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RESEARCH ARTICLE

HISTOPATHOLOGICAL ANALYSIS OF BREAST LUMP IN A TERTIARY CARE HOSPITAL.

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Manuscript Info

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Key words:-

breast lump, carcinoma, fibroadenoma, benign.

Abstract

Introduction: Though mostly benign in nature, breast lump can be malignant. Since breast carcinoma is the second most common killer of the female cancer, it is important to detect it at early stage. Our study aimed to analyse histopathology profile of breast lump.

Methods: Histopathology samples were received, processed, reported and recorded in the Pathology laboratory at the Department of Pathology, Govt. Medical College Srinagar. Data was analysed for the period of 1 year. Descriptive statistics was used to analyse the data.

Results: Out of 175 breast pathology specimens, seven of our patients were male, 142 (81.14%) were reported as benign and 33(18.86%) as malignant tumors. Mean age of carcinoma patients was 44.9 years. (41.38%) of the malignant neoplasm were of Stage IIIB.

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

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Introduction:-

Women presenting with breast lump is common in surgical practice. Breast lump is a cause of significant disquiet in view of widespread and unrestricted wakefulness in general public¹. The lesions of the breast have varied etiology and may be inflammatory, benign or malignant. It therefore becomes necessary for a treating physician to distinguish benign from malignant conditions and their prevalence.

The diagnostic methods should be rapid, cheap, accurate and least invasive to evaluate and discriminate between benign and malignant etiology of breast lump in outpatient clinics. Such methods benefit both patients and surgeons by promoting proper preoperative diagnosis and management and by limiting the unnecessary investigative workup^{2,3}. FNAC is a simple, reliable, economical, atraumatic, easily repeatable and complication free technique for the evaluation of mass lesions. 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 lump⁴.

Both incidence and mortality from breast cancer is on rise especially in developing countries. This study aimed to find out the histopathological characteristics of breast lump at a tertiary care hospital in Kashmir valley.

Methods:-

This is a cross sectional study of breast biopsy specimen received from 1st June 2015 to 30th May 2016 at the Department of Pathology, Govt. Medical College Srinagar, catering a population of 6.8 million. The breast specimens received from the surgical specialty departments within and associated with the college formed the data

for our study. After being labelled, entered in the data system of the laboratory, the specimens were kept for fixation in 10% Formalin overnight. After grossing, tissue processing, and making blocks, thin tissue slices of 0.4 micron thickness were obtained and prepared on a slide. Slides were examined after staining with hematoxylin and eosin. The findings were recorded in the database.

Results:-

175 breast pathology specimens were received in our department during the study period. Seven of our patients were male, 142 (81.14%) were reported as benign and 33 (18.86%) as malignant tumors with a benign to malignant ratio of 4.3:1. The age of patients at presentation ranged from 14 to 72 years with a median age of 27 years. The age wise distribution of breast lump lesions is depicted in table 1.

Table 1:- Age group wise distribution of breast lump pathology

Age group	Benign	Malignant	Total
≤20	44	0	44
21-30	46	1	47
31-40	38	10	48
41-50	11	11	22
51-60	2	7	9
61-70	1	2	3
>70	0	2	2

The major diagnoses were fibroadenoma (in 48% of cases) at a mean age of 24 years, invasive carcinoma (18.86%) at a mean age of 47 years, fibrocystic disease (9.14%) at a mean age of 32 years and breast inflammation (9.14%) at a mean age of 32 years. The histopathological results of breast lumps are presented in Table 2.

Table 2:- Histopathological distribution of breast lump

S. No	Diagnosis	Frequency	Percentage(%)
1	Fibroadenoma	84	48
2	carcinoma	33	18.86
3	Fibrocystic disease	16	9.14
4	Inflammatory disease	16	9.14
5	Epithelial hyperplasia	6	3.43
6	Gynecomastia	6	3.43
7	Benign phyllodes	4	2.29
8	Fibroadenosis	3	1.71
9	Lactational adenoma	2	1.14
10	Sclerosing adenosis	1	0.57
11	Tubular adenoma	1	0.57
12	Pseudoangiomatous stromal hyperplasia (PASH)	1	0.57
13	Hamartoma	1	0.57
14	Neurofibroma	1	0.57
	Total	175	100

Of the malignant cases, 25/33 (75.76%) were the infiltrative ductal carcinoma. Not otherwise specified. The remainder were lobular carcinoma (2 cases, 6.06%), medullary carcinoma (2 cases, 6.06%), invasive ductal carcinoma with Paget's disease (1 case), inflammatory carcinoma (1 case), tubular carcinoma (1 case) and malignant phyllodes tumor (1 case). Out of 33 malignancies, 29 were Modified Radical Mastectomy (MRM) specimen. Size of tumor ranged from 2.2cmx1.3cm to 12.5cmx9 cm. Lymph nodes were identified in all MRM specimens and were positive for tumor cells in 21 cases. Maximum numbers of lymph nodes seen in the MRM specimen were 18. Out of 29 MRM specimens 3 cases were in stage IIA, 5 cases were in stage IIB, 9 cases were in Stage IIIA and 12 were of stage IIIA.

Discussion:-

In our study majority of the specimens 142/175 (81.14 %) were reported to be benign similar to the study done by Phillip L. Chalya et al.⁵ (80.4%). Fibroadenoma (48%) was the most common benign breast lesion comparable to the study by Naveen et al.⁶ (52%), Greenberg et al.⁷ (50%) and Malik et al.⁸ (49%). The reasons for the high

frequency of fibroadenoma among females in this study are not clear. Demographic factors might play a role, considering the large number of young females within the population of these groups. Maximum number of cases of fibroadenoma was seen in third and fourth decade of life, similar to other studies^{9,10,11}

The fibrocystic disease was seen in 9.14% cases in our study which is at par with studies by Jamal A et al^{12,13} (13.1% and 12%). Hormonal imbalance with prolonged exposure to estrogen is hypothesized to be the main cause of these disorders¹⁴. Majority of the patients belonged to the 3rd and 4th decades. Most of the cases of fibrocystic disease diagnosed in our study (around 76.58%) were Simple and this is less dangerous than proliferative fibrocystic disease (23.41%), which is associated with an increased risk of breast cancer^{14,15}

Inflammation of the breast was found in 9.14% of biopsies. The pattern of inflammatory breast disease in our study is relatively close to that observed in Saudi Arabia and Jordan^{16,17}. Social factors and personal behaviors could be the possible cause of this condition where repeated pregnancies and lactations with accompanying change of breast physiology predispose women to breast infections.

Breast cancer is the most common neoplasia in women. A principal finding of our study was malignancy rate of 18.87%, which were consistent with past studies^{12,18}. Mean age of its presentation was in 44.9 years which is at par with study conducted by A.K. Al-Thobhani et al¹⁹. In our study invasive ductal carcinoma became the most common variety of breast cancer as indicated in published data^{20,21}. Invasive ductal carcinoma is the most common histological type with a poor prognosis rate of 30-35% 10 year survival rate. In our study the tumor size ranged from 2 to 6 cm. Five year survival in breast cancer less than 1 cm is 93% while as it is 63 % for larger than five cm in size²². Lymph nodes were identified in all cases of MRM specimens however it was positive for tumor cells in only 21 cases. There is 6 % additional risk of cancer death by each positive lymph node²³. 41.38% of the MRM specimens were of stage IIIB. Due to lack of proper screening majority of women with breast cancer in developing countries are diagnosed in clinical stages III and IV.

Factors such as genetics, racial, social, cultural, hormonal and dietary habits which contribute to etiopathogenesis were not studied in this study. Breast cancer and breast diseases screening programs should be developed at the hospitals. These programs should ideally include clear objectives, plans and managements. Programs should be free of cost to encourage large number of women to enroll in such screening programs.

Conclusions:-

81.14% breast lumps were benign in our study. All but two malignant lesions were invasive ductal carcinoma, seen at a mean age of 44.9 years and advanced stage with nearly 41.38% of mastectomy specimens in stage IIIA.

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