

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

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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. Accurate diagnosis is essential to relieve anxiety of patients. In case of carcinoma, early and accurate diagnosis can save the patient from metastases thus reducing mortality and morbidity.

Methods: A Retrospective study was conducted for the period of five years in the Pathology Department of Jahurul Islam Medical College and Hospital. Histopathology samples were received, processed, reported and recorded in the Pathology laboratory. Data analyzed from 2012 to 2016. Descriptive statistics was used to analyze the data.

Result: 228 sample of breast tissue sent for histopathology were studied. Peak incidence of benign lesion was in the age group 21-30 years and malignant lesion was in between 4-50 years group. Cancer of the breast was seen in 12.28% of cases. In case of benign condition, fibroadenoma and fibrocystic disease were the two most common disorder and invasive ductal carcinoma was the most common malignant lesion.

Conclusion: 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.

Keywords: Breast lump; Carcinoma; Fibroadenoma; Biopsy

1. Introduction

The human breast or mammary gland is composed of specialized epithelium and stroma. Both benign and malignant lesions can occur in breast and is one of the most common cause of cancer death among females. Benign breast diseases (BBD) are the commonest among all breast lesions [1]. These benign breast diseases ranges from disorders of development, inflammatory lesions, proliferative diseases of the epithelium and stroma to different types of benign and malignant neoplasm [2]. Most of the literature shows breast lumps are mostly benign and non-proliferative lesions, certain benign breast diseases are important risk factors for breast cancer [3]. Breast cancer is one of the commonest cancers in women and commonly presents with a lump in the breast. 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 groups. About 25% of breast cancer occurs in younger patients in developing Asian countries as compared to Western countries [4]. The management of the patients varies as the breast presents with different types of non neoplastic to neoplastic lesions. Clinical examination of the lump and the age of the patient can provide information about the nature of the lump, but the histopathological examination is necessary to establish the diagnosis and subsequent management of the lesion. The aim of the present study is to see the spectrum of lesion in breast lump specimens in Jahurul Islam Medical College hospital over a period of five years.

2. Materials 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. From the patients clinical data and histopathological reports, the age, sex, nature of the specimen, hospital numbers, laboratory numbers and histopathological diagnosis was taken. 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, breast specimen with incomplete data were excluded from the study.

3. Statistical Analysis

Microsoft Excel was used to generate tables. The descriptive statistics were used to infer results.

4. Results

A total of 228 breast tissue specimen was 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 with breast lump were in the age group 31 to 40 years (38.6%) (Table 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%

Table 1: Age distribution of patients of breast tissue specimen (n=228)

The presenting complaints of the patients coming to the hospital was a 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).

Presenting complain to the 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%

Table 2: Type of presenting complaints of the patients (n=228)

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 lesions were 87.7% and malignant cases were 12.2%. The ratio between benign and malignant cases is 7:1 (Table 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%)

Table 3: Distribution of benign and malignant breast lesion by age (n=228)

The histopathological diagnosis revealing benign lesions including 90 (39.4%) cases of fibroadenoma, 42 (18.4%) cases of fibrocystic disease, 36 (15.9%) cases of breast abscess. Other benign lesions were duct ectasia 10 (4.3%) cases, granulomatous lesion 06 (2.6%) cases, fat necrosis 08 (3.5%) cases and intraductal papilloma in 06 (2.6%) cases. The average age of the benign breast lesion were 30 years. Intraductal papilloma was observed in six cases and periodical checkup was advised to the patients. The carcinoma cases were found in 24 (12.2%) cases. There were 18 cases of invasive ductal carcinoma, 04 cases of Invasive lobular carcinoma and 02 cases of medullary carcinoma. In situ carcinoma (DCIS) was found in 06 (2.6%) of cases. (Table 4).

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%

Table 4: Histopathological diagnosis of breast lump (n=228)

5. 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 of age similar to that seen in a study conducted in Nepal [7]. The rarity of breast disease in the first decade of life is also reported by others [8]. Most common complaint of the patients of breast tissue specimen was lump (34.2%), pain (29.3%) and tenderness (17.5%) similar 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 a 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 the diagnosis depends on individual clinician and on histopathological report. Ten (4.3%) cases of duct ectasia were present in this study. Duct ectasia is a condition in

which there is an obstruction and associated inflammation of the lactiferous duct. Mammary duct ectasia can mimic breast cancer as the disorder presents with nipple retraction, pain, swelling and bloody nipple discharge [11]. The main importance 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 in 18.42% of cases [5]. The percentage of carcinoma in this study appears to be lower than that of a study conducted by Ellis and Cox (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 an invasive ductal carcinoma in 18.48% cases which is similar to that reported by Ali et al [15] and is higher than the present study. There were six cases of *In-situ* carcinoma (DCIS), four cases 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].

6. Conclusion

The breast tissue specimen was 6.5% of the total specimens received for histopathology in the department of pathology of Jahurul Islam Medical College, Bangladesh. The majority of the breast lump were benign either fibroadenoma or fibrocystic disease. Benign lesions were common in the second to fourth decade and malignancy in fourth and fifth decades. Ductal carcinoma was the commonest subtype in this study. All women presenting with a palpable breast lump or a non-palpable abnormality on mammography should have to be confirmed by histopathological examination.

7. Conflict of Interest

There is no conflict of interest among authors.

8. References

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