



HISTOPATHOLOGICAL PROFILE OF DIFFERENT TYPES OF BREAST DISEASES

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ABSTRACT

Introduction: Several conditions affect the breasts, both females as well as in males. These conditions are classified into two broad categories: benign breast diseases and breast cancer. Benign breast diseases represent a heterogeneous group of lesions that may present with a wide range of symptoms, notably as palpable lesions, or may be detected incidentally as imaging abnormalities but have a little to no risk of progression to breast cancer. Based upon the degree of cellular proliferation and atypia, these diseases are further classified histologically. **Method:** This is a retrospective analytical study in patients with breast diseases in Department of Surgery NAMS, Bir Hospital. Histopathological reports were taken from department of Pathology, from 14th April 2017- 13th April 2022 (5 years). **Results:** Among 1851 patients, around 38.09% underwent fine needle aspiration cytology (FNAC), 5.08% core needle biopsy and 56.81% had done surgical biopsy. Under inflammatory breast diseases, 70.46% were abscess and 29.54% were mastitis cases. Mostly, 30s women had the breast abscess, while 20s and 40s covering around 27.61% and 20% respectively. 50% of the total mastitis cases were seen among women of 30s. Both 40s and 50s females had an equal percentage of mastitis i.e, 15.90% followed by 20s, 60s and 70s age groups. **Conclusion:** Surgical biopsy was mostly followed. Inflammatory diseases had their dominance over women of 30s. Every male patient was found with gynecomastia except for one with lipoma. And finally, all malignant breast diseases were highly found in the patients of 40s and 50s.

KEYWORDS : Inflammatory Breast Disease, Fibroadenoma Breast, Carcinoma Breast

INTRODUCTION

Breast diseases are classified into two broad categories: benign breast diseases and breast cancer.¹ Benign breast diseases represent a heterogeneous group of lesions that may present with a wide range of symptoms, notably as palpable lesions, or may be detected incidentally as imaging abnormalities but have a little to no risk of progression to breast cancer. Based upon the degree of cellular proliferation and atypia, these diseases are further classified histologically into three categories: non-proliferative, proliferative without atypia, and proliferative lesions with atypia.^{1,2} Non-proliferative lesions are generally not associated with an increased risk of breast cancer.³ The most common non-proliferative lesions include fibrocystic changes, simple breast cysts, and galactoceles. Proliferative lesions without atypia can be associated with an increased risk of developing breast cancer. However, the magnitude of such risks stands small - approximately 1.5 to 2 times that of the general population.³⁻⁶ The common proliferative lesions without atypia include simple and complex fibroadenomas, adenomas, and intraductal papilloma. Proliferative lesions with atypia are associated with an increased risk of developing breast cancer in the future.⁷ A subset of benign breast diseases has inflammation as a predominant histopathological picture and is sometimes grouped separately. However, they belong to one of the three histopathological subtypes as outlined above and do not confer additional risk of developing breast cancer. Inflammatory breast diseases include acute mastitis, breast abscesses, chronic mastitis, and granulomatous mastitis.¹

Based on the growth pattern and cytologic features of the lesions, the in situ breast carcinomas are further divided into ductal carcinoma in situ characterized by proliferation of presumably malignant epithelial cells within the mammary ductal system, with no evidence of invasion into the surrounding stroma on routine light microscopic examination and the rarer lobular carcinoma in situ non invasive lesion that arises from the lobules and the terminal ducts of the breast.^{8,9} A separate form of locally aggressive breast cancer, called inflammatory breast cancer, has also been recognized in which cancer cells block lymph vessels in the skin of the breast making the breasts look swollen and red, or inflamed.¹⁰

Patients with breast diseases make up a significant proportion of outpatient department visits and the benign breast diseases among them are far more common than breast cancers.¹¹⁻¹³ Studies from Nepal and elsewhere have revealed that around one-third of all the patients with breast diseases are found to have either fibrocystic changes or fibroadenoma.¹⁴⁻¹⁷

The Global Cancer Observatory estimated that in 2020, there were 19.3 million new cancer cases worldwide and breast cancer has surpassed lung cancer as the most diagnosed cancer, with an estimated 2.3 million new cases (11.7%).²¹ A systematic analysis of the Institute for Health Metrics and Evaluation (IHME) database to measure the burden of cancer in Nepal revealed that the age-standardized prevalence rate for both sexes was highest for breast cancer with 78.24 cases per 100000 population (95% UI 57.58 - 138.49).²² The histopathological evaluation of breast lumps, one of the most common clinical presentations of breast diseases, reveals a similar picture; the fine needle aspiration and histopathological evaluation of breast lumps show that breast cancers constitute 6.6 % to 15.49% of all the samples evaluated.^{14,19,20}

METHOD

- Histopathological reports were taken from department of Pathology, from 14th April
- 2017- 13th April 2022 (5 years). Inflammatory breast disease is further divided into abscess and mastitis.
- Likewise, benign breast diseases were again classified into 7 groups; fibroadenoma, fibrocystic changes, duct ectasia, phyllodes tumor, lipoma, simple breast cyst and gynecomastia. The
- malignant diseases were classified into 4 groups; ductal carcinoma in situ (DCIS), invasive
- ductal carcinoma, inflammatory breast cancer and metastatic cancer. All diseases were classified after patients
- undergoing any one; FNAC, Trucut biopsy (core needle biopsy) or surgical biopsy.

Findings

Table 1: Distribution of patients according to types of biopsy method of breast diseases

Biopsy type	Frequency	Percentage
Fine needle biopsy	352	38.09%
Core needle biopsy	47	5.08%
Surgical biopsy	525	56.81%

Table 2: Inflammatory breast diseases

S. N.	Age	Types of Diseases			
		Acute mastitis and abscess (70.46%)		Chronic mastitis (29.53%)	
		Frequency	%	Frequency	%
1.	<=20	10	9.52%	0	0%
2.	21-30	29	27.61%	6	13.63%
3.	31-40	37	35.23%	22	50%
4.	41-50	21	20%	7	15.90%
5.	51-60	8	7.61%	7	15.90%
6.	61-70	0	0%	1	2.27%
7.	> 70	0	0%	1	2.27%

Table 3: Benign breast diseases

S. N.	Diseases	Age Group							
		1-20		21-40		41-60		61-80	
		Fre que ncy	%	Fre que ncy	%	Fre que ncy	%	Fre que ncy	%
1.	Fibroadeno ma	122	37.30	178	54.43	26	7.95%	1	0.30%
2.	Fibrocystic changes	21	22.58	55	59.13	16	17.20	1	1.07%
3.	Duct ectasia and periductal mastitis	0	0%	3	60%	2	40%	0	0%
4.	Phyllodes tumor	1	11.11	2	22.22	6	66.67	0	0%
5.	Lipoma	1	9.09%	6	54.54%	4	6.36%	0	0%
6.	Simple breast cyst	1	3.57%	14	50%	12	42.85	1	3.57%
7.	Gynecoma stia	9	13.23	32	47.05	12	17.64	15	22.05

Table 4: Malignant breast diseases

S. N.	Diseases	Age Group									
		1-20		21-40		41-60		61-80		>80	
		Fre que ncy	%	Fre que ncy	%	Fre que ncy	%	Fre que ncy	%	Fre que ncy	%
1.	Ductal carcinoma in situ	0	0%	3	11.5	18	69.2	3	11.5	2	7.69
2.	Invasive ductal carcinoma	0	0%	50	24.7	114	56.4	32	15.8	6	2.97
3.	Inflammat ory breast cancer	0	0%	0	0%	0	0%	0	0%	0	0%
4.	Metastatic breast cancer	0	0%	1	11.1	5	55.5	2	22.2	1	11.1

DISCUSSION

Amongst all those patients, around 38.09% underwent fine needle aspiration cytology (FNAC), likewise 5.08% and 56.81% had done core needle biopsy and surgical biopsy respectively. Similarly, under inflammatory breast diseases, 70.46% were abscess and the rest were mastitis cases. 30s women were the most having abscess overtaking 35.23% while age of 20s and 40s covering around 27.61% and 20% respectively. 50% of the total mastitis cases were seen among women age of 30s. Both age 40s and 50s females were having

an equal percentage of mastitis i.e, 15.90% followed by age of 20s, 60s and 70s age groups. Among the groups of benign breast diseases, fibroadenoma was the most prevalent among the women of ages below 40, then the frequency lowers to 1 among 60-80 age group. Fibrocystic changes come after, having its patients age of 20-40 followed by 40s and teenagers. Senior residents weren't spotted with any fibrocystic changes except for one old lady. Gynecomastia had the 3rd most dominance affecting males of all age groups. 4th comes the simple breast cysts largely marking the females of 20-60 age groups. Among malignant breast cases, the most frequent one is Invasive Ductal carcinoma with 202 patients, second is DCIS with 26 cases, 3rd is Metastatic breast cancer with 9 cases. Lastly, no cases of inflammatory breast cancer were found.

CONCLUSION

In this study, Surgical biopsy was majorly chosen while tru-cut biopsy the least. Inflammatory diseases had their dominance over women of 30s. Every male patient was found with gynecomastia except for one with lipoma.

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