Study of Breast Lump, A Histopathological Audit of Five Years Specimen in a Medical College

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Abstract

Background: Various types of lesion from inflammation to carcinoma can affect the breast. Some lesions are common in young females while others are more common in elderly age group. Early presentation and prompt diagnosis is essential to relieve anxiety of nonneoplastic conditions, and in casse of carcinoma, it can save the patient from metastases.Methods: A Retrospective study was conducted for the period of five years in the Pathology

Index terms— breast lump, carcinoma, fibroadenoma, biopsy.

1 I. Introduction

he human breast is paired mammary glands composed of specialized epithelium and stroma in which can occur both benign and malignant lesions. Benign breast diseases (BBD) however constitute the greater of the breast lesions 1 . These BBD are diverse, ranging from disorders of development, inflammatory lesions, proliferative diseases of the epithelium and stroma to different types of neoplasms 2 . Though most of the available literature show that breast lumps are mostly benign and nonproliferative epithelial lesions, it is known that certain benign breast diseases (BBD) are important risk factors for breast cancers which can develop in either breast later 3 . Breast cancer is one of the commonest cancers among women and commonly presents with a lump in breast to the physician. It is related to morbidity and mortality worldwide among women. In Asia, the incidence of breast cancer is increasing and may occur in younger age group. About 25% of breast cancer occurs in younger patients in developing Asian countries as compared to developed Asian or Western countries 4 . As breast lump can be the cause of different benign and malignant lesions, the management of the patients varies. Though clinical examination of the breast lump and the age of the patient can provide information about the nature of the lump, histopathological examination is necessary to establish the diagnosis. The aim of the present study is to see the spectrum of conditions/ lesions in breast lump specimens in Jahurul Islam Medical college Hospital.

2 II. Material and Methods

This is a retrospective cross sectional study of breast tissue specimen received from 2012 to 2016 at the Department of Pathology, Jahurul Islam Medical College and Hospital. The specimens were labelled, entered in the data system of the lab and kept for fixation in 10% Formalin overnight. After grossing, it was processed in the tissue processor, making blocks and cut into sections of 0.5 micron thickness. After staining with hematoxylin and eosin, slides were examined by pathologists. All the findings were recorded in the database. All the original request forms and histopathological reports on the breast specimens received within this study period with their slides were retrieved from the archives and reviewed. From the request forms and histopathological reports, information on the age, sex, nature of specimen, hospital numbers, laboratory numbers and histopathological diagnosis were extracted. New slides were made from formalin fixed, paraffin-embedded tissue blocks and stained with Haematoxylin and Eosin (H&E) where necessary for appropriate diagnosis and classification. Male breast tissues, cases of breast lesions with incomplete data and cases unable to trace slides or blocks were excluded from the study.

3 a) Statistical Analysis

Microsoft Excel software was used to generate tables. The descriptive statistics were used to infer results. A total of 228 breast tissue specimen were examined in the five years period, which formed around 6.5% of the total specimens received for histopathological examination. The age of the cases ranged from 11 to 70 years. Most of the patients were in the age group 31 to 40 years group (38.6%) (Table -1). The presenting complain of the patients coming to the hospital was feeling of lump (34.2% cases), Pain in the breast (29.3% cases), Tenderness (17.5% cases), Feeling of heaviness in the breast (10.9% cases) (Table **??**2). The average age of presentation was analyzed and it was around 34 years. The benign lesions and malignant lesions were most common in the age group of 31-40 years and 41-50 years respectively. Benign breast lesion were 87.7% and malignant cases were 12.2%. The ratio between benign and malignant cases is 7:1 (Table -3 The histopathological diagnosis revealing benign lesions including ninety (39.4%) cases of fibroadenoma, forty two (18.4%) cases of fibrocystic disease, thirty six (15.9%) cases of breast abscess. Other benign lesions (30 cases) included duct ectasia 10 cases, granulomatous lesion 06 cases, fat necrosis 08 cases and intraductal papilloma in 06 cases. The average age for all benign breast disease was found to be 30 years. Intraductal papilloma was observed in six cases and periodical check up was advised to the patients. The carcinoma cases including in-situ carcinoma (DCIS) were found in 12.2% cases in the age range between 21 to 70 with 52 years as the average age of presentation. There were 18 cases of invasive ductal carcinoma, 04 cases of Invasive lobular carcinoma and 02 cases of medullary carcinoma (Table-4).

4 IV. Discussion

The average number of breast tissue specimens received (6.5%) in our study is almost similar to that shown by Singh and Thakur (2.3%) 5 . The peak incidence of benign lump was found in 21 to 30 years age group and peak incidence of malignant lumps 31 to 50 years which is younger compared to the western observation 6 . No breast tumors were seen in the first decade of life. The youngest patient in this study was 14 years similar to that seen in other parts of Nepal 7 . The rarity of breast disease in the first decade of life is also reported by others 8 . Most common complain of the patients of breast tissue specimen was lump (34.2%), pain (29.3%) and tenderness (17.5%) similer to other study 9 .

Fibroadenoma (39.4%) followed by fibrocystic disease (18.4%) formed the majority of breast lesions sent for histopathology, which is similar to that seen by Khanna et al. from Banaras-India 10 . Singh and Thakur in their study showed similar incidence as 28.28% and 21.71% respectively for fibroadenoma and fibrocystic changes 5 . The real incidence of fibrocystic disease is difficult to estimate and diagnosis depends a great deal on individual clinician or pathologist acumen. Ten (4.3%) cases of duct ectasia were present in this study. Duct ectasia of the breast (or mammary duct ectasia) is a condition in which there is an obstruction of the lactiferous duct. Mammary duct ectasia can mimic breast cancer. It is a disorder of premenopausal age. Signs of duct ectasia can include nipple retraction, inversion, pain, and sometimes bloody discharge . Microglandular adenosis is widely known as a benign breast lesion that can produce a mass. The main importane of this lesion is that it is usually considered as a precursor for malignancy. Four (1.75%) of breast lesions in our study was diagnosed as microglandular adenosis 12 . The benign to malignant ratio was 3:1 in a study in Calcutta and 7:1 in our study. In that study the percentage of malignancy was higher (24.44%) as compared to our Study 4 . Benign lesions were common in the second to fourth decade and malignant lesion in fourth and fifth decades, which is similar to that seen in other parts of the world 13 . Eight cases of traumatic fat necrosis and six case of granulomatous lesion were also found in our study.

Cancer was seen in 12.28% of our cases. Singh and Thakur found the incidence of cancer as 18.42% 5 . The percentage of carcinoma in this study appears to be slightly closer to the west (10.5%) and lower than that of Africa (21%) 14 . Among the cases of breast carcinoma, Invasive ductal carcinoma was the commonest malignancy seen (7.89%) in our study. Singh and Thakur 5 in their study found invasive ductal carcinoma in 18.48% cases which is similar to that reported by Ali et al 15 and is higher then the present study. There was six cases of In-situ carcinoma (DCIS), four case of lobular carcinoma and two cases of medullary carcinoma in our study. Prakash et al. reported the incidence of malignancy as 2.5% for age group 30 years and below and 97.5% for age group above 30 years. She therefore pointed out the necessity of investigating all patients with breast lumps to rule out malignancy especially in women above 30 years 16 .

5 V. Conclusion

Breast tissue specimen were 6.5% of the total specimens received for histopathology in the department of pathology. Majority of the breast lumps are benign either fibroadenoma or fibrocystic disease. Benign lesions were common in second to fourth decade and malignancy in fourth and fifth decades. Ductal carcinoma is the commonest subtype in this study. It is thus recommended that all women above the age group of 40 presenting with a palpable breast lump or a suspicious non-palpable abnormality on screening mammogram to have their

1

Age group (in years)	Number of cases	Percentage
11-20	18	7.9%
21-30	66	28.9%
31-40	88	38.6%
41-50	38	16.7%
51-60	12	5.2%
61-70	06	2.6%
Total	228	100%

Figure 1: Table 1 :

2

Presenting complain to Physician	Total cases	Percentage
Lump	78	34.2%
Pain	67	29.3%
Tenderness	40	17.5%
Lumpiness with heaviness	25	10.9%
Skin redness with rash	10	4.4%
Pain in the axilla and hand	08	3.5%
Total	228	100%

Figure 2: Table 2 :

3

Age group (in years)	Benign lesions	Malignant lesions
11-20	18	0
21-30	64	02
31-40	80	08
41-50	28	10
51-60	08	04
61-70	02	04
Total	200 (87.7%)	28 (12.2%)

Figure 3: Table 3 :

4

	diagnosis of breast	
lump (n=228)		
Histopathological Finding	Number of cases	Percentage
Fibroadenoma	90	39.4%
Fibrocystic disease	42	18.4%
Breast abscess	36	15.9%
Duct ectasia	10	4.3%
Granulomatous lesion	06	2.6%
Intraductal papilloma	06	2.6%
Fat necrosis	08	3.5%
In-situ carcinoma (DCIS)	06	2.6%
Invasive ductal carcinoma	18	7.9%
Invasive lobular carcinoma	04	1.7%
Medullary carcinoma	02	0.9%
Total	228	100%

Figure 4: Table 4 :

lump excised. However, women below 30 years should also have the lump excised in the presence of risk factors such as a family history of breast cancer. [1] [2] [3]

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.1 Competing Interests

The authors declare that they have no competing interests.

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