	Growth on surface of breast	12	10.43
5	Mass in axilla	08	06.95
6	Asymptomatic	28	24.34

TABLE 4-DISTRIBUTION OF CASES AS PER STAGE OF DISEASE AT DIAGNOSIS

Sr.No	Stage	No (n=115)	(%)
1	IA	08	6.95
2	IB	03	2.60
3	IIA	14	12.17
4	IIB	23	20.00
5	IIIA	18	15.65
6	IIIB	3	2.60
7	IIIC	14	12.17
8	IV	322	27.82

TABLE-5 DISTRIBUTION OF CASES AS PER TUMOUR SIZE

SR.NO	TUMOUR SIZE (cms)	NO of CASES (n=115)	%
1	T1	23	20.00
2	T2	61	53.04
3	T3	25	21.73
4	T4	06	05.21

TABLE- 6 DISTRIBUTION OF CASES AS PER OF TUMOUR GRADE

SR.NO	TUMOUR GRADE	NO OF CASES (n=97)*	%
1	I	19	19.58
2	II	43	44.32
3	III	23	23.71
4	IV	07	07.21

TABLE-7 DISTRIBUTION OF CASES AS PER HISTOPATHOLOGY OF TUMOUR

SR.NO	HISTOPATHOLOGY	NO OF CASES (n=115)	%
1	Infiltrating Ductal Carcinoma	109	94.78
2	Medullary Carcinoma of Breast	02	1.73
3	Invasive Lobular Carcinoma	01	0.86
4	Papillary Carcinoma	01	0.86
5	Mucinous Carcinoma	01	0.86
6	Invasive Adenocarcinoma	01	0.86

REFERENCES-

- (1) World Cancer Report 2014. World Health Organization. 2014. Editors: Bernard W. Stewart and Christopher P. Wild ISBN: 978-92-832-0429-9, Page 362-373
- (2) Agarwal G, Ramakant P. Breast Cancer Care in India: The Current Scenario and the Challenges for the Future. Breast Care 2008;3:21-27
- (3) Parkin DM: Global cancer statistics in the year 2000. Lancet Oncol 2001;2:533.
- (4) National Cancer Registry Program: Ten year consolidated report of the Hospital Based Cancer Registries, 1984-1993, an assessment of the burden and care of cancer patients. Indian Council of Medical Research, New Delhi, 2001.
- (5) Agarwal G, Pradeep PV, Aggarwal V, Yip CH, Cheung PS: Spectrum of breast cancer in Asian women. World J Surg 2007;31:1031-40
- (6) Nandakumar A, Anantha N, Venugopal TC, Sankaranarayanan R, Thimmasetty K, Dhar

- M: Survival in breast cancer: a population-based study in Bangalore, India. *Int J Cancer* 1995; 60:593–6.
- (7) National Cancer Registry Programme: Consolidated report of the population based cancer registries 1990–1996. Indian Council of Medical Research, New Delhi, 2001.
 - (8) Saxena S, Szabo CI, Chopin S, Barjhoux L, Sinilnikova O, Lenoir G, Goldgar DE, Bhatnager: BRCA1 and BRCA2 in Indian breast cancer patients. *Hum Mutat* 2002;20:4734
 - (9) Murthy NS, Agarwal UK, Chaudhry K, Saxena S: A study on time trends in incidence of breast cancer – Indian scenario. *Eur J Cancer Care* 2007;16:185–6
 - (10) Dinshaw KA, Sarin R, Budrukkar AN, Shrivastava SK, Deshpande DD, Chinoy RF, Badwe R, Hawaldar R: Safety and feasibility of breast conserving therapy in Indian women: two decades of experience at Tata Memorial Hospital. *J SurgOncol* 2006 ;94:105–13.
 - (11) Mathew A, Pandey M, Rajan B: Do younger women with non-metastatic and non-inflammatory breast carcinoma have poor prognosis? *World J SurgOncol* 2004;2:2.
 - (12) Shavers VL, Harlan LC, Stevens JL: Racial/ethnic variation in clinical presentation, treatment, and survival among breast cancer patients < age 35. *Cancer* 2003;97:134–47.
 - (13) Saxena S, Rekhi B, Bansal A, Bagga A, Chintamani , Murthy NS: Clinicomorphological patterns of breast cancer including family history in a New Delhi hospital, India – a cross-sectional study. *World J SurgOncol* 2005;3:67.
 - (14) Dinshaw KA, Budrukkar AN, Chinoy RF, Sarin R, Badwe R, Hawaldar R, Shrivastava SK: Profile of prognostic factors in 1022 Indian women with early-stage breast cancer treated with breast-conserving therapy. *Int J RadiatOncolBiol Phys* 2005; 63:1132–41.
 - (15) Aziz Z, Sana S, Akram M, Saeed A: Socioeconomic status and breast cancer survival in Pakistani women. *J Pak Med Assoc* 2004;54:448–53.
 - (16) Raina V, Bhutani M, Bedi R, Sharma A, Deo SV, Shukla NK, Mohanti BK, Rath GK: Clinical features and prognostic factors of early breast cancer at a major cancer center in North India. *Indian J Cancer* 2005; 42:40–5.
 - (17) Desai SB, Moonim MT, Gill AK, Punia RS, Naresh KN, Chinoy RF: Hormone receptor status of breast cancer in India: a study of 798 tumors. *Breast* 2000; 9:267–70.
 - (18) Navani S, Bhaduri AS: High incidence of oestrogen receptor negative progesterone receptor positive phenotype in Indian breast cancer: fact or fiction? *Indian J Pathol Microbiol* 2005; 48:199–201.