Original Article

Breast Diseases

Pattern of Breast Diseases at Bahawal Victoria Hospital, Bahawalpur, Pakistan

1. Raees Abbas Lail 2. Abdul Rahim Grewal 3. Niaz Muhammad

1. Asstt. Prof. of Pathology, Sahiwal Medical College, Sahiwal 2. Consultant Surgeon, DHQ Teaching Hospital, Sahiwal 3. Consultant Physician, DHQ Hospital, Pakpattan

ABSTRACT

Objective: This study was carried out to know the frequency and magnitude of different breast diseases including all the benign, malignant and inflammatory lesions in the local population of Bahawalpur in south Punjab, Pakistan.

Study Design: Descriptive cross-sectional study design.

Place and Duration of Study: This study was conducted at the Department of Pathology, Quaid-e-Azam Medical College/Bahawal Victoria Hospital, Bahawalpur, Pakistan from January 2004 to December 2006.

Materials and Methods: A retrospective data analysis of breast biopsies and mastectomies based upon histopathology.

Results: Histopathological analysis revealed that out 166 cases, 50% were benign, 37.34 % were malignant and 12.65 % were inflammatory lesions; mean age of diagnosis was 33.2, 49 and 31.75 years for these lesions respectively. Of all the breast lesions, fibroadenoma was the most common 39.15 % (65 patients), followed by invasive ductal carcinoma 33.73 % (56 patients). Non proliferative breast changes (fibrocystic changes 4.81 % and adenosis 3.01%) ranked third with 13 patients, while chronic mastitis and breast abscess were the fourth (5.42 %) and fifth (3.61%) common diagnoses respectively. Mean age of diagnosis for fibroadenoma and invasive ductal carcinoma was 21 and 48 years respectively.

Conclusion: Fibroadenoma was the most common histopathological diagnosis while invasive ductal carcinoma was the most common malignancy of breast as well as the second most common diagnosis. Mean age of diagnosis for breast carcinoma was 49 years.

Key Words: Breast cancer, Fibroadenoma, Fibrocystic changes, Mastitis, Bahawalpur

Citation of article: Lail RA, Grewal AR, Muhammad N. Pattern of Breast Diseases at Bahawal Victoria Hospital, Bahawalpur, Pakistan. Med Forum 2015;26(8):

INTRODUCTION

In recent times increasing awareness regarding breast diseases amongst women, improved diagnostic facilities and availability of better treatment options has led patients to seek medical advice. It is thus of increased interest and curiosity to know about the pattern of breast diseases that females in our population harbor. Most of the studies in Pakistan have been published on breast malignancies. This study was carried out to know the frequency and magnitude of different breast diseases including all the benign, malignant and inflammatory lesions in the local population of Bahawalpur in south Punjab, Pakistan. We believe that this study will be helpful in providing data for developing resources and planning the control and prevention of different breast diseases especially breast cancer in the underdeveloped region of Bahawalpur.

Breast cancer is the most common malignancy in women in developing countries as well as in Pakistan and is the primary cause of death from cancer in women. [1, 2] It is estimated that 1 million women are diagnosed with breast cancer each year and more than o.4 million will die because of it.[3,4] It is an important cause of disease and fatality amongst women.[5] Despite these alarming statistics, most of the females suffer from benign breast diseases as only 10 % of women with a lump under the age of 40 suffer from malignancy and 40 % of the lumps in women aged more than 50 are benign.[6]

Correspondence: Dr. Raees Abbas Lail
Assistant Professor of Pathology,
Sahiwal Medical College, Sahiwal
Cell No.: 0300-7834400
E-mail: raeisabbas@gmail.com

MATERIALS AND METHODS

It is a Descriptive, cross-sectional study design. A retrospective data analysis of breast biopsies and mastectomies based upon histopathology. The study was conducted from January 2004 to December 2006 at the Department of Pathology, Quaid-e-Azam Medical College/Bahawal Victoria Hospital, Bahawalpur, Pakistan.

Data of all the biopsy proven benign diseases and malignancies of breast was retrieved from the record of Pathology Department. The epidemiological data was sorted and scrutinized for age, sex and the histological diagnosis. The Haematoxylin and eosin stained slides of malignancies were reviewed for confirmation of diagnosis. All the lesions were sub classified into inflammatory, benign or malignant subtype. Males were excluded from the study.

RESULTS

Histopathological analysis revealed that out 166 cases, 83 (50%) were benign, 62 (37.34 %) were malignant and 21 (12.65 %) were inflammatory lesions. Mean age of diagnosis was 31.75, 33.2 and 49 years for inflammatory, benign and malignant lesions respectively. Of all the breast lesions fibroadenoma was the most common as 39.15 % i.e. 65 patients suffered from it. It was followed by invasive ductal carcinoma 33.73 % (56 patients). A detail of distribution of benign breast diseases is given in Table 1. Mean age for invasive ductal carcinoma was 48 years. Non proliferative breast changes (fibrocystic changes 4.81 % and adenosis 3.01%) ranked third and accounted for 7.83 % of disease i.e. 13 patients suffered from it. Chronic mastitis and breast abscess were the fourth and fifth common diagnoses respectively. Nine patients (5.42%) had chronic mastitis and six (3.61 %) had breast abscess.

Table No.1. Distribution of benign breast lesions

Type of lesion	Number of Patients (n)	Percentage (%)	Mean Age (Years)
Fibroadenoma	65	39.15	21
Fibrocystic changes	08	4.81	41
Adenosis	05	3.01	38
Sclerosing adenosis	03	1.80	40
Lactating adenoma	02	1.20	26
Total Inflammatory lesions= 83 (50 %) Mean Age= 33.2			

Table No.2: Distribution of inflammatory breast lesions

Type of lesion	Number of Patients (n)	Percentage (%)	Mean Age (Years)
Chronic Mastitis	09	5.42	31
Breast abscess	06	3.61	23
Mammary duct ectasia	04	2.40	39
Granulomatous mastitis	02	1.20	34
Total Inflammatory lesions= 21 (12.65%) Mean Age= 31.75			

Proliferative breast disease without atypia (sclerosing adenosis) and lactating adenoma were infrequent diagnoses in benign category accounting for 1.8 and 1.2% of breast diseases respectively. Whereas in inflammatory category, mammary duct ectasia and granulomatous mastitis accounted for 2.4 and 1.2 % of the burden of total breast disease. Detail of distribution of inflammatory breast diseases is given in Table 2. Asides invasive ductal carcinoma not otherwise specified, invasive lobular carcinoma, ductal carcinoma in situ and mucinous carcinoma were diagnosed in 3 (1.8%), 2 (1.2 %) and 1 (0.6%) patient(s) respectively. Mean age for individual cancer is given in Table 3.

Table No.3: Distribution of malignant breast lesions

Type of lesion	Number of Patients (n)	Percentage (%)	Mean Age (Years)
Invasive ductal carcinoma	56	33.73	48
Invasive lobular carcinoma	03	1.80	52
Ductal carcinoma in situ	02	1.20	47
Mucinous carcinoma	01	0.60	49
Total Inflammatory lesions= 62(37.34 %) Mean Age= 49			

DISCUSSION

Given below is the argument for individual benign, malignant and inflammatory lesions. Gynaecomastia is a common condition affecting male breasts that is characterized by benign enlargement. [7] Gynecomastia was the histopathological diagnosis in three male patients but they were excluded from analysis.

Benign lesions: Fibroadenoma accounted for 39.15 % of total breast disease in our study. While it was reported to be 16.95 % and 35.17 % in couple of other national studies from Karachi.[8,9] While fibroadenoma constituted 40.5 % of the burden of benign breast disease in Yemen.[10]

Non proliferative breast changes accounted for 7.83 % of the total breast disease burden. Fibrocystic changes were communicated to be 13.96 % and 16.28 % in other studies from the country. [8,9] While fibrocystic changes represented 16 % of benign breast diseases in Yemen and was the commonest benign lesion according to a study in Nigeria.[10,11] Lactating adenoma was present in 1.2 % of cases in our study while it was found to be 0.97 % in Karachi.[9]

Malignant lesions: Invasive ductal carcinoma represented 33.73 % of the total breast diseases while it was found to be 21.84 % in Karachi;[9] it is also the most common type histological malignancy reported in literature.[12] Mean age of patients suffering from breast cancer was 49 in our study while it was reported to be 47.7, 48 and 48.3 by other studies in Pakistan.[2, 13, 14, 15]

Pre-dominant morphology was infiltrating ductal carcinoma in our results (90% of cancers); similar findings were reported by different other studies representing it to be 81 %, 85.3 %, 89.9 % and 92 % of breast cancers.[2,14,16,17,18] Age of presentation in Pakistan for breast cancer thus remains younger to western studies.[14, 15]

Invasive lobular carcinoma was 4.83 % of breast cancers in our results while 5.4 % was reported from northern Pakistan.[19] Ductal carcinoma in situ (DCIS) was found to be 3.22% of all cancers while around 1 % and 0.65 % has been reported from Karachi.[9, 20] Our mean age for DCIS was 47 years and 48.95 was reported from Karachi.[20] Mucinous carcinoma represented only 0.6 % of breast diseases while it only depicted 0.32 % of breast diseases cases in a study from Karachi.[9]

Inflammatory lesions: Chronic mastitis was found to be 5.42 % in our study while it was shown to be 6.83 % and 7.81 % in Karachi.[8, 9] Breast abscess was present in 3.61 % of our cases while it 7.16 % of total breast diseases cases in Karachi.[9] Mammary duct ectasia was found in 2.4 % of the cases in our study but was 5.33 % and 2.9 % in Karachi.[8, 9]

Tuberculosis of breast is thought to be an uncommon diagnosis that can be confused with carcinoma of the breast. Granulomatous mastitis was seen at a frequency of 1.2 % of the 166 patients seen with breast diseases with a mean age of 34 years while it was 0.37 % in a study from Shaukat Khanam Memorial Cancer Hospital with mean age of 40.7 years.[21]

CONCLUSION

Fibroadenoma was the most common histopathological diagnosis while invasive ductal carcinoma was the most common malignancy of breast as well as the second most common diagnosis. Mean age for breast carcinoma was 49 years.

Acknowledgements: Authors are thankful to Professor Dr. Ejaz Alam, Professor of Pathology who was instrumental in encouraging us to collect this data from Department of Pathology, Quaid-e-Azam Medical College and publish this article.

Conflict of Interest: The study has no conflict of interest to declare by any author.

REFERENCES

1. Bray F, McCarron P, Parkin DM. The changing global patterns of female breast cancer incidence and mortality. Breast Cancer Res 2004;6(6): 229-39.
2. Azizun-Nisa, Bhurgri Y, Raza F, Kayani N. Comparison of ER, PR and HER-2/neu (C-erb B 2) reactivity pattern with histologic grade, tumor size and lymph node status in breast cancer. Asian Pac J Cancer Prev 2008;9(4):553-6.
3. Coughlin SS, Ekwueme DU. Breast cancer as a global health concern. Cancer Epidemiol 2009; 33(5):315-8.
4. Dunn BK, Agurs-Collins T, Browne D, Lubet R, Johnson KA. Health disparities in breast cancer: biology meets socioeconomic status. Breast Cancer Res Treat 2010; 121(2):281-92.
5. Aziz SA, Pervez S, Khan S, Kayani N, Azam SI, Rahbar MH. Significance of immunohistochemical c-ErbB-2 product localisation pattern for prognosis in human breast cancer. Pathol Oncol Res 2001; 7(3):190-6.
6. Kumar V., Abbas A.K., Fausto N. Robbins and Cotran Pathologic Basis of diseases. 7th ed. Philadelphia: WB Saunders; 2004.p.1142-1149. 1068
7. Muneer A, Laghari ZH, Shaikh AR, Laghari QA. Gynaecomastia: management in a developing country. J Ayub Med Coll Abbottabad 2009; 21(3):7-11.
8. Siddiqui MS, Kayani N, Gill MS, Pervez S, Muzaffar S, Aziz SA, et al. Breast diseases: a histopathological analysis of 3279 cases at a tertiary care center in Pakistan. J Pak Med Assoc 2003;53(3):94-7.
9. Hussain N, Ayaz B, Nadia N, Ali Z. Pattern of female breast diseases in Karachi. Biomedica 2005;21(1):36-8.
10. Bafakeer SS, Banafa NS, Aram FO.Breast diseases in Southern Yemen. Saudi Med J 2010; 31(9): 1011-4.
11. Jeje EA, Mofikoya BO, Oku YE. Pattern of breast masses in Lagos: a private health facility review of 189 consecutive patients. Nig Q J Hosp Med 2010; 20(1):38-41.
12. Afsar NA, Kulsoom B, Mateen A, Ahmed S, Tahseen M, Ahmed A. Breast cancer pattern and chemotherapy response - an institutional study in pakistan. Asian Pac J Cancer Prev 2010;11(3): 825-30.
13. Malik IA. Clinico-pathological features of breast cancer in Pakistan. J Pak Med Assoc 2002;52(3): 100-4.
14. Mamoon N, Sharif MA, Mushtaq S, Khadim MT, Jamal S. Breast carcinoma over three decades in northern Pakistan--are we getting anywhere? J Pak Med Assoc 2009;59(12):835-8.
15. Siddiqui MS, Kayani N, Sulaiman S, Hussainy AS, Shah SH, Muzaffar S. Breast carcinoma in Pakistani females: a morphological study of 572 breast specimens. J Pak Med Assoc 2000;50(6): 174-7.
16. Sharif MA, Mamoon N, Mushtaq S, Khadim MT. Morphological profile and association of HER-2/neu with prognostic markers in breast carcinoma

in Northern Pakistan. Coll Physicians Surg Pak 2009;19(2):99-103.
17. Bhurgri Y, Kayani N, Faridi N, Pervez S, Usman A, Bhurgri H, et al. Patho-epidemiology of breast cancer in Karachi '1995-1997'. Asian Pac J Cancer Prev 2007;8(2):215-20.
18. Naeem M, Khan N, Aman Z, Nasir A, Samad A, Khattak A. Pattern of breast cancer: experience at Lady Reading Hospital, Peshawar. J Ayub Med Coll Abbottabad 2008;20(4):22-5.
19. Mamoon N, Hassan U, Mushtaq S.Breast carcinoma in young women aged 30 or less in Northern Pakistan - the Armed Forces Institute of Pathology experience. Asian Pac J Cancer Prev 2009;10(6):1079-82.
20. Kayani N, Bhurgri Y. Ductal carcinoma in situ (DCIS) in Karachi. J Pak Med Assoc 2005;55(5): 199-202.
21. Ahmed R, Sultan F. Granulomatous mastitis: a review of 14 cases. J Ayub Med Coll Abbottabad 2006;18(1):52-4.