PATTERN OF BREAST CANCER:
EXPERIENCE AT LADY READING HOSPITAL, PESHAWAR

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Background: Breast Cancer is the commonest malignancy of females all over the world and second leading cause of death due to cancer among females. The aim of this Descriptive study was to see the various features of breast cancer in order to know the pattern of disease in the recent time. The study was conducted from Jan. 2007 to Dec. 2007 in Surgical C Unit, Postgraduate Medical Institute, Lady Reading Hospital, Peshawar, Pakistan. **Methods**: Study included all patients presenting to and admitted in Surgical C Unit LRH, with carcinoma of breast during the above mentioned period. Name, age, sex, other relevant data, history and examination findings and results of histopathology and other investigations were recorded. **Results:** Total of 46 patients was included in the study, out of which there were 46 female and 1 male patients. Most common age group was 40–49 years with 14 patients, followed by 50–59 years with 12 patients. Most common type of carcinoma was infiltrating ductal carcinoma with no specific features with 38 patients. Other types included 2 infiltrating ductal carcinomas of papillary type, 1 mucinous type and 1 medullary type; 3 invasive lobular carcinomas, and 1 mixed lobular and ductal carcinoma. The disease was left sided in 24 cases, right sided in 20 cases while it was bilateral in 2 cases. Upper outer quadrant of the breast was most commonly involved (n=26). There were 2 cases of stage I, 16 stage II, 20 stage III and 08 cases of stage IV disease. There were 2 cases of grade I, 16 grade II, and 28 cases of grade III. **Conclusion**: Carcinoma breast is still a common problem presenting at a young to middle age group with invasive ductal carcinoma being the commonest variant with a high grade and a late stage of presentation due to lack of screening and awareness programs.
Keywords: Breast carcinoma

INTRODUCTION

Carcinoma of the breast is the commonest malignancy of females all over the world and second leading cause of death due to cancer among females. In Pakistan it is more common at a young age contrary to the West where it is more common in old age (after 60 years).[1] All women regardless of their racial or ethnic origin or heritage are at risk of developing breast cancer. Variations in breast cancer incidence rates among multicultural populations suggest that etiologic factors differ in their biologic expression and impact on disease outcome. Key among those factors that affect breast carcinoma development are the roles of genetics and environment, the reproductive experience, the effect of endogenous and exogenous hormones in women, the change in immune status and host vulnerability, and the biologic determinants of breast carcinoma.[2]

It occurs more commonly in women with a family history of the disease. Specific mutations are responsible for 5% of the breast cancers. High intake of alcohol and diets low in phytoestrogen are directly related to breast cancer. It is more common in nulliparous and breast feeding appears to be protective. In western countries the disease occurs more commonly in those women belonging to higher socio-economic class while women with low socio-economic class present with late stage of the disease.[3,4]

Carcinoma of the breast tends to be different in coloured and white races. Apart from the difference of disease pattern there are some social and economical aspects of the disease which affect the presentation, prognosis and management of the disease in the local setting and make it a different disease entity in this country.[5]

Approximately one in every nine Pakistani women is likely to suffer from breast cancer. This is one of the highest incidence rates in Asia. Amazingly Pakistani women show an incidence rate of 50/100,000 and in the neighbouring country India with similar socio-cultural background the incidence rate is 19/100,000. Differences in diet, racial or genetic factors may provide a partial explanation but it needs to be sorted out.[6]

Several histopathological features have prognostic significance in breast cancer like cancer subtypes, tumour grade, lymphovascular invasion, oestrogen and progesterone receptor status, proliferation markers and DNA content, peptide hormones, growth factors and their receptors, oncogenes, and tumour suppressor genes.[7]

The purpose of this study was to evaluate the pattern of the disease in the current local scenario and find out the epidemiological features of the disease which would make difference to the management of breast carcinoma in future. It was also intended to sort out the type of problems related to the disease in the

local setting. Furthermore the results of such study can provide data for epidemiological interests and help compare the local data with data from other parts of the country and regional and international research.

PATIENTS AND METHODS

The study was conducted in Surgical C Unit, Postgraduate Medical Institute of Lady Reading Hospital, Peshawar, from January, 2007 to December 2007. It was a descriptive study.

Inclusion criteria included all those patients who were admitted with breast carcinoma in the above mentioned setting during the above mentioned duration. Exclusion criteria included those patients who refused to undergo assessment and treatment in the unit, those who left against medical advice after a provisional diagnosis was made and those patients who refused to provide informed consent for their treatment and inclusion in the study. Patients' age, sex and history of disease and investigations results were recorded. Those patients having metastasis in breast with primary tumour outside breast were excluded from the study.

All the patients were counselled about their conditions. Informed consent was taken from all patients for their management from history taking to surgical procedures and for inclusion in the study data. Data collection was done with the help of a Performa in which all the related data was collected. The analysis was performed using SPSS version 10. Name, age and gender of the patients and other relevant data were recorded.

RESULTS

During the above mentioned period of 12 months a total of 46 patients were included in the study. There were 45 female and 1 male patient. The most common age group was 40–49 years with 14 cases (30.4%), then 50-59 years with 12 cases (26.0%), followed by 30–39 years with 10 cases (21.73%), 60-69 years 07 cases (15.21%), 20–29 years 1 case (2.17%), 70–79 years 1 case (2.17%) and there was also one case (2.17%) of 80 years and above age group.

Infiltrating ductal carcinoma with non-specific features was the commonest type, found in 38 patients (82.6%) out of a total of 46. Other types included 2 cases (4.35%) of infiltrating ductal carcinomas of papillary type, 1 case (2.17%) of mucinous type and 1 case (2.17%) of medullary type, 3 case (6.52%) of invasive lobular carcinoma and 1 case of mixed lobular and ductal carcinoma. Two patients presented with metastasis in the breast having primary tumor elsewhere. One of these patients had choriocarcinoma and the other had non-hodgkin's lymphoma. These patients were excluded from the study.

The disease was found on the left side in 24 (52.17%), on the right side in 20 (43.47%) and there were two cases (4.35%) of bilateral breast cancer. Upper outer quadrant with 26 cases (56.5%) was most commonly involved, lower outer quadrant was involved in 2 (4.35%), central area in 6 (13.0%) and there were 2 cases (4.35%) each of upper inner and lower inner quadrant. In 8 cases (17.39%) two or more than two quadrants were involved.

Stages in which disease presented included 2 (4.35%) cases of stage I, 16 (34.78%) stage II, 20 (43.47%) stage III, and 8(17.39%) stage IV cases. There were 2 (4.35%) cases of grade I, 16 (34.78%) cases of grade II, and 27(58.69%) cases of grade III disease.
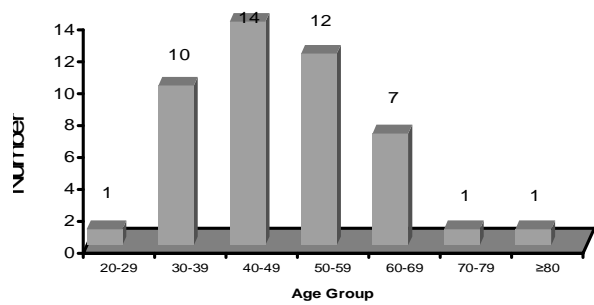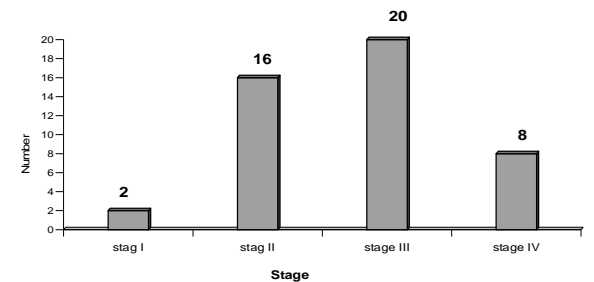

Figure-1: Age Distribution

Figure-2: Stage at presentation of disease

Table-1: Number of cases of different types of breast carcinoma

Type	Sutype			Cases	%
Lobular	In situ			0	-
	Invasive			3	6.5
Ductal	In situ			0	-
	Infiltrating	Non-specific		38	82.6
		Specific	Medullary	1	2.17
			Mucinous	1	2.17
			Tubular	0	-
			papillary	2	4.35
			inflammatory	0	-
Others	Paget's disease of nipple			0	-
	Mixed lobular and ductal			1	2.17

Table-2 : Grades of breast cancer at presentation

Grade of disease	Number of cases	percentage
I	2	4.35
II	16	34.7
III	28	60.86

Table-3: Comparison with local studies

Author	Publication Year /location	Cases	Most common type	Common age group (yrs)	Stage	Common side and quadrant
Aftab ML[8]	1998/ Lahore	51	Infiltrating ductal Ca	30–49	III, IV (47%)	Left (58%)
Siddiqui M[9]	2000/ Karachi	572	Infiltrating ductal Ca (81%)	40–60	III (70%)	
Siddiqui K[10]	2001/ Lahore	181		41–50 (31%), 31–40 (26%)	III (54%)	
Baloch TA[11]	2006/ Karachi	50	Infiltrating ductal Ca (81%)	40–60	III (70%)	Right (76%), upper outer (36%)
Batool M[12]	2005/ Lahore	205	Infiltrating ductal Ca (85%)	34.5 (Mean)	III (60%)	
Aslam MN[13]	2006/ Lahore	156	Infiltrating ductal Ca (94%)	31–45 yrs	III (56%), II (22%)	
Qureshi S[14]	2007/ Karachi		Infiltrating ductal Ca (90%)	<45 yrs (43%)	II (41%), III , (50%)	
Present study	2008/ Peshawar	46	Infiltrating ductal Ca (82.6%)	40–59 (56.52%)	III (43.47%),	Left (52.17%)

Table-4: Comparison with international studies

Author	Publication year/location	Cases	Most common type	Common age group	Stage	Common side and quadrant
Kuraparthy S[16]	2007/ Tirupati, India	122	Invasive ductaal (96.7%)	50 yrs (median)	II (45.8%)	-
Klonoff-Cohen HS[17]	1998/ California, USA	2759	Invasive ductaal (83.6%)	-	I&II (localized) (56.3 %)	-
Yip CH[18]	2006/Kuala Lumpur, Malaysia	-	-	40-49 yrs	I & II (60–70%)	-
Arndt V[19]	2001/ Saarland, Germany	380			I & II (53%)	
Oluwole SF[20]	2003/ New York	324			0, I & II (79%)	
Present study	2008/ Peshawar	46	Infiltrating ductal Ca (82.6%)	40-59 yrs (56.52%)	III (43.47%),	Left (52.17%)

DISCUSSION

This study was conducted to see the pattern of breast cancer and its various aspects in the local setting. The results of the present study were found similar to most of the other local studies but the results regarding the stage of disease were quite different from those of Western statistics where breast screening programs and patients awareness has made an early detection and treatment of the disease.

The results of the study showed that out of a total number of 46 patients, there were 45 female and 1 male patients. The most common age group was 40–49 years 14 patients, followed by 50–59 years with 12 cases and then the 30–39 years age group with 10 cases. According to these statistics it can be said that women of the middle age group (30–59 years) are at a higher risk of developing breast cancer in the local set-up. This is similar to other local studies done in various other regions of Pakistan. Aftab has found 30-50 years age group to be the commonest.[8]

Siddiqui M[9], Siddiqui K[10] and Baloch TA[11], have also found the disease to be commonest in the middle age group (40–59 years) (Table-3).

In the present study the most common histopathological type found was infiltrating ductal carcinoma. The same histopathological type has also been found commonest by others including Aftab[8], Siddiqui M[9], Baloch TA[11], Batool M[12], Aslam MN[13] and Qureshi S[14]. No author reported any other type of cancer to be more common than this one. Hunter CP in his study done in USA has also found infiltrating ductal carcinoma to be more common than lobular carcinoma.[2] Therefore the present study is similar to other local and international studies in this regard.

Stages in which disease presented included 2 (4.35%) cases of stage I, 16 (34.78%) stage II, 20 (43.47%) stage III, and 08 (17.39%) cases of stage IV disease. Thus patients presented most commonly in stage III (42.2%) and IV (17.7%) collectively constituting almost 60% of the total cases, which means that the disease is still presenting at a late stage and thus making curative treatment difficult. This fact about late presentation of breast cancer in our society has also been highlighted in the study conducted by Gilani GM in the Institute of Nuclear Medicine and Oncology (INMOL) and Shaukat Khanum Memorial Cancer Hospital (SKMCH). Gilani has compared his results with Western statistics where only 10% of patients present in stage III & IV, while he himself observed a high percentage (71% at INMOL and 63% at SKMCH) of patients presenting in stage III & IV.[15]

Many other International studies conducted in USA, Malaysia, Germany and India have shown that breast cancer is detected more commonly in the earlier stages due to better screening programs.[16–20] Variations in the incidence of breast cancer among multicultural populations suggest different etiological factors including genetics, environment, reproductive experience, endogenous and exogenous hormones in women, immune status, host vulnerability, Cultural dynamics, socio-demographic differences, and behavioural characteristics across populations.[2]

Importantly screening and awareness programs on behalf of health authorities in developed countries contribute to earlier detection of disease and thus making curative treatment much more likely to be successful and thus improving overall survival rates.

The present study has clearly shown that breast cancer presents in the middle age group at an advance stage (III and IV) in the local setup. These facts may indicate that the disease in this area is probably more aggressive and that there may be social and economical reasons and lack of awareness due to which patients do not come up for medical consultation in early stages of the disease. Public health awareness needs to be directed towards the societal influences that impact breast carcinoma development.

CONCLUSION

Carcinoma breast is still a common problem presenting at a young to middle age group with invasive ductal carcinoma being the commonest variant with a high grade and a late stage presentation due to lack of screening and awareness programs.

REFERENCES

1. Mahmood S, Rana TF, Ahmad M. Common determinants of Ca Breast–a case control study in Lahore. Ann King Edward Med Coll 2006;12:227–8.
2. Hunter CP. Epidemiology, stage at diagnosis, and tumor biology of breast carcinoma in multiracial and multiethnic populations. Cancer. 2000;88(5 Suppl):1193–202.
3. Russel RCG, William NS, Bulstrode CJK. Bailey and Love's Short Practice of Surgery. 24th ed. London; Arrnold; 2004.
4. Cuschieri A, Steele RJC, Moossa AR. Essential Surgical Practice.4th ed. New York: Oxford University Press; 2002.
5. Ahmed R, Shaikh H, Hasan S. Is carcinoma breast a different disease in Pakistani population? J Pak Med Assoc 1997;47:114–6.
6. Sohail S, Alam SN. Breast cancer in Pakistan–awareness and early detection. J Coll Physicians Surg Pak 2007;17:711–2.
7. Alahwal MS. HER-2 positivity and correlations with other histopathologic features in Breast Cancer patients–hospital basd study. J Pak Med Assoc 2006;56:65–8.
8. Aftab ML, Rashid A. A Clinico Pathological Study of Carcinoma Breast. Pak J Health 1998;35(3-4):96–8.
9. Siddiqui M, Kayani N, Sulaiman S, Hussainy A, Shah S, Muzaffar S. Breast carcinoma in Pakistani females: a morphological study of 572 breast specimens. J Pak Med Assoc 2000;50:174–7.
10. Siddiqui K, Rasool MI. Pattern of Breast Diseases: Preliminary Report of Breast Clinic. J Coll Physicians Surg Pak 2001;11:497–500.
11. Baloch TA, Iqbal P. Breast carcinoma in Karachi Clinical & Pathological Features. Med Channel 2006;12:47–8.
12. Batool M, Arian M, Gardezi J. An experience with breast disease in a surgical unit of a teaching hospital of Lahore. Biomedica 2005;21:108–12.
13. Aslam MN, Ansari AK, Siddique A, Imran M. Carcinoma breast, late presentation-a big concern. Ann King Edward Med Coll 2006;2:317–9.
14. Qureshi S, Ghazanfar S, Memon SA, Attaullah, Quraishy MS, Sultan N. Five years experience of carcinoma breast. J Surg Pak 2007;12:52–5.
15. Gilani GM, Kamal S, Akhter A S. A differential study of Breast Cancer Patients in Punjab, Pakistan.J Pak Med Assoc Oct 2003;53:478–81.
16. Kuraparthy 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.
17. Klonoff-Cohen HS, Schaffroth LB, Edelstein SL, Molgaard C, Saltzstein SL. Breast cancer histology in Caucasians, African Americans, Hispanics, Asians, and Pacific Islanders. Ethn Health. 1998;3:189–98.
18. Yip CH; Taib NA; Mohamed I. Epidemiology of breast cancer in Malaysia. Asian Pac J Cancer Prev. 2006;7:369–74.
19. Arndt V, Stürmer T, Stegmaier C, Ziegler H, Dhom G, Brenner H. Socio-demographic factors, health behavior and late-stage diagnosis of breast cancer in Germany: a population-based study. J Clin Epidemiol 2001;54:719–27.
20. Oluwole SF, Ali AO, Adu A, Blane BP, Barlow B, Oropeza R, et al. Impact of a cancer screening program on breast cancer stage at diagnosis in a medically underserved urban community. J Am Coll Surg 2003;196:180–8.

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