Original Article

Histomorphological Spectrum of Breast Diseases - An Experience of 5 Years at a Tertiary Care Hospital

Urfa shafi, Zarghoona Jafar, Nausheen Henna and Farooq Aziz

ABSTRACT

Objective: To study the histomorphological spectrum of breast diseases at a tertiary care hospital of Lahore.

Study Design: Descriptive Study

Place and Duration of Study: This study was conducted at the Shalimar Institute of Health Sciences, Lahore from August 2012 to August 2017.

Materials and Methods: Five hundred and fifty nine breast specimens sent for histopathology at Shalamar Hospital Laboratory over a span of five years were studied. The specimens include mastectomies, lumpectomies, incisional biopsies and core biopsies. The specimens are then fixed in 10% buffered formalin and paraffin sections are made and stained with Hematoxyline and Eosin for evaluation of histopathological changes.

Results: Among 559 cases of breast masses, (age range 10-76 yr.), benign cases comprised of 413 cases (73.88%) and malignant lesion comprised of 146 cases (26.11%).Among the benign lesions Fibroadenoma was the most common benign breast disease (BBD) comprising of 223 cases (39.89 %). Fibrocystic disease was the second most common BBD 34 cases (6.08 %) and breast mastitis was third most common accounting for 26 cases (4.6%).Among the malignant lesions breast carcinoma was the most common lesion accounting for 146 cases (26.11%). The most common type of carcinoma was infiltrating ductal carcinoma NOS 124 cases (22.18%) and second most common was infiltrating lobular carcinoma comprised of 10 cases (1.7%).

Conclusion: The most commonly presenting breast disease in our locality is fibroadenoma and it is two times more common than carcinoma. Breast carcinoma is second most common disease and it is a growing health problem among Pakistani females.

Key Words: Benign breast disease.Fibroadenoma , Fibrocystic disease , Infiltrating ductal carcinoma NOS.

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INTRODUCTION

Breast diseases encompasses a diverse group of disorders which includes neoplastic (benign as well as malignant) and non-neoplastic (inflammatory, traumatic) disorders. There is a continuous rise in the frequency of breast diseases worldwide due to increasing consciousness regarding breast diseases.[1,2]

Breast carcinoma is now the most common malignancy in women and the leading cause of death among women comprising of 23 % (1.38 million) of total cancer cases and 14% (458,400) of cancer deaths.[3] The incidence of breast cancer increases with age; however it is more prevalent in young females as compared to lung cancer.[4] In Asia, Pakistan has the highest rate of breast cancer.[5] Young women also present at advanced stage of breast cancer, which has negative effect on prognosis.[6]

The common presenting complaints of patient with breast diseases are breast mass or lump, followed by pain or any discharge from nipple. Risk factors that are thought to be involved in the pathogenesis of these neoplasms are germ line mutations in tumor suppressor genes, family history, early menarche, young age at first child birth, delayed menopause, nulliparity, low parity, breast feeding and prolonged estrogen exposure.[7]

The majority of breast diseases are composed of benign breast diseases (BBDs) including non-neoplastic lesions, proliferative breast diseases, and epithelial and stromal tumors. BBDsare about 10 times more common than malignant diseases. Majority of benign diseases do not have any risk of malignant transformation,so unnecessary surgeries can be avoided. However, some benign diseases like proliferative breast diseases have relative risk (risk as compared to females with no risk factor) of 1.5-2.0% of developing breast carcinoma and the proliferative diseases that reveal some atypia

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(atypical ductal hyperplasia, ADH and atypical lobular hyperplasia ALH) have 4.0-5.0 % relative risk of developing invasive breast carcinoma.[8,9]

Awareness of BBs and their early diagnosis can help reducing the unnecessary stress of breast carcinoma. In Pakistan much work has been done related to breast malignancies[10,11] but only a few studies are done on the whole spectrum of breast diseases. The purpose of this study was to provide a baseline data of breast diseases to help accurate diagnosis and treatment in Pakistan.

MATERIALS AND METHODS

It was a descriptive study conducted from 1st August 2012 to 1stAugust 2017 at Shalamar Institute of Health Sciences. The laboratory of Shalamar Hospital received about 110 cases of breast specimens on average per year. Breast specimens of patients of both gender and any age were included. Normal breast tissues removed due to some cosmetic reasons were excluded from the study.The samples received includedcore biopsies, incisional biopsies, lumpectomies and mastectomies. These samples were received in 10% buffered formalin for fixation purpose. After careful macroscopic examination color, size, margins etc. were noted and then representative sections from the tissue were taken and then processed. Paraffin embedded sections were prepared and the slides were cut and then stained with the routine Hematoxylin and Eosin stain. The slides were analyzed and categorized according to morphologies. Tumors were graded according to Modified Bloom and Richardson grading.

RESULTS

Of the total 559 breast cases studied over the period of five years, benign cases comprised of 413 cases (73.88%) out of 559 cases and malignant lesion comprised of 146 cases (26.11%). So the benign to malignant ratio came out to be 3:1 approximately. Of these 559 cases 539 (96.42%) were female and 20 (3.57%) were male. So the female to male ratio was 27:1. Benign lesions were more common in young age and age range was 12-42 years (mean age 32 years), while the age range of malignant lesions was 28-72 years (mean age 42 years).

Among the benign lesions Fibroadenoma was the most common lesion 223 cases (39.89%). Fibrocystic disease was the second most common BBD 28 cases (6.4%) and mastitis was third most common accounting for 26 cases (4.65%) Pie chart 1.

Among the malignant lesions breast carcinoma was the most common lesion accounting for 141 cases (25.22%). The most common type of carcinoma was infiltrating ductal carcinoma NOS 117 cases (20.9%) and second most common was infiltrating lobular carcinoma comprising of 10 cases (1.78%). Pie chart 2.

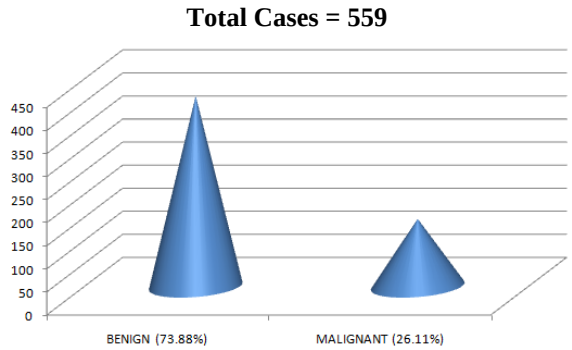
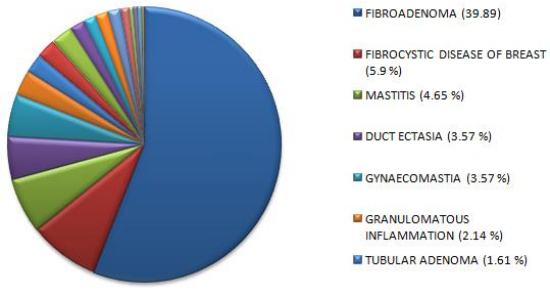
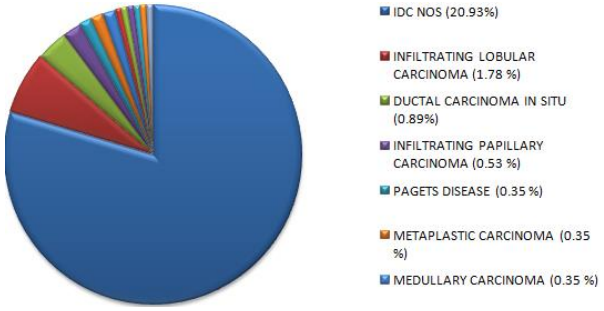


Figure No.1: Number of cases



Pie Chart No.1: Benign Breast Diseases (73.88%) n=413



Pie Chart No.2: Malignant Breast Diseases (26.11%) n=146

DISCUSSION

Breast diseases are a matter of great concern now a day as it is the leading cause of death among females. The number of patients in outdoor departments presenting with breast diseases are on a continuous rise because of increasing awareness[12]. In Pakistan many studies have been done regarding breast cancer, however very less data is available about the whole spectrum of breast diseases. Our study emphasizes to collect the baseline data regarding the histomorphological spectrum of breast diseases.

In this study 413 (73.88%) cases are benign and 146 (26.11%) are malignant. This shows that most commonly encountered lesions of breast are benign. This contrast with the study done by Siddique et al at Agha Khan University hospital , Karachi in which most common breast lesions were breast carcinoma. However our findings are consistent with Chalya et al,[12]

Ochicha et al[13] and Aslam et al[14] showing benign breast diseases as most common diseases with 73.7%, 73% and 75.3% respectively. In our study Fibroadenoma was the most common BBD, comprising of 39.89 % of all cases. With respect to frequency of Fibroadenoma our study is comparable to Gabriel et al 39%[15], Amrr et al in Saudi Arabia 30.7%[16] and Perwin et al in Bangladesh, 31%[17]. This frequency is much higher than study conducted by Isaac et al showing 24 %[18] and less than studies done in Africa by Edo et al 43.1 %[19] and Albasri 45.3 %[20].

Breast carcinoma was second most common lesion in our study constituting 25.22 % of all cases. This is consistent with the studies done by Amrr et al 21.4%[16] and Amin TT et al 21.4 % in Saudi Arabia[21]. However this percentage is much less than the studies conducted by Jamal et al, 32.5 %[22] and Albasri et al in Saudi Arabia, 40.5 %[23], however it is less in study conducted by Aslam et al, 11.8%[24] and Gabriel et al 16.9%[15], Different factors like age, genetic factors, social, cultural and dietary habits may play role in explaining these differences.

The third most common disease was fibrocystic disease of breast 6.08%which is much lower than the study conducted by Ochicha et al 34.3%[13] Isaac et al 20%[18]. The most common lesion among males is gynae-comastia 3.57 % comparable with Ochicha et al 4%[13].

CONCLUSION

Benign breast diseases are much more common than malignant breast diseases. Fibroadenoma is the most common BBD presenting to our hospital and it is three times more common than carcinoma. Breast carcinoma is second most common disease and it is a growing health problem among Pakistani females.

Author's Contribution:

Concept & Design of Study:	Urfa shafi
Drafting:	Zarghoona Jafar
Data Analysis:	Nausheen Henna, Farooq Aziz
Revisiting Critically:	Urfa shafi, Zarghoona Jafar
Final Approval of version:	Urfa shafi

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