

# CLINICO- PATHOLOGICAL PROFILE OF PATIENTS WITH BREAST DISEASES AT UNIVERSITY HOSPITAL, JAMSHORO

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## ABSTRACT

**OBJECTIVES:** To assess various disorders of breast regarding their frequency, presentation, pathology and management at a University Hospital.

**DESIGN:** A descriptive study.

**SETTING:** Department of Surgery, Liaquat University Hospital Jamshoro – Sindh from January 1999 to December 2003.

**PATIENTS AND METHODS:** One hundred and fifty patients with different breast disorders were studied. All cases were assessed clinically by getting history on a predesigned proforma and diagnosis was confirmed with help of relevant investigations. Patients with various breast diseases were included in the study except those who were having either no definite lump or no breast pathology. The treatment given was according to type of lesion in the form of surgery or conservative. Patients with benign breast diseases were assured and followed up after surgical treatment or kept on hormone therapy where as cases with malignant disease were referred to oncologist for cancer registry purpose and chemo-radiotherapy.

**RESULTS:** Among 150 cases, majority was females with female to male ratio of 24:1. All patients presented with breast lump (100%), followed by pain in the lump (53.33%) as main symptoms. Left breast was involved in 53.33% and right breast in 44.66% of cases. Majority of cases (84.67%) underwent surgery. Histopathology revealed fibro-adenoma in 30.66%, fibrocystic disease in 15.33% and carcinoma in 35.33% cases as main disorders. All six male patients had gynaecomastia.

**CONCLUSION:** In our set up, frequency of carcinoma of breast is increasing as compared to benign lesions. However, overall benign problems are more frequent than breast cancer.

**KEY WORDS:** Breast diseases. Pathology. Malignancy. Surgery.

## INTRODUCTION

Breast conditions cover a spectrum of breast problems comprising of breast diseases and disorders. Differentiation of breast disorders from breast diseases is probably best done in terms of incidence and clinical effect. Conditions that are common and have little clinical significance are considered disorders rather than diseases.<sup>1</sup> Breast diseases are mostly confined to females because of more complex structure, greater volume and influence of endocrine hormones where as male breasts are rudimentary non-functional organ, relatively insensitive to endocrine stimuli and apparently resistant to neoplastic growth.<sup>2</sup> Breast tissue in females is under the influence of various hormones and subjected to constant physiological changes throughout reproductive life and beyond. These changes lead to a number of pathological conditions; both benign and malignant.<sup>3</sup> Common breast lesions in females include fibro-adenoma, fibrocystic disease followed by ductal carcinoma where as gy-

naecomastia is only found in male breast.<sup>4</sup> Benign breast disorders constitute the major work load in breast clinics<sup>5</sup> and about 12% of palpable lumps are neoplastic, therefore probability of cancer must be excluded while examining a woman with swelling in the breast.<sup>3</sup> Breast cancer is the commonest malignancy of women in western world and second most common in developing countries.<sup>6</sup> It arises at a rate of approximately 2% per year worldwide and this balance is offset mainly by developing countries.<sup>7</sup> Carcinoma of breast is also most important disease in Pakistan accounting for 25% of all cancers in females.<sup>8</sup> Yet majority of patients suffer from benign breast diseases and cancer accounts for only 10% of cases as assessed by Pattinato G, et al in their study.<sup>9</sup> Most breast diseases present as a palpable lump, mastalgia and nipple discharge.<sup>10</sup> Although most lumps are benign but the neoplasm constitutes the most important lesions of the female breast. Due to increased public awareness about cancer, the appearance of a lump causes great concern to the patient. Evaluation and

diagnosis of breast diseases involves the triple assessment that is clinical history and examination, radiological imaging and tissue sample taken for either cytological or histological analysis.<sup>11</sup> Ultrasonography and mammography, fine needle aspiration cytology (FNAC) and core biopsy are the investigations of choice for diagnosis of majority of breast conditions. The aim of this study was to evaluate the patients of various breast diseases regarding their presentation, frequency and pathology in our tertiary care set up.

**PATIENTS AND METHODS**

This descriptive study of 150 cases admitted in the Department of Surgery, Liaquat University Hospital, Jamshoro was conducted from January 1999 to December 2003. It included patients with different breast disorders comprising of benign and malignant lesions in various age groups. Sampling strategy was convenient and patients with symptoms of breast disorders having no obvious lump or proved to be having no breast disease were excluded from the study. The history of each patient was taken at the time of admission on a predesigned proforma. The lesions were first assessed by clinical examination and then supported by relevant investigations like ultrasonography of breast, X-ray mammography, FNAC and Tru-cut biopsy wherever indicated appropriately along with other base line investigations. Ultrasound examination was carried out in those patients where the lumps were of ill-defined nature or for purpose of differentiation between solid and cystic lesions. Mammography was indicated in patients having bulky breast with clinically doubtful lumps or in cases with suspicious malignancy. Treatment was planned according to the type of disease in the form of conservative or surgery. Patients with fibrocystic disease were assured and treated by medical therapy where as all other cases having surgically manageable disease were submitted for surgery in the form of incision and drainage, excisional biopsy, lumpectomy, simple mastectomy with axillary sampling or clearance. Data analysis was done by SPSS 10.0 version.

**RESULTS**

Out of total 150 patients, 144 were female and 6 male with female to male ratio of 24:1. Their age ranged from 10 to 80 years and majority (52.66%) belonged to 2<sup>nd</sup> or 3<sup>rd</sup> decade of life (Table I). Frequency of diseases decreased with age and only one case was

seen in 8<sup>th</sup> decade. All patients presented with breast lump (100%) followed by pain in the lump (53.33%) as shown in Table II. Left breast was affected in 53.33% of cases, right in 44.66% cases where as both breasts were involved in only 2% of cases. All patients were investigated with baseline investigations but diagnosis was made by special investigations like ultrasound of breast, mammography and cytology/biopsy. Mammography was done in 70 (46.66%) cases, ultrasonography and FNAC/cytology in 90(60%) cases each while true-cut biopsy in 20 (13.33%) cases respectively. Majority of patients (84.67%) was treated surgically whereas 23 (15.33%) received medical treatment. Lumpectomy (30.67%), excisional biopsy (10 .0%) and simple mastectomy with axillary sampling or clearance (25.33%) were main surgical procedures performed (Table III). Histopathology revealed fibroadenoma in 30.66%, fibrocystic disease in 15.33% and carcinoma in 35.33% of cases. All 6 male patients were diagnosed with gynaecomastia (Table IV).

**TABLE I:  
AGE-WISE DISTRIBUTION OF CASES (n=150)**

Age (in years)	Number of patients	Percentage
10-20	42	28.00
21-30	37	24.66
31-40	27	18.00
41-50	21	14.00
51-60	17	11.33
61-70	05	3.33
71-80	01	0.66
Total	150	99.98

**TABLE II:  
CLINICAL PRESENTATION OF CASES**

Presentation	Number of patients	Percentage
Breast lump	150	100
Pain in lump	80	53.33
Lump in axilla	15	10.00
Nipple discharge	05	3.33

**TABLE III:  
MANAGEMENT PATTERN OF CASES**

Procedure		Number of patients	Percentage
1.	Non surgical	23	15.33
2.	Surgical	127	84.67
i- Incision and drainage		07	4.67
ii-Lumpectomy		46	30.67
iii- Excisional biopsy		15	10
iv- Simple mastectomy		35	23.33
v- Simple mastectomy		18	12
vi- Subcutaneous mastectomy		06	04

**TABLE IV:  
HISTOPATHOLOGICAL FINDINGS**

Histopathology	Number of patients	Percentage
Fibro-adenoma (3 Bil.)	46	30.66
Fibro-cystic disease	23	15.33
Fibro-adenoma + Fibro-cystic disease	02	1.33
Carcinoma breast	53	35.33
Breast abscess	07	4.67
Chronic mastitis	10	6.67
Tuberculosis	03	2.00
Gynaecomastia	06	4.00
<b>Total</b>	<b>150</b>	<b>99.99</b>

## DISCUSSION

There are a number of clinical conditions both benign and malignant which affect the breast at different age periods. In this study, majority of patients presented in 2<sup>nd</sup> (28%), 3<sup>rd</sup> (24.66), 4<sup>th</sup> (18%) and 5<sup>th</sup> (14%) decades with maximum number of cases in 2<sup>nd</sup> and 3<sup>rd</sup> (52.66%) decades of life whereas almost same incidence of diseases was seen in 2<sup>nd</sup>, (17.03%), 3<sup>rd</sup> (29.63), 4<sup>th</sup> (26.53%) and 5<sup>th</sup> decades (16.23%) as reported by Siddiqui K, et al with highest number in 3<sup>rd</sup> decade.<sup>3</sup> Overall, breast problems are commonly seen

in females as compared to males.<sup>2</sup> Similarly, in this study also females were more affected than males with female to male ratio of 24:1. Clinically, most of the patients present with history of breast lump, pain in the breast or lump and nipple discharge or retraction.<sup>1</sup> In this study, all cases presented with features of breast lump, 53.33% cases with pain in lump, 10% with lump in axilla and 3.33% patients with nipple discharge. However, Kumar, et al has reported breast pain as first symptom and lump in the breast as second most common presentation of all breast disorders.<sup>12</sup> Mammography, ultrasound and FNAC are diagnostic investigations for any breast lesion and same was carried out in this study population. Breast ultrasound is the modality of choice for evaluation and management of patients with breast symptoms or mammographic abnormalities.<sup>13</sup> Most benign and malignant lesions can be accurately categorized as a result of improvements in grey scale imaging and the development of colour doppler vascular mapping.<sup>14</sup> Wide range of mammary lesions can also be diagnosed on FNAC with sensitivity of 96.36% and specificity of 97.56%.<sup>15</sup> In this study, 60% of cases were diagnosed through FNAC.

Fibro-adenoma is the commonest benign breast disease in young females<sup>16-19</sup>, however it is not as common as reported in European series. Fibrocystic disease which is a histologic term and refers clinically to a large group of conditions, make next common benign problem.<sup>15</sup> As advocated by Siddique MS, et al in their study, carcinoma of breast is most commonly encountered lesion followed by the benign lesions such as fibro-adenoma, fibrocystic disease and other problems.<sup>20</sup> In this study, benign disorders comprised of 64.33% and breast cancer among 35.33% cases. In benign disorders, fibro-adenoma was diagnosed in 30.66% cases and fibrocystic disease in 15.33% cases. Other conditions included chronic mastitis in 6.67% and breast abscess in 4.67% of female patients and gynaecomastia in 4% of male patients. Incidence of malignant diseases by different researchers reported is 24.2% by Choudhary IA, et al<sup>21</sup>, 19.67% by Qureshi JN, et al<sup>22</sup> and 31.5% by Mansoor I.<sup>23</sup> These figures are comparable with our study.

Chronic mastitis (6.67%) and breast abscess (4.67%) were common inflammatory lesions in this study. However, the incidence of non-puerperal abscesses associated with mastitis has been increasing as reported

by Benso EA.<sup>24</sup> Tuberculosis is a rare disease affecting the breast in 1.06% of cases as observed by Alagaratnam TT, et al in their study<sup>25</sup> and slightly different results has been noted in this study (2.0%). However, the incidence of tuberculosis seen by Hanif A, et al<sup>26</sup> is quite high (23%) as compared to this study.

Gynaecomastia accounted for 4% of cases in this study being the commonest lesion of male breast. However, Abdullah, et al have reported 11.2% incidence of gynaecomastia in their population.<sup>5</sup>

In conclusion, carcinoma of breast has increased frequency in our set up when compared with others. Benign breast diseases are also more frequent and among benign lesions fibro-adenoma is the most common lesion followed by fibrocystic disease.

## REFERENCES

1. Edwards P, Gateley C. The Breast. Benign breast disorders and mastalgia. *Surg Int.* 2001; 53:105-8.
2. Robbins SL, Cotran RS, Kumar V. The Breast. In Robbins, Cotran, Kumar pathologic basis of diseases. 5<sup>th</sup> edition. W.B. Saunders Philadelphia. 1994: Pp.1089-1111.
3. Siddiqui K, Rasool MI. Pattern of breast diseases: preliminary report of a breast clinic. *J Coll Physicians Surg Pak.* 2001; 11(8):497-500.
4. Jamal AA. Pattern of breast diseases in the teaching hospital Jaddah, Saudi Arabia. *Saudi Med J.* 2001; 22(2):110-3.
5. Hameed H, Fentiman IS. Benign breast disease. *Int J Clin Pract.* 2001; 55(7): 461– 4.
6. Harris J, Morrow M, Norton L. Malignant tumours of breast: In: Devita VT Jr, Hellman S, Rosenberg SA (eds). *Cancer principles and practice of oncology.* 5<sup>th</sup> edition. Lippincot Philadelphia.1997: Pp. 1557-1616.
7. Parkin DM, Pisani P, Farlay J. Estimates of worldwide mortality from eighteen major cancers in 1985. *Int J Cancer.* 1993; 54: 955-601.
8. Pakistan Medical Research Council Cancer Study Group. Frequency of malignant tumours in seven centres of Pakistan. *J Pak Med Assoc.* 1977; 27:335-9.
9. Pattinato G, Panico L, de Rosa NI, Antonio A, Bifano D, Avallone M. Benign lesions of breast. *Ann Ital Chir.* 1997; 62(2):151-66.
10. Abdullah P, Mubark A, Zahir N, Rehman Z, Sattar A, Mahmood A. Breast lumps – What they actually present? *J Coll Physicians Surg Pak.* 1999; 9(1): 46-48.
11. Siansbury RC. The Breast. Investigation of breast symptoms. In Russel RCG, Williams NS and Bulstrode CJK. *Baily and Love's short practice of surgery.* 24<sup>th</sup> edition. Arnold, London. 2004; Pp. 824-46.
12. Kumar A, Vohra LS, Bhargava S, Reddy PS. Investigation of breast lumps: an evaluation. *MJAFI.* 1999; 55(4):299-302.
13. Kossoff MB. Ultrasound of the breast. *Word J Surg.* 2000; 24(2): 143-57.
14. Sevansson WE. The value of ultrasound scanning in breast disease. *Hosp Med.* 2000; 61 (4): 233-9.
15. Hussain N, Bukhari MH and Naveed IA. An experience of fine needle aspiration cytology in diagnosis of breast lesions at CMH Gujranwala. *Bio-medica.* 2001;17:37-40.
16. Adeniji KA, Adelusda KA, Odesanmi WO. Benign diseases of the breast in 1Le – Lfe: a 10 years experience and literature review. *Cent Afr J Med.* 1997; 43:140 – 3.
17. Viviani RS, Gebrim LH, Baracat EC, de Lima GR. Evaluation of the ultrasonic volume of breast fibroadenomas in women treated with Tamoxifen. *Minerva Ginecol.* 2002; 54(4): 531-5.
18. Amshel CE, Sibley E. Multiple unilateral fibroadenomas. *Breast J.* 2001; 189-91.
19. Houssami N, Cheung MN, Dixon JM. Fibroadenoma of the breast. *Med J Aust.* 2001; 1744 (4): 185-8.
20. Siddique MS, Kayani N, Gill MS, Pervaiz S, Muzaffar S, Aziz SA, et al. Breast diseases: a histopathological analysis of 3279 cases at a tertiary care centre in Pakistan. *J Pak Med Assoc.* 2003;53 (3): 94-7.
21. Chaudhary IA, Qureshi SK and Rasul S. Incidence of malignancy in females presenting with breast lumps in OPD: a study of 277 cases. *Pak J Med Sci.* 2003;19 (4): 287-94.
22. Qureshi JN, Qureshi ZA, Ahuja P, Memon AS. Evaluation of carcinoma in breast lump. *J Surg Pak.* 2001; 6 (3): 7-9.

23. Mansoor I. Profile of female breast lesions in Saudi Arabia . J Pak Med Assoc. 2001; 51(7)43-7.
24. Benso EA. Management of breast abscesses. World J Surg. 1989; 13: 753-6.
25. Alagaratnam TT, Ong GB. Tuberculosis of the breast. Br J Surg. 1980; 67: 125-6.
26. Hanif A, Mushtaque M, Malik K, Khan A. Tuberculosis of breast. J Surg Pak. 2002; 7 (3): 26-8.



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