

## Histomorphological Spetrum of Breast Lesions

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### ABSTRACT

**Background:** Cancer of the breast is the second most common cause of cancer in women. Mass in the breast, whether benign or malignant is a cause of anxiety to the patients and the family members. All breast lumps are considered to be carcinomas until proved otherwise and are the causes of concern both for the patient and surgeon.

**Methods:** This is a retrospective study conducted in Kathmandu Model Hospital for a total duration of three years from August 2007 to August 2010.

**Results:** 114 sample of breast tissue sent for histopathology were studied. Peak incidence of benign lesion was in between 21-30 years and malignant lesions in between 31-50 years. No breast lesions were seen in the first decade of life. Cancer of the breast was seen in 12.28% of cases. Fibroadenoma and fibrocystic disease were the commonest benign lesion and infiltrating ductal carcinoma was the commonest malignant lesion. Specimens from 10 male breasts were received. Gynaecomastia was the most common lesion encountered in males. Infiltrating ductal carcinoma was seen in a 70 year old male.

**Conclusions:** Breast cancer is one of the commonest causes of breast lump particularly in women and is growing public health problem in Nepal.

**Keywords:** breast cancer, breast lumps, excisional biopsy.

### INTRODUCTION

Breast cancer is one of the commonest cancers among Nepalese women and commonly presents with a lump in breast to the physician. It is related to morbidity and mortality worldwide among women and is also one of the leading cancers in Nepal. Increase in cases of breast cancers are related to late marriage, birth of child in the later age, shorter period of breast feeding and nulliparity or low parity.<sup>1-3</sup> Mass in breast, whether benign or malignant is a cause of anxiety to the patient and her family members.<sup>4</sup>

Most cases of breast lump are benign but most of these patients are in a state of heightened anxiety until they have undergone specialist assessment, the necessary investigations and eventual reassurance.<sup>5,6</sup>

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.<sup>7</sup> Breast lump can be the cause of different benign and malignant lesions, and the management of the patients varies accordingly. Though clinical examination of the breast lump and the age of the patient can provide information about the nature of the lump, pathological examination is necessary to establish the diagnosis.

The aim of the present study is to study the spectrum of conditions/ lesions causing breast lumps in Kathmandu Model Hospital .

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**METHODS**

A retrospective cross sectional study was conducted in Kathmandu Model Hospital from August 2007 to August 2010. Demographic data including age, sex and clinical presentation were obtained from the histopathology records.

**RESULTS**

A total of 114 patients were examined in the three-year period, which formed 2.3% of the total specimens received for histopathology.

**Table 1. Distribution of benign and malignant breast lesions by age.**

Age group (years)	Benign lesions	Malignant lesions
11-20	09	0
21-30	32	1
31-40	40	4
41-50	14	5
51-60	4	2
>60	1	2
Total	100	14

The benign lesions and malignant lesions were most common in the age group of 31-40 years and 41-50 years respectively.

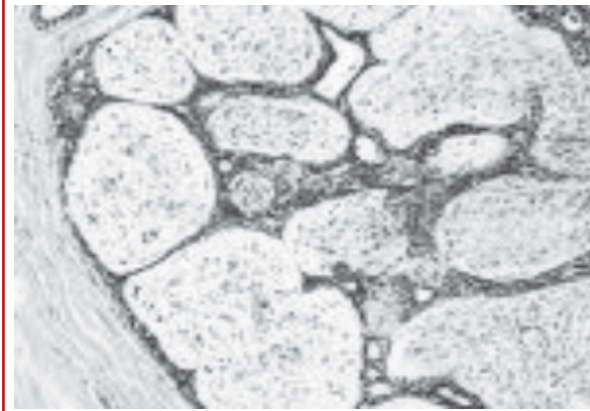
**Table 2. Breast lesions in the males by age.**

Age group (years)	Gynaecomastia	Granulomatous lesion	Fibrocystic disease	Carcinoma (IDC)
10-20	09	0	0	0
21-30	32	0	0	0
31-40	40	1	0	0
41-50	14	0	0	0
51-60	4	0	1	0
>60	1	0	0	1

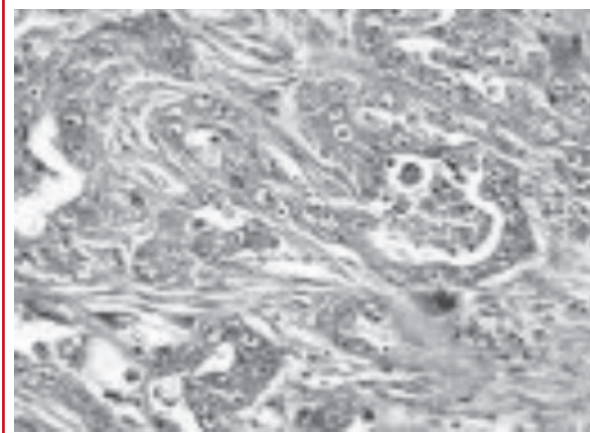
**Table 3. Histopathological diagnosis of breast lumps.**

Fibroadenoma	45(39.47%)
Fibrocystic disease	21(18.42%)
Duct ectasia	5 (4.38%)
Gynaecomastia	7 (6.14%)
Granulomatous lesion	1 (0.8%)
Microglandular adenosis	2 (1.75%)
Intraductal papilloma	3 (2.63%)
Fat necrosis	2 (1.75%)
In-situ carcinoma (DCIS)	2 (1.75%)
Invasive ductal carcinoma	9 (7.89%)
Lobular carcinoma	1 (0.8%)
Medullary carcinoma	2 (1.75%)

- Gynaecomastia was the most common benign lesion encountered in males 7(6.14%).
- Fibroadenoma was the most common benign breast lesion encountered 45(39.47%).
- Invasive ductal carcinoma was the most common malignant lesion 9(7.89%).



**Figure 1. Fibroadenoma of the breast, H&E x 40 HPF.**



**Figure 2. Infiltrating Ductal carcinoma of the breast, H&E x 40 HPF.**

**DISCUSSION**

The average number of specimens received (2.1%) in our study is almost similar to that shown by Singh and Thakur (2.3%).<sup>8</sup> Chaudhary M et al. in their study showed a slightly higher incidence.<sup>9</sup> Fibroadenoma (39.47%) followed by fibrocystic disease (18.42%) formed the majority of breast lesions sent for histopathology, which is similar to that seen by Yadav et al. from Nepal and Khanna et al. from Banaras- India.<sup>10,11</sup> Singh and Thakur in their study showed similar incidence as 28.28% and 21.71% respectively for fibroadenoma and fibrocystic changes.<sup>8</sup> The real incidence of fibrocystic disease is

difficult to estimate and diagnosis depends a great deal on individual clinician or pathologist acumen.

Five (4.38%) cases of duct ectasia were present in our 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.<sup>12</sup>

Microglandular adenosis is widely known as a benign breast lesion that can produce a mass. The main importance of this lesion is that it is usually considered as a precursor for malignancy. Two (1.75%) of breast lesions in our study was diagnosed as microglandular adenosis.<sup>13</sup>

Cancer was seen in 12.28% of our cases. Singh and Thakur found the incidence of cancer as 18.42%.<sup>8</sup> Sayami 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.<sup>3</sup> She therefore pointed out the necessity of investigating all patients with breast lumps to rule out malignancy especially in women above 30 years. The percentage of carcinoma appears to be slightly closer to the west (10.5%) and lower than that of Africa (21%).<sup>14,15</sup> The benign to malignant ratio was 3:1 in the Calcutta study and 8:1 in our study.<sup>9</sup> At Calcutta, the percentage of malignancy was higher (24.44%) as compared to our study.

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 Nepal. 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. No breast tumors were seen in the first decade of life. The youngest patient was 14 years similar to that seen in other parts of Nepal.<sup>10</sup> The rarity of breast disease in the first decade of life is also reported by others.<sup>16-18</sup> Two cases of traumatic fat necrosis and a case of granulomatous lesion were also found in our study.

Lesions of the male breast were seen in 10 cases. In the 10 years study of breast diseases by Oluwule et al. in Nigeria, 3.9% of the patients were males. In our study, 8.77% were males, which are similar to the study conducted by Singh and Thakur- 6.58%. Gynaecomastia was the commonest breast lesion in the males. The majority of the patients were in 21-30 years age group. Gynaecomastia formed 6.14% of the breast lumps, which is higher than that seen in India (1.4%)<sup>9</sup> and Nigeria (2.7%).<sup>19</sup> Breast carcinomas occur at an older age in men than females. In the present study, there was only one

seventy years old male with cancer breast. The male to female ratio for carcinoma breast was 1:13 in our study and 1:27 shows by Singh and Thakur. Scheiko<sup>21</sup> found male breast carcinomas comprised 0.8% of cases of breast carcinomas in Denmark and the average age at the time of diagnosis to the 65.2 years.

The commonest age group for malignant breast lesion was 31-50 years as shown in other studies.<sup>8,10,22,23</sup> Infiltrating breast carcinoma was the commonest malignancy seen in the breast (7.89%) in our study. Singh and Thakur in their study found the incidence as (18.48%) which is similar to that reported by Khanna and Yadav. There was a single case of lobular carcinoma, and two cases, each of in-situ ductal carcinoma and medullary carcinoma.

## CONCLUSIONS

Breast tissue formed 2.1% of the total specimens received for histopathology. 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. Male breast disease, though not as common as in female presents a similar spectrum.

Breast cancer is one of the commonest causes of breast lump particularly in women and is growing public health problem in Nepal. The incidence of cancer is higher in women above 30 years of age. Ductal carcinoma is the commonest subtype. 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 lump excised even though the lump is suspected to be benign. 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.

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