

CLINICOPATHOLOGICAL STUDY OF VARIOUS BREAST LESIONS PRESENTING AT A TERTIARY CARE HOSPITAL IN KUMAON REGION OF UTTARAKHAND

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Abstract

Background: Breast lesion constitutes a heterogeneous spectrum including inflammatory, benign, and malignant lesions. These diseases of breast can be categorised according to the primary symptoms such as lumps, discomfort, discharge infection and nipple problems. (2) Any alteration in the normal physiology of the breast leads to disease, it may vary from an extreme normality to the severe disease dependent upon the disease process. Therefore, quick diagnosis of these disorders is crucial. **Aim:** Study to detect clinicopathological pattern of various breast lesions. **Materials and Methods:** The present study was conducted in Dr. Susheela Tiwari Government Hospital, Haldwani in the Department of Surgery in patients who presented with breast lump. The results of the study are discussed below. Total 119 patients with breast disease were included in the study. **Result:** In present study according to histopathology 22 (18.5%) patients had a malignant breast disease while in 97(81.5%) the disease was benign. The most common benign lesion was fibroadenoma 45.4% followed by fibrocystic disease (12.6%) while most common malignant lesion was infiltrating ductal carcinoma (9.2%) followed by invasive ductal carcinoma (7.6%). **Conclusion:** The most common breast lesions are benign and the commonest benign lesion is fibroadenoma. Infiltrating duct carcinoma is most common malignancy and found to be more common in 41-50 Years of age group. Triple test was as effective as HPE for evaluating the breast lesions.

INTRODUCTION

Breast lesion constitutes a heterogeneous spectrum including inflammatory, benign, and malignant lesions. Due to the enormous range of disorders and terminology employed to define benign breast diseases, they are frequently more difficult to understand. These diseases of breast can be categorised according to the primary symptoms such as lumps, discomfort, discharge infection and nipple problems.^[2]

Any alteration in the normal physiology of the breast leads to disease, it may vary from an extreme normality to the severe disease dependent upon the disease process. Therefore, quick diagnosis of these disorders is crucial. The main challenge experienced by the women is the concern that the lump is cancerous. Therefore diagnostic accuracy is essential when evaluating such lesions so that unnecessary biopsies is prevented. Due to advancements in diagnostics, it is easy to rule out cancer nowadays. In this regard, diagnostic tools

such as mammography, ultrasonography, and aspiration cytology are important.^[3]

MATERIALS AND METHODS

This prospective study was conducted in Govt. Medical College & STM Hospital, Haldwani, Uttarakhand, India, for 21 months from January 2021 to September 2022 in the department of general surgery. Ethical clearance was obtained from the Institutional Ethics Committee, Govt. Medical College, Haldwani, and a written (or verbal) informed consent for participation was obtained from the patients (or their relatives). All Patients who presented with breast lump included in the study. The results of the study are discussed below. Total 119 patients with breast disease were included in the study.

Inclusion Criteria

patient who gave consent, patients with breast disease, breast pain, a breast lump, nipple discharge, ulcer or fungating breast mass.

Exclusion Criteria

Patient who did not gave consent
Following complaints was assessed

- Presentation of Lump
- Duration of lump.
- Mastalgia.
- Nipple discharge.

After clinical assessment, Ultrasonography (USG), fine needle aspiration cytology (FNAC) was done Mammography was advised for women considered to be at a high risk for breast cancer, patients above 40 years and for suspicious lesion.

Bloody or serous nipple discharge will be sent for cytologic examination for malignant cells.

Triple assessments, as the name indicates, includes three modalities-

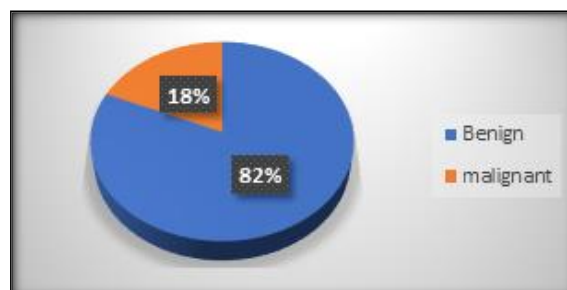
1. Clinical examination
2. Imaging (mamography and /or ultrasound)
3. Biopsy (FNAC and core biopsy)

Statistical Analysis

The statistical analysis was done using IBM SPSS (Statistical Package for the Social Sciences) Version 21.0 Armonk, NY, USA; IBM Corp. Continuous variables were described as mean \pm standard deviations at 95% confidence intervals. Categorical variables were presented as proportions. Student's t-tests, one-way analysis of variance, and Pearson Chi-squared tests were used in the univariate analysis to evaluate statistical associations. Multiple

logistic regression was utilized to identify the independent predictors of mortality based on which odds ratios were calculated. Risk factors that are found to be significant in univariate analyses are considered in the multiple regression model. A two-sided $P < 0.05$ was considered statistically significant.

RESULTS



In present study according to histopathology 22 (18.5%) patients had a malignant breast disease while in 97(81.5%) the disease was benign. The most common benign lesion was fibroadenoma 45.4% followed by fibrocystic disease (12.6%) while most common malignant lesion was infiltrating ductal carcinoma (9.2%) followed by invasive ductal carcinoma (7.6%).

Table 1:

Diagnosis	n	%
Fibroadenoma	54	45.4
Fibrocystic disease	15	12.6
Infiltrating Ductal Carcinoma	11	16.8
Chronic Mastitis	6	5.0
Fat necrosis	6	5.0
Cystosarcoma Phyllodes	3	2.5
Lipoma	3	2.5
Chronic granulomatous mastitis	2	1.7
Hematoma	2	1.7
Neurofibroma	2	1.7
Sclerosing Adenosis	2	1.7
Duct Ectasia with breast cyst	1	0.8
Moderately differentiated Squamous Cell Carcinoma	1	0.8
Mucinous Adenocarcinoma	1	0.8
Phyllodes Tumor	1	0.8
Total	119	100.0

Significant difference was observed among age and age of menarche between malignant and benign diseases. Age of menarche was significantly less in patients malignant disease. Duration of complaint and size of lump did not differ between malignant and benign breast lump.

Table 2:

	malignant (n=22)		benign (n=119)		t-test	p-value
	mean	SD	mean	SD		
Age	50.95	12.767	35.33	11.364	5.69	<.001
Duration of complains (in weeks)	45.64	73.58	48.25	81.062	-0.139	0.89
Age at Menarche	11.23	1.445	12.09	1.191	-2.955	0.004
Age at Menopause	44.70	16.11	49.42	4.81	4.81	.345
Age at First Pregnancy	20.41	1.532	19.94	8.156	0.269	0.788
Size of the lump (in cms)largest diameter	4.77	2.159	3.85	2.674	1.517	0.132

Lump was present in all the cases. Pain was a significant feature of benign disease (92.40% vs 7.60%) while ulceration and retraction of nipple was significantly more in malignant breast disease (100%). Lump discharge was equally distributed among both the groups (50% each).

Table 3:

age group	malignant		benign		p-value
	n	%	n	%	
Lump with pain	6	7.60%	73	92.40%	<.001
Lump with ulceration	1	100.00%	0	0.00%	0.035
Lump with retraction of nipple	5	100.00%	0	0.00%	<.001
Lump with nipple discharge	2	50.00%	2	50.00%	0.099

Table 4:

Nature of lump (HPE)	Clinical	FNAC	Imaging	HPE	Triple
Benign	91	98	99	97	97
Malignant	28	21	20	22	22
Total	119	119	119	119	119

DISCUSSION

The results of the present study were in accordance with Sree et al who observed that out of the total 185 cases 151 cases (81.62%) were diagnosed as nonmalignant and 34 cases were malignant (18.37%). Out of 151 cases of nonmalignant lesions, majority of the lesions were diagnosed as fibroadenoma (70 cases) comprising 46.35%, followed by fibro adenosis (36 cases) and fibrocystic disease (23 cases) comprising of 23.84% and 15.23% respectively.

In a study by Savita Bharati Jain et al. 20% patients had malignant lumps and 80% patients had benign lumps. All above mentioned studies were in accordance with the present study. Among the benign breast disease fibroadenoma was most common accounting for 57% of total cases followed by 9(9%)fibro adenosis, 2(2%)lactating adenoma, 1(1%)duct papilloma, 1(1%)mastitis, 1(1%)apocrine carcinoma, 1(1%)atypical ductal hyperplasia, 1(1%)lipoma. Among malignant lesions, 19(19%) were ductal cell carcinoma, 1(1%)was apocrine carcinoma of breast.

Kharakwal et al in their study observed the highest incidence of malignancy (30%) in 41-50 years age group (4th decade). Traore et al in their study observed the Mean age at diagnosis of breast cancer to be 48 years (n=178). According to Shukla S Hari. Peak incidence of Benign Breast Disorders is between 21-30 years, like our study.

The findings of the present study in accordance to Murali et al. where also most of the malignant lumps were hard. Of the 28 malignant lumps 20 (71%) were irregular whereas only 13 (19%) of 67 benign lumps were irregular. Half of the malignant lumps were fixed to surrounding structures as compared to 9% of benign ones. Nipple changes were observed in 8 of the malignant lumps and in 6 of the benign ones. 18% of malignant lumps had associated skin changes whereas these were seen in only 4.5% of benign ones. After assessing the various characteristics of the breast lumps, an overall impression was to each patient as to the likeliness of cancer.

The assessment of triple test in present study was comparable to HPE with 100% sensitivity and specificity. Our result compared to favorably with the available literature. Kaufman et al and ahmed et al who found that sensitivity of triple assessment was 100% and negative predictive value was 100%. For imaging, the sensitivity was 90.32% and specificity was 100%, positive predictive value was 100%, and negative predictive value was 95.83%. P value was significant (0.000). according to bhavider et al. Solanki et al found sensitivity of FNAC to be 96.77% and specificity was 100%, positive predictive value for FNAC was 100% and negative predictive value was 98.57%. P value was significant (0.000). Mohammed et al found that fine needle aspiration biopsy (FNAB) had a positive predictive value of 100%, sensitivity of 90.6% and specificity of 100%. Ronak. correlated with histopathological diagnosis had found sensitivity and specificity were 100% and 96.77% respectively and positive predictive value 95.00%. Our results were in correlation with the results of this study. Solanki et al had found sensitivity 77.41%, specificity 100%, positive predictive value 100%, negative predictive value 90.78%, p-value was significant (p<0.0001). Yang et al found a sensitivity, specificity and positive predictive value for clinical examination as 88%, 92%, 67%, respectively. This was less than observed in present study.

Limitation of Study

This was a single-centre study in tertiary care centre.

Based on Triple Assessments

1. Clinical examination
2. Imaging (mamography and /or ultrasound)
3. Biopsy (FNAC and core biopsy).

CONCLUSION

The most common breast lesions are benign and the commonest benign lesion is fibrodenoma.

Infiltrating duct carcinoma carcinoma is most common malignancy and found to be more common in 41-50 Years of age group. Triple test was as effective as HPE for evaluating the breast lesions.

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Conflict of Interest

Each author declares that he or she has no commercial associations (e.g. consultancies, stock ownership, equity interest, patent/licensing arrangement etc.) that might pose a conflict of interest in connection with the submitted article

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