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Histopathological analysis of breast lump in an urban community hospital laboratory

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ABSTRACT

Introductions: Breast lump is mostly benign in nature however carcinoma of the breast also presents as a simple lump. Since breast carcinoma is the second most common killer of the female cancer it is important to detect it at early stage and treat. The purpose of the study was to analyse histopathology profile of breast lump.

Methods: Histopathology samples were received, processed, reported and recorded in the Pathology laboratory of Helping Hands Community Hospital, Kathmandu. Data analysed from 2008 to 2011. Descriptive statistics was used to analyse the data.

Results: Out of 1991 histopathology samples 68 were breast lumps. Fifty (73.5%) were benign and 18 (26.5%) were malignant. Ten (55.5%) of carcinoma was seen in between 41 and 50 years. Eleven (46%) of the malignant neoplasm were of Stage IIIA.

Conclusions: Every fourth sample had carcinoma and it is mostly seen after 40 years of age.

Keywords: biopsy, breast lump, carcinoma, fibroadenoma

Plain Language Summary

The study was done to see the histopathological profile of breast lump. The study found that majority of the patients was diagnosed with benign lump. Even though the breast cancer is the second most common killer of female cancer the most common lesions in the breast are benign in nature.

INTRODUCTIONS

The mammogram, which is the screening test done for breast lumps is not easily available and due to its high cost many patients cannot afford it. Histopathological study of biopsy specimen is one of the easiest and cheapest forms of diagnostic method which is affordable, available to give tissue diagnosis. Tissue diagnosis is considered as the minimum requirement to start specific treatment in breast lump.

Both incidence and mortality from breast cancer has increased by 14% and 20% respectively since 2008; and the incidence is even more in developing countries increasing by 5% per year.^{1,2} So, this study was done to find out the histopathological characteristics of breast lump.

METHODS

This is a cross sectional study of breast biopsy specimen received from 2008 to 2011 at the Department of Pathology, Helping Hands Community Hospital, Kathmandu, Nepal. 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 0.4 micron thickness. After staining with hematoxyllin and eosin, slides were examined by pathologists. All the findings were recorded in the database.

RESULTS

Out of 1991 specimens received, 68 (3.4%) cases were of breast pathology. The benign and malignant conditions were 50 and 18 respectively. The histopathological types of breast lumps are presented in Table 2.

Table 1. Age group wise distribution of breast lump pathology

Age group	Benign	Malignant	Total
<20	3	0	3
21-30	23	1	24
31-40	13	1	14
41-50	6	10	16
51-60	4	2	6
61-70	1	1	2
>70	0	3	3

Table 2. Histopathological distribution of breast lump

	Frequency	Percent
Fibroadenoma	28	41.2
Carcinoma	18	26.5
Inflammatory	8	11.8
Benign Breast Aspirate	7	10.3
Duct ectasia	2	2.9
Parasitic	2	2.9
Fibroadenosis	1	1.5
Granulomatous mastitis	1	1.5
Galactocele	1	1.5
Total	68	100.0

All malignant tumors were infiltrating ductal carcinoma (not otherwise specified, NOS) at different stages. Out of 18 malignancies, 11 were Modified Radical Mastectomy (MRM) specimen. Size of tumor ranged from 2x2.5 to 8x3.5 cm. Nipple, quadrants and the deep margins were clear of tumor cells in all MRM. Lymph nodes were identified in all MRM specimens and were positive for tumor cell in eight cases. Maximum numbers of lymph nodes seen in the MRM specimen were 11. Out of 11 MRM specimens three were in stage IIA, three in stage IIB and five were of stage IIIA.

DISCUSSIONS

In this study benign breast disease (BBD) was common presentation in 50 cases (73.5%). This finding is similar to the study done by Khan S in Nepalgunj Medical College where the BBD was seen in 93.2% of the cases.³ The most common benign lesion was fibroadenoma (41.2%), comparable to the study by Giri R, et al where fibroadenoma was seen in 32%.⁴ Fibroadenoma was seen in third and fourth decade of life, similar to other studies.³⁻⁵ Six fibroadenoma showed myxoid changes and all were in age group of 21-30 years, except one in 36 years of age. Duct ectasia was seen in two in the age group 31-40 years which is similar to Pradhan M.⁶ Duct ectasia can mimic carcinoma of the breast because of the signs of nipple retraction, inversion, pain and bloody discharge. All the pathology is due to the obstruction of the lactiferous duct. In this study benign breast aspirate was seen in seven (10.29%) which correlates with the study done in Bharatpur cancer hospital where the result for normal breast aspirate was 10.64%.⁶ There were cases of parasitic infiltration, one each of hydatid cyst and cysticercosis. Agnihotri S has reported a case of cysticercosis in the breast lump at Maniपाल Hospital, Nepal.⁷

Breast cancer is the second common cancer in women after cervical cancer.⁸ Because of the social taboos and less education women in Nepal tend to seek medical help at later stage. Ignorance of self breast examination and lack of promotional education by the health care professionals in communities may be the reason for late presentation of the breast diseases.⁴ Breast cancer is on the rise in Nepal as evidenced by various studies done in the last few decades.^{9,10} All cases of malignant neoplasm (26.5%) were infiltrating ductal carcinoma NOS, similar to Sharma A.¹¹ Out of the 18 malignant neoplasm, 10 (55.55%) were in the age group 41-50 years, six in patients above the age of 51 and only two cases below the age of 40 years. In a study done in Bhaktapur Cancer Hospital, Nepal, the mean age of patients presenting with breast cancer was 49.4 years.¹¹ Similarly, Nielsen M, et al found maximum number of patients (39%) with malignancy were in the age group 40-49 years,¹² and another study in a hospital in Kathmandu.¹³ Out of all specimens 11 were of Modified Radical Mastectomy (MRM). Data from 'Surveillance, Epidemiology, and End Results (SEER) Program' USA shows as tumor size increases, breast cancer survival decreases. For tumor less than one cm in size, five year relative breast cancer survival is 93% and for larger than five cm only 63%.¹⁴ In our study the tumor size ranged from two cm to more than five cm. Lymph nodes were identified in all cases of MRM specimens however it was positive for tumor cells in only eight cases. Each positive lymph node increases the additional risk of cancer death by approximately 6%.¹⁵

Almost half (46%) of the MRM specimens were of stage IIIA. Due to lack of proper screening about 75% of women with breast cancer in developing countries are diagnosed in clinical stages III and IV, whereas approximately 70% of newly diagnosed women with breast cancer in North America are in stages 0 and 1.¹⁶

CONCLUSIONS

In this study, 3/4th breast lumps were benign. All malignant lesions were adenocarcinoma, commonly seen after 40 years of age, and advanced stage with nearly half of mastectomy specimens in stage IIIA.

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