ORIGINAL RESEARCH PAPER
Volume - 12 | Issue - 04 | April - 2023 | PRINT ISSN No. 2277 - 8179 | DOI : 10.36106/ijsr
INTERNATIONAL JOURNAL OF SCIENTIFIC RESEARCH

HISTOPATHOLOGICAL SPECTRUMS OF BREAST LESIONS; ONE YEAR STUDY.

Pathology

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ABSTRACT

Introduction: Breast cancer accounts for one-third of female cancers and approximately one-fourth of all malignancies. Histological diagnosis is crucial to the management of breast diseases. It determines the kind of disease, the treatment modalities, and the outcome of management. **Materials and Methods:** This retrospective study was conducted in the Department of Pathology, VDGMC Latur, from January 2021 to December 2021. All mastectomy and lumpectomy specimens received for histopathological examination were included in the study. A Tissue for hematoxylin and eosin (H and E) sections was fixed in 10% formalin and subjected to routine paraffin-embedded processing and stained with H and E. **Observations and Results:** Total 74 specimens were studied during the study period. Among which benign lesions were predominate comprising of 71.6% (53) and malignant lesions were 28.37% (21). Fibroadenoma is the commonest of benign lesion found among study population contributing for 83 % of cases followed by gynaecomastia accounts for 0.07% (4 cases). Fibrocystic disease was the least diagnosed disorder accounts for 0.01% (1 case). Among malignant lesions, Carcinoma of Breast with Infiltrating Carcinoma of Breast - NOS type was the predominant histological variety accounting for 76.19% of cases followed by medullary carcinoma accounting for 9.5%. **Conclusions:** Histopathological study plays very important role in the diagnosis, treatment, and prognosis of breast lesions. This study highlighted the distinct incidences and pathological characteristics of wide range of breast diseases and affirmed that breast cancers in developing countries like India are characterised by late presentation.

KEYWORDS

Fibroadenoma, Fibrocystic disease, Infiltrating Duct Carcinoma, gynaecomastia.

INTRODUCTION:

Breast carcinoma is the most common malignant tumor and the leading cause of carcinoma death in women, with more than 10,00,000 cases occurring worldwide annually[1]. In India, cancer of the breast is the most common cancer among women in many regions and has overtaken cervix cancer, which was the most frequent cancer a decade ago[2]. Recognition of different neoplastic and nonneoplastic breast lesions is important for the differential diagnosis from malignant lesions and ultimately for the management of the patients with breast disease.

We have studied and analysed various neoplastic and nonneoplastic breast lesions from the specimens received in our histopathology section and correlated the histopathology with clinical parameters. The main purpose of the study is to analyse, highlight and to identify the histopathological spectrum and prevalence of breast lesions.

MATERIALS AND METHOD:

This was a retrospective study undertaken using data retrieved from records of the Department of Pathology, VDGMC Latur, from January 2021 to December 2021. Total 74 specimens were studied during the study period. Detailed gross examination was done and the specimens were fixed in 10% formalin followed by thorough sampling. The tissues were processed by routine paraffin embedding technique and sections stained with Hematoxylin and Eosin and were taken for microscopic examination.

Details of the histopathological diagnoses of the ovarian masses evaluated, as well as the age distribution of the patients, were analyzed. All patient data were kept confidential. The clinical details and examination findings, magnetic resonance imaging (MRI), fine-needle aspiration cytology (FNAC), mammography findings, and other relevant information were acquired from the histopathology registration form.

RESULTS:

Total 74 specimens were studied during the study period. In this study total 74 specimens were studied, out of 74, 70 were female and 4 male patients. Among which benign lesions were predominate comprising of 72% (53) and malignant lesions were 28% (21). Fibroadenoma is the commonest benign lesion found among study population contributing for 83 % of cases followed by gynaecomastia accounts for 0.07% (4 cases). Fibrocystic disease was the least diagnosed disorder accounts for 0.01% (1 case). Among malignant lesions, Carcinoma of Breast with Infiltrating Carcinoma of Breast - NOS type was the predominant histological variety accounting for 76% of cases followed by medullary carcinoma accounting for 9.5%.

Table No.-1: Showing histopathological analysis of all cases.

Benign lesions	No. Of Cases	Percentage (Out of 74 cases)
Fibroadenoma	44	59.4%
Inflammatory	3	4.05%
Benign phyllodes	1	1.34%
Malignant lesion		
Infiltrative duct carcinoma	16	21.6%
Medullary carcinoma	2	2.70%
Metaplastic carcinoma	1	1.34%
DCIS	1	1.34%
Micropapillary invasive carcinoma	1	1.34%
Non neoplastic lesion		
Fibrocystic disease	1	1.34%
Lesions of male breast		
Gynecomastia	4	5.40%

Table No.-2: Distribution of lesions according to age

Lesions	<20 years	21-30	31-40	41-50	51-60	>60
Fibroadenoma	2	33	5	4	0	0
Inflammatory	0	1	2	0	0	0
Benign phyllodes	0	0	1	0	0	0
Infiltrative duct carcinoma	0	0	0	1	3	12
Medullary carcinoma						1
Metaplastic carcinoma						1
DCIS					1	
Fibrocystic disease		1				
Gynecomastia	1	3				

PRINT ISSN No. 2277 - 8179 | DOI : 10.36106/ijsr

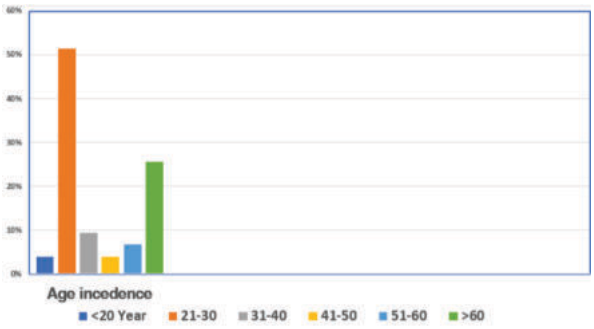

Figure 1: Age incidence of breast diseases.

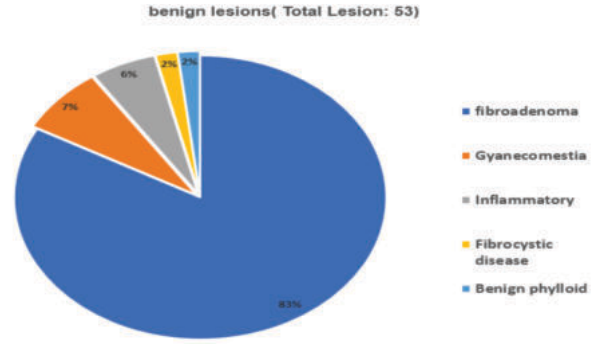

Figure 2: Incidence of Benign breast Lesions.

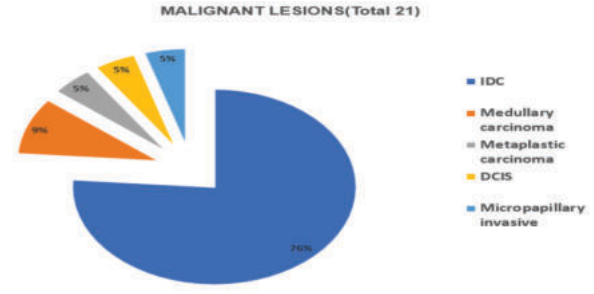

Figure 3: Incidence of Benign breast Lesions.

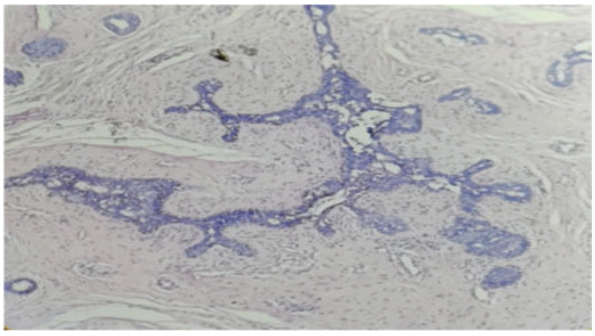

Figure 4: 10X image showing the circumscribed, mixed glandular and stromal growth.

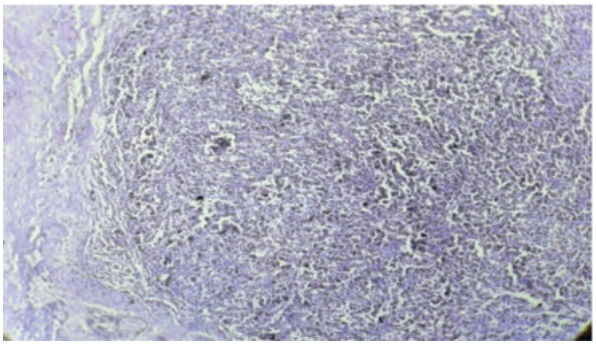

Figure 5: High power view shows large tumour cells in syncytial fashion with lymphoplasmacytic infiltration.

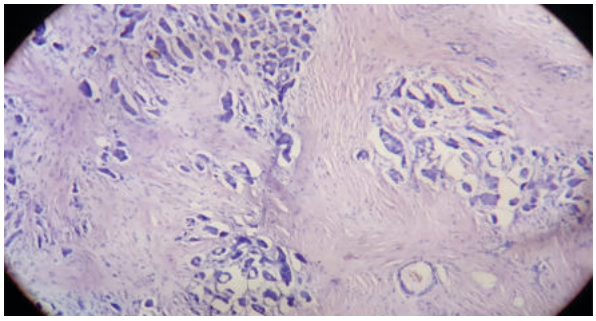

Figure 6:High power shows cytological atypia and absent of myoepithelial cells.

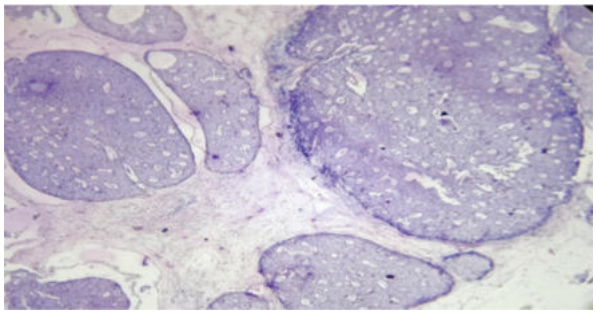

Figure 7: DCIS, Low nuclear grade , solid pattern.

DISCUSSION:

The breast tissue is comprised of peculiar epithelium and stroma which has the capability of changing into benign or malignant lesions. There are about six to ten major duct systems in the human breast. Keratinizing squamous epithelium lines, the overlying skin of the breast which steeps into the nipple orifices which then promptly turns and continues to line the ducts as a double-layered cuboidal epithelium. The larger ducts then branch which finally lead to the formation of the terminal duct lobular unit. The ducts and the lobules are lined by two cell types, and they are the luminal epithelial cells that overlay the epithelial cells[4].

Incidence of non-malignant and malignant breast lesions: In the present study, incidence of non-malignant breast lesions was noted in 53 (71.62%) cases than malignant lesions in 21 cases (28.37%). The findings are comparable with that of Oluwayle and Freeman[5]. Breast lesions show a female predominance when compared to males and the histopathological spectrum of breast lesions varies among different countries and ethnic group[6].

In the study carried out by Khanna et al, the incidence of non-malignant breast lesions was higher in females (95.20%) than males (4.80%). Our findings were analogous with them[7]. The risk factors for breast lesions include multiparty, low parity, low age at first childbirth, and late menopause, all these to only highlight the fact toward excessive circulating estrogen[8,9].

The among benign lesion most common was found to be fibroadenoma (44 cases) 83.01% in our study and the most common among malignant lesion is infiltrative duct cell carcinoma (16 cases) with incidence 76.19%. Similar results are observed in other studies as well[10,11].

CONCLUSION:

In the present study, the most common benign lesion is fibroadenoma with an 83% incidence and the most common malignant lesion is infiltrating ductal carcinoma with 77%. Distant metastasis was associated with infiltrative duct carcinoma (47%) with a poor prognosis. The peak incidence of benign lesions is in the age group of 21–30 years, and the peak incidence of malignancy is seen in 41–50 years.

The study emphasizes the importance to recognize and treat benign lesions at an early stage and distinguish them from in situ and invasive breast carcinomas. Great importance should be given to assessing the risk of developing breast cancer in a patient, so that the most appropriate treatment modality can be determined for each case.

Histopathology plays an important role in the diagnosis and treatment of breast diseases along with mammography, MRI, and FNAC findings. The need of the hour is to conduct breast cancer screening programs and basic training and motivate women to report to doctors at an early stage if they notice any breast lump on palpation, which in turn can reduce morbidity and mortality related to breast tumors.

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