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Original Research Article

Spectrum of Lesions Breast Cancer

Realm of Pathological Lesions of Breast in A Tertiary Care Teaching Hospital in A Dominantly Tribal Region

KirtiPardeshi[*1], Hoogar M.B.[2], Satish Bhasale[3] and Saniya Dsouza [4]

[1.] *Associate professor, Department of Pathology, Vedantaa Institute of Medical Sciences, Dahanu, Maharashtra, India.*

[2.] *Professor, Department of Pathology, Vedantaa Institute of Medical Sciences, Dahanu, Maharashtra, India.*

[3.] *Assistant Professor (Department of Surgery), Vedantaa Institute of Medical Sciences, Dahanu, Maharashtra, India.*

[4.] *Medical student (MBBS), Department of Pathology, Vedantaa Institute of Medical Sciences, Dahanu, Maharashtra, India.*

Abstract: The breast, an important organ of lactation in mammals, is one of the most common organs affected by various physiological and pathological processes. The pathological processes that affect the breast can be non-neoplastic and neoplastic lesions. The non-neoplastic lesions include aberrant development of breast infectious and inflammatory lesions. Neoplastic lesions of the breast comprise benign and malignant tumours of the breast. The present retrospective study aims to study the spectrum of lesions in pathological breast lesions. We have studied various non-neoplastic and neoplastic lesion of the breast and their clinic pathological correlation wherever possible and so also to know the incidence of various malignant lesions of the breast in a tertiary care teaching hospital. The study is conducted in the Department of Pathology, Vedantaa Institute of Medical Sciences, Palghar, Maharashtra, a predominantly tribal region, from January 2022 to April 2023. All excision and incision biopsy specimens and mastectomy specimens are included in the study. After the specimens were processed by standard tissue processing procedures of formal fixation and paraffin embedding protocol, standard paraffin sections were cut and stained with routine histopathological stain. In the results, 86 specimens from breast lesions were received, of which 91.8 % are neoplastic and 8.1 % are non-neoplastic lesions. Among neoplastic lesions, 69.7 % constituted benign lesions, commonly observed in the age group of 31-40 years, and 6.9 % are malignant lesions commonly noted in the age group of 61-70. In conclusion, it is observed that Fibroadenoma is the most common benign tumour, and Infiltrating duct carcinoma (NOS) is the most common tumour among the malignant breast. Among the special types of invasive breast carcinomas, metaplastic carcinoma of the breast with an increased incidence is an unforeseen finding of the present study.

Keywords: Neoplastic and non-neoplastic lesions, Breast lesions, invasive duct carcinoma, metaplastic carcinoma of the breast**,** fibro adenoma, squamous differentiation, ulcero-proliferative lesion of the breast.

***Corresponding Author**

KirtiPardeshi , Associate professor, Department of Pathology, Vedantaa Institute of Medical Sciences, Dahanu, Maharashtra, India.

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1. INTRODUCTION

The breast is a distinguished organ of mammals, which has evolved into a specialized organ of lactation, the main function being milk production to nourish the offspring[1]. Breasts are often sites of various physiological pathological processes and cause morbidity and mortality.[2-5]. In one similar study in the tribal region of Bastar, benign breast lesions were predominant lesions comprising 70 % of all the breast lesions[6]. Benign lesions of the breast, often referred to as benign breast diseases (BBD), are more prevalent than malignant lesions [5-9]. The prevalence of benign breast diseases (GLOBOCAN) varies from 50.4 percent to 84 percent[5,9,10]. The pathological processes in the human breast consist of various non-neoplastic and neoplastic lesions, encompassing a wide spectrum of inflammatory, neoplastic, benign, and malignant lesions[1,5,11,13-16]. Breast lesions comprise various developmental disorders such as aberrant breast, polymastia, polythelia, inverted nipple, premature aberrant hormonal hypertrophy or juvenile hypertrophy, macromastia, and amazia and athelia[1]. These developmentally aberrant breast lesions may be functionally deranged or pose cosmetic problems if hormonally responsive. These developmental disorders of the breast can be associated with pathological lesions ranging from fibrocystic change to carcinoma of the breast[1]. Malignant tumours comprise a small but significant share of the breast lesions[5, 7,12, 17-20]. Malignant lesions of the breast caused 684,996 deaths globally, with an age-adjusted mortality rate of 13.6 per 100,000 women (GLOBOCON) and in India [15]. Malignant lesions of the breast account for 23.4 per cent to 40.5 per cent[5, 7, 17-20]. In India, malignant breast lesions are more prevalent and have a prevalence rate varying from 20-25.8 per 100,000 women and account for 12.7 per 100,000 deaths [14-16, 18-20]. Breast lesions, although a very common health issue in females of all ages, lack of awareness about the seriousness of the appearance of breast lumps and seeking medical help in time has led to increased morbidity and mortality due to malignant lesions of the breast in certain parts of developing world[2-4, 8, 10, 12]. Most of the lesions in the male breast are benign, and gynecomastia is the most common lesion occurring in the male breast. Malignant lesions are uncommon in male breasts and account for less than one per cent of all breast cancers[15]. Advanced imaging studies and fine needle aspiration cytology (FNAC) have immensely assisted in the pre-surgical evaluation of breast lesions. However, routine histopathological evaluation along with advanced histopathological techniques such as immunohistochemistry and molecular studies are the mainstay of diagnosis and prognostication of breast, particularly some of the complex malignant lesions of breast [13, 18-20]. The present study is aimed at the study of various benign and malignant lesions of the breast and their clinicopathological correlation wherever possible and also know the realm of incidence and distribution of various neoplastic and non-neoplastic lesions of the breast by analyzing the clinical data of such cases and comparative analysis of the findings with similar studies conducted across the country and outside the country.

2. MATERIALS AND METHODS

The present study was conducted for one year and four months from January 2022 to April 2023 in the Department of Pathology of Vedantaa Institute of Medical Science, Dahanu, Palghar District of Maharashtra, one of the predominantly tribal regions of Maharashtra, India.

2.1. Sampling method

Eighty-Six breast specimens were received in the Department of Pathology during this period. The breast specimens consisted of lumpectomy and mastectomy specimens apart from core biopsy specimens of all non-neoplastic and neoplastic lesions of the breast. All the specimens were subjected to standard Formalin-fixed paraffin-embedded (FFPE) tissue processing protocol, and paraffin sections of 3-5 micron-thick were cut and stained with standard Hematoxylin and Eosin stain[2,14]. The sections were submitted for detailed histological examination. The observations of the present study are tabulated by retrospective analysis of data.

2.2. Inclusion Criteria

All excision specimens, biopsies, and mastectomy specimens of the breast received for histopathological examination with a diagnosis of neoplastic and non-neoplastic lesions of female and male breasts during the study period were included in the present study.

2.3. Exclusion Criteria

The following are the exclusion criteria for specimens from the present study:
1. Breast specimens that were deemed to be unequivocally inadequate for a detailed and definitive opinion.
2. Autolyzed specimens.

3. RESULTS

3.1. Spectrum of breast lesions

During the period of the current study of 16 months, a total of 86 specimens of breast were received in the Department of Pathology. Of these, 79 (91.86%) cases are histologically diagnosed as neoplastic, and 7 (8.13%) are non-neoplastic breast lesions. In the neoplastic category of breast lesions, 60 (69.76%) cases are benign breast lesions, one (1.16%) case of borderline breast lesion (Phyllodes tumour) (Fig 10, 11) and 18 (20.93%) cases are malignant breast lesions. In the non-neoplastic category of breast lesions, seven (8.13%) cases are various inflammatory lesions of the breast [Fig 1].

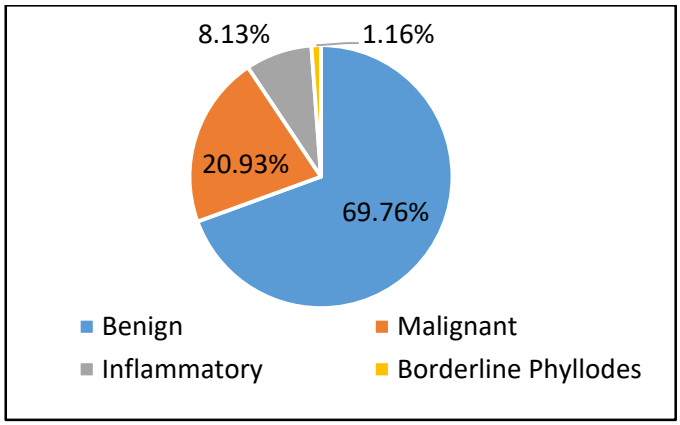

Fig 1: Percentage of Breast Lesions

3.2. Gender-wise and age-wise distribution

In the present study, out of 86 patients, 83 (96.51%) comprised females and 3 (3.48%) males. [Fig 2].

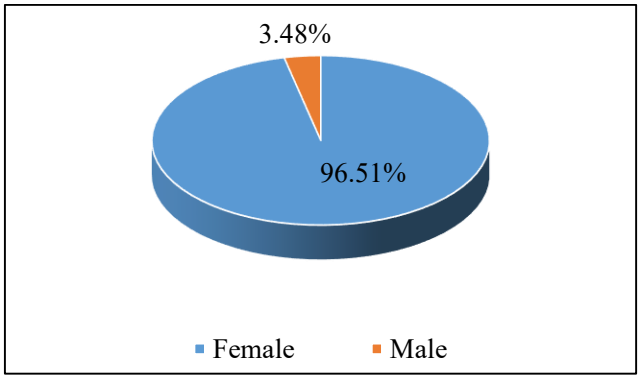

Fig 2: Sex-Wise Distribution of Breast Lesions

In the present study, the patients were of a wide age range varying from 11 years to 70 years. [Table 1].

Table 1. Age-wise Distribution of Various Breast Lesions.

	Neoplastic Breast Lesions			Non-neoplastic Breast Lesions
Age (years)	Benign Neoplasms and their percentage	Borderline Neoplasms and their percentage	Malignant Lesions and their percentage	Inflammatory Lesions and their Percentage
11-20	10 (11.62%)	Nil	Nil	2 (2.32%)
21-30	16 (18.60%)	Nil	1 (1.16%)	Nil
31-40	17 (19.76%)	1(1.16%)	2 (2.32%)	2 (2.32%)
41-50	12 (13.95%)	Nil	5 (5.81%)	2 (2.32%)
51-60	4 (4.65%)	Nil	4 (4.65%)	1 (1.16%)
61-70	1 (1.16%)	Nil	6 (6.97%)	Nil
Total	60 (69.76%)	1(1.16%)	18 (20.93%)	7 (8.13%)

3.3. Clinical presentation

90% of the patients in the present study have presented clinically with complaints of mass or lump in the breast. Clinical features such as nipple discharge, local skin changes, and tenderness are other presenting symptoms in 8% of the cases, while 2% have presented with breast ulcers.

3.4. Distribution of lesions

In the present study, among the neoplastic lesions, the commonest benign breast lesion encountered is Fibroadenoma with 39 (45.34%) cases (Fig 1, 2), followed by fibrocystic disease of the breast in 14 (16.27%) cases noted exclusively in females (Fig 3, 4). Fibroadenosis is another lesion observed in 4 (4.65%) females. Duct papilloma is noted in 1 (1.16%) case (Fig 5). Gynecomastia is also seen in 2 (2.32%) males (Fig 6) [Table 2].

Fig 1: Gross morphology of Fibroadenoma showing well-circumscribed grayish white mass with slit-like spaces;

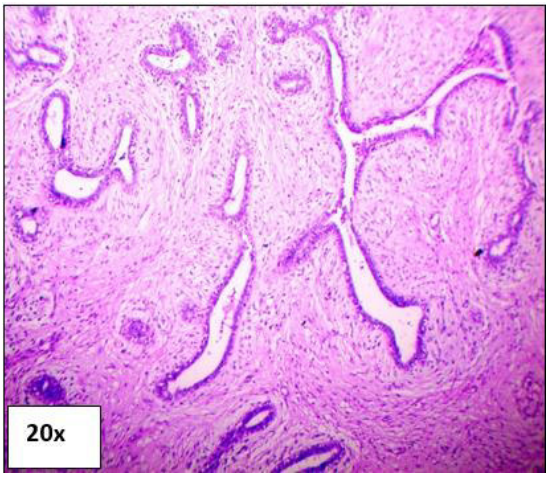

Fig 2: 20x, H&E, Fibroadenoma. Photomicrograph showing biphasic tumour with both glandular and stromal hyperplasia.

Fig 3: Gross morphology of fibrocystic disease of Breast showing ill-defined mass with multiple irregular cysts & clear contents.

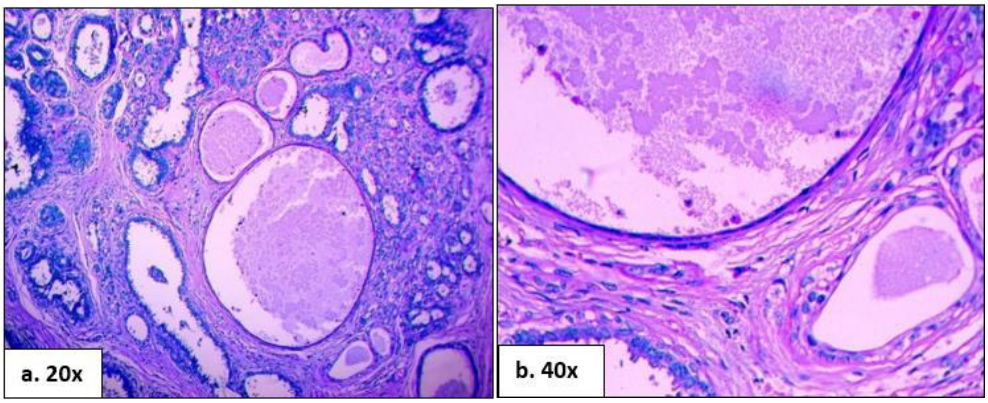

Fig 4a and 4b: Photomicrographs of fibrocystic disease of the breast showing multiple cystic areas lined by attenuated glandular epithelium and their inspissated secretory contents (4a, 20X, H and E; 4b, 40X, H and E)

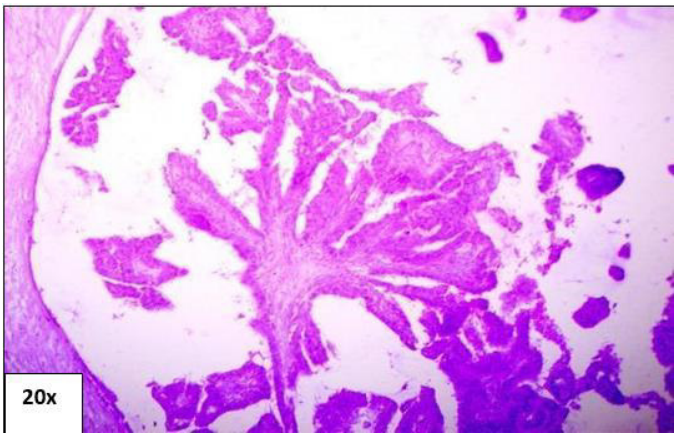

Fig 5: Photomicrograph of Duct papilloma showing dilated duct with papillary structures lined by hyperplastic glandular epithelium (20x, H and E).

Table 2. Distribution of Benign Breast Lesions.

Breast Lesions	Number of Cases	Percentage
Fibroadenoma	39	45.34
Fibrocystic Disease	14	16.27
Fibroadenosis	4	4.65
Duct Papilloma	1	1.16
Gynecomastia	2	2.32
Total	60	69.76

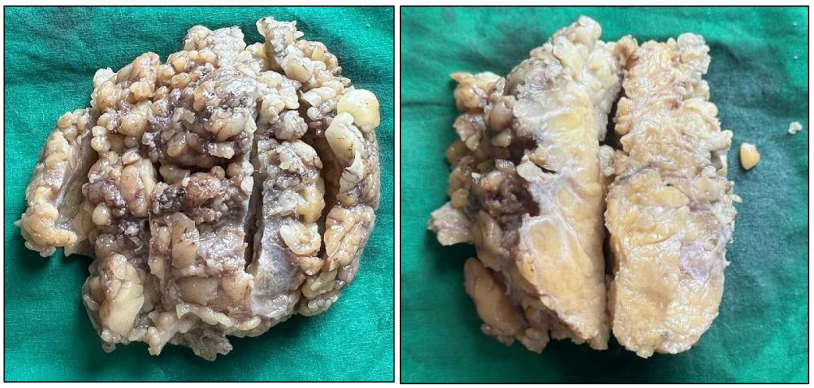

Fig 6: Photographs of the gross specimen of Gynaecomastia showing enlarged, non-descript gray-white to grayish yellow lesion; cut sections: gray-white with abundant adipose tissue.

Invasive duct carcinoma, NOS (Not Otherwise Specified) type, is the most common malignant breast lesion observed in the present study, which comprised 11 (12.79%) cases (Figs 7, 8), followed by Ductal Carcinoma in Situ (DCIS), which constitutes 3 (3.48%) cases (Fig 9). Medullary carcinoma is noted in one (1.16%) case (Fig 14), and metaplastic carcinoma of the breast is observed in two (2.32%) cases (Figs 12, 13). Malignant Phyllodes is also seen in one (1.16%) case (Fig 10), [Table 3].

Fig 7. Photomicrograph showing Gross morphology of Invasive DuctCarcinoma-Not Otherwise Specified (IDC-NOS). Breast is irregularly enlarged with ulcero-proliferative lesion involving nipple areola complex and puckering of surrounding skin.

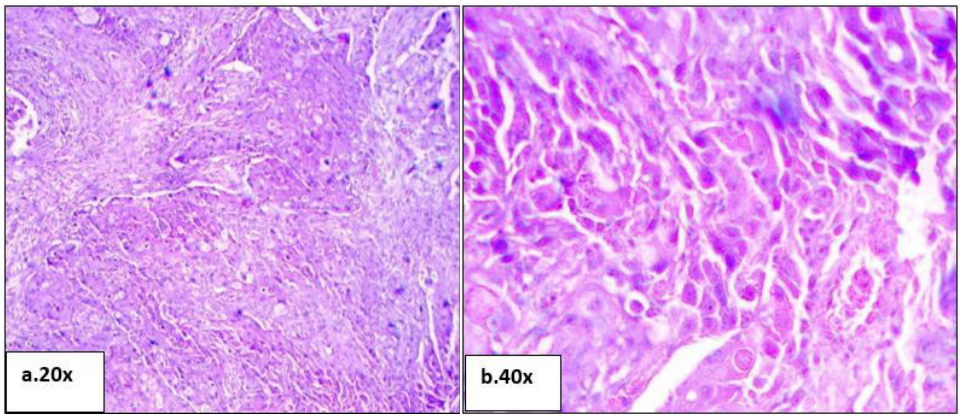

Fig 8a and 8b: Photomicrographs of Invasive DuctCarcinoma-Not Otherwise Specified (IDC-NOS) showing sheets and nests of large pleomorphic ductal cells with enlarged nuclei arranged in poorly formed ductal structures, along with foci of necrosis (8a. 20x, H and E; 8b. 40x, H and E).

Table 3. Distribution Of Malignant Breast Lesions

Breast Lesions	No. of cases	Percentage
Infiltrating Ductal Carcinoma (NOS)	11	12.79
DCIS	3	3.48
Medullary Carcinoma	1	1.16
Metaplastic Carcinoma	2	2.32
Malignant Phyllodes	1	1.16
Total	18	20.93

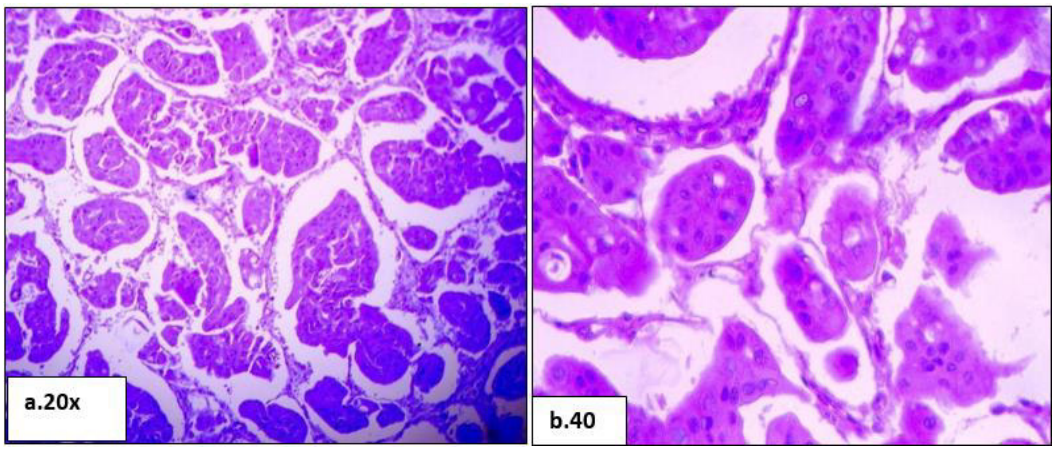

Fig 9a and 9b: Photomicrographs of Ductal carcinoma in situ (DCIS). Note dilated ductal structures filled with sheets of pleomorphic ductal cells with high nucleocytoplasmic ratio (Fig 9a. 20x, H and E; Fig 9b. 40x, H and E).

Fig 10: Photograph of resected specimen of Borderline phyllodes tumour. The tumour is large, gray-white and fleshy with focal cleft-like structures.

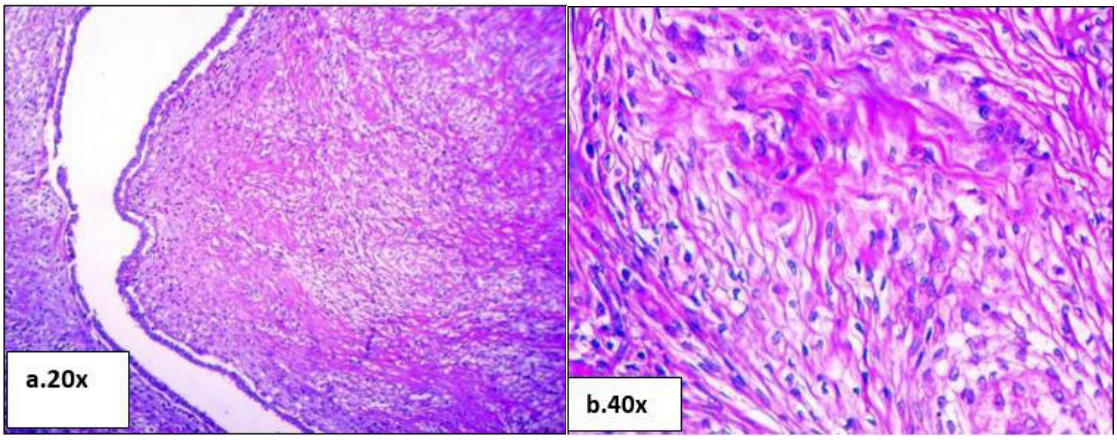

Fig 11a and 11b: Photomicrographs of Borderline Phyllodes tumour. Note leaf-like cleft with overlying areas of stromal overgrowth (Fig 11a) and preponderance of stromal growth (Fig 11b) consisting of pleomorphic stromal cells with nuclear hyperchromasia and sparse mitotic Figs (Fig 11a. 20x, H and E; Fig 11b. 40x, H and E).

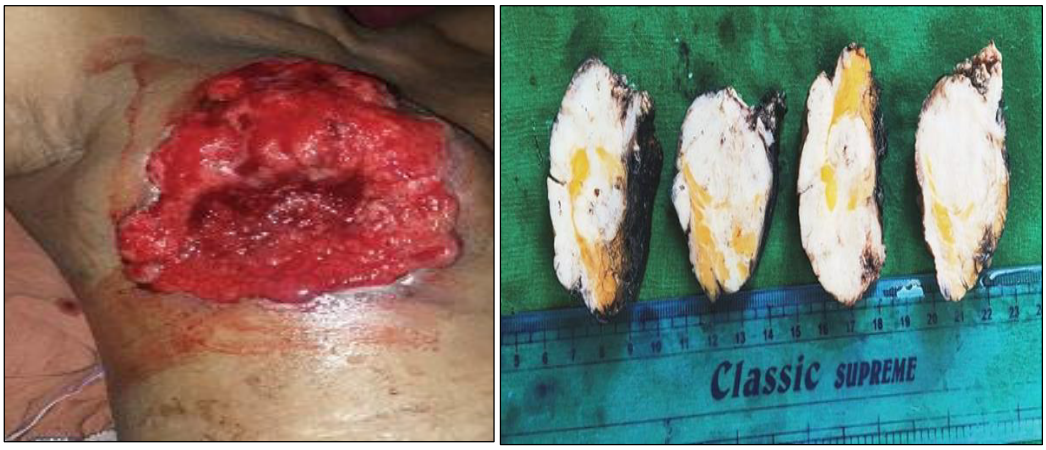

Fig 12a (Left): Photograph of clinical presentation invasive duct carcinoma. An ulcero-proliferative lesion of breast involving almost entire right breast. The nipple and areola are grossly indiscernible; Fig 12b (Right). Photograph depicting cut-sections of the specimen which consists of irregular pearly white, firm tumour with ill-defined borders.

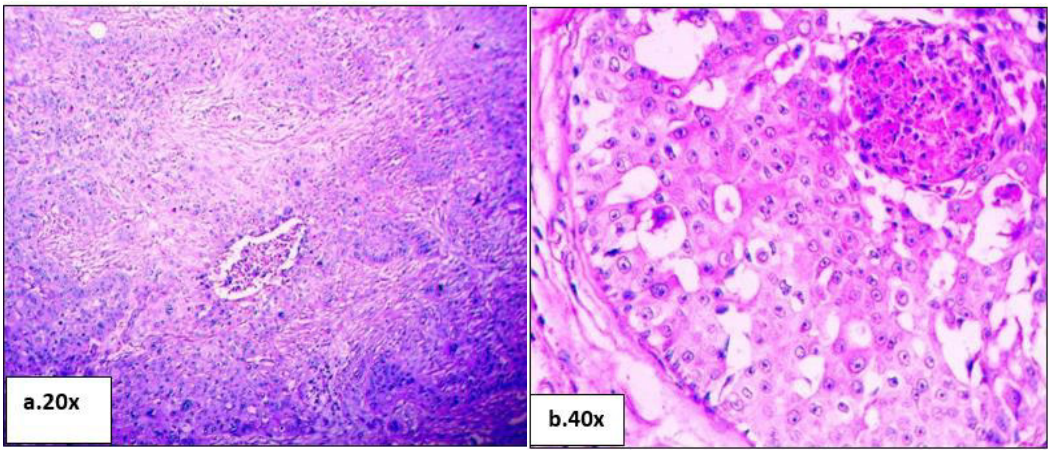

Fig 13a and 13b. Photomicrographs showing metaplastic carcinoma of breast with squamous differentiation. Note sheets and nests of pleomorphic squamous cells with hyperchromatic nuclei and prominent nucleolus. The cytoplasm of the cells shows diffuse keratinization. Foci of necrosis with keratin debris can also be seen (13a.20x, H and E; 13b. 40x, H & E).

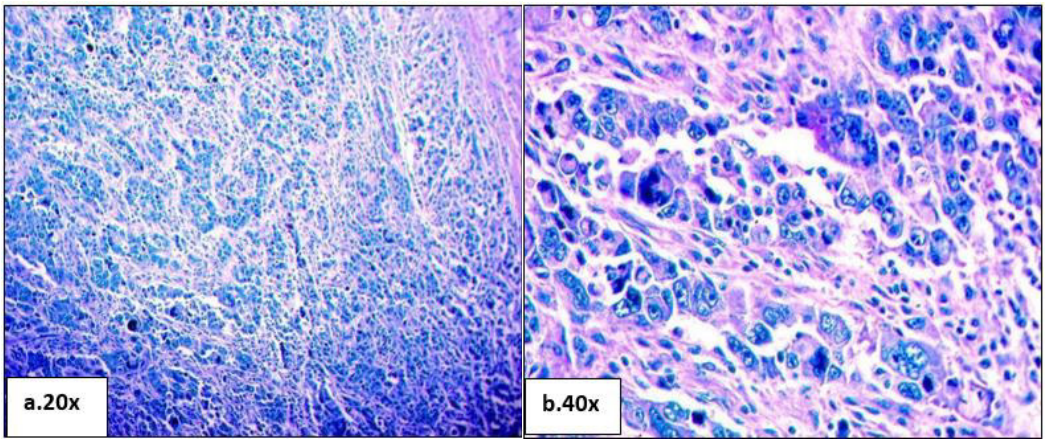

Fig 14a and 14b: Medullary carcinoma of breast. Photomicrographs depict round, polygonal to ovoid cells with highly pleomorphic nuclei arranged in cords, trabeculae and syncytial nests with sparse intervening stroma and varyingly dense infiltration by chronic inflammatory cells (Fig 14a. 20x, H and E; Fig 14b. 40x, H and E).

In the present study, non-neoplastic breast lesions comprising predominantly inflammatory lesions have a small share among breast lesions. These comprised seven (8.13%) cases of inflammatory lesions. Among the inflammatory lesions, six (6.97%) cases are of breast abscess (Fig 15) and one (1.16%) case of granulomatous mastitis. [Table 4].

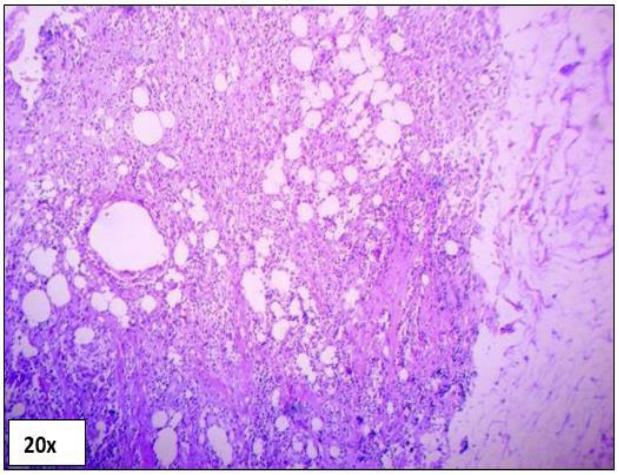

Fig 15: Photomicrograph of breast abscess depicting breast tissue which is infiltrated by mixed inflammatory cells and histocytes with areas of focal necrosis and calcification (20x, H and E)

Table 4. Distribution of Inflammatory Breast Lesions.		
Breast Lesions	**No. of Cases**	**Percentage**
Breast abscess	6	6.97
Granulomatous Mastitis	1	1.16
Total	7	8.13

The present study reveals that benign breast lesions are highest in the third and fourth decades of life. In contrast, malignant breast lesions are most commonly observed between the sixth and seventh decades of life, as shown in Tables 5, 6, and 7.

Table 5. Age-Wise Distribution of Benign Breast Lesions.							
Breast lesions	**11-20 Years**	**21-30 Years**	**31-40 Years**	**41-50 Years**	**51-60 Years**	**61-70 Years**	**Total**
Fibroadenoma	6	13	12	7	1	Nil	39
Fibrocystic Disease	2	2	3	4	3	Nil	14
Fibroadenosis	Nil	2	1	Nil	Nil	1	4
Duct Papilloma	Nil	Nil	Nil	1	Nil	Nil	1
Gynecomastia	2	Nil	Nil	Nil	Nil	Nil	2

Table 6. Age-Wise Distribution of Malignant Breast Lesions.							
Breast Lesions	**11-20 Years**	**21-30 Years**	**31-40 Years**	**41-50 Years**	**51-60 Years**	**61-70 Years**	**Total**
Infiltrating Ductal CA (NOS)	Nil	Nil	1	1	5	4	11
DCIS	Nil	Nil	1	1	Nil	1	3
Medullary CA	Nil	Nil	Nil	Nil	Nil	1	1
Metaplastic CA	Nil	Nil	Nil	2	Nil	Nil	2
Malignant Phyllodes	Nil	Nil	Nil	1	Nil	Nil	1

Table 7. Age-Wise Histopathological Distribution of Inflammatory Breast Lesions.							
Breast Lesions	**11-20 Years**	**21-30 Years**	**31-40 Years**	**41-50 Years**	**51-60 Years**	**61-70 Years**	**Total**
Granulomatous Mastitis	Nil	Nil	Nil	Nil	1	Nil	1
Breast Abscess	2	Nil	2	2	Nil	Nil	6

In the present study, it is observed that in 25 (29%) cases out of 86 cases, Fine Needle Aspiration Cytology [FNAC] was carried out on the breast lesions before the surgical procedures. In neoplastic breast lesions, 16 (18.6%) cases were benign, 8 (9.3%) were malignant breast lesions reported on FNAC, and a single case of inflammatory breast lesions was reported on FNAC. All cases showed synchronizing results with histopathological findings.

4. DISCUSSION

The human breasts are one of the most common sites of morbidity and mortality, particularly among females. A wide spectrum of neoplastic and non-neoplastic lesions occurs in the breast. Hence, the present study is an endeavour to analyze various breast lesions with their prevalence in a tertiary care teaching hospital in a predominantly tribal of Dahanu, region of Palghar district in western Maharashtra, with comparative analysis of findings of similar studies in India and abroad. In the present study, 86 cases of non-neoplastic and neoplastic breast lesions are analyzed over 16 months, with an overall increased incidence of benign lesions. Benign lesions of the breast accounted for 60 (69.76%) cases, similar to the findings of Dnyaneshwar et al[14]. In comparison, the number of malignant lesions was relatively very low, with just 7 (8.13%) cases, a finding similar to the observations of Sree ND et al[12]. However, the prevalence of benign breast lesions is in wide variance with the present study. The present study noted one (1.16%) case of the borderline neoplastic lesion (Phyllodes tumour). However, none of the similar studies by various authors reported borderline neoplastic breast lesions. In the present study, 83 (96.51%) cases were female, and 3 (3.48%) were male. This was similar to a study by Sree ND et al[12], which found that 95.13 percent were females and 4.8 percent were male patients. Hence, breast lesions are more common in females than males. In the present study, involvement of the left breast by various non-neoplastic and neoplastic lesions is more common (50%) than similar involvement of the right breast (40.69%). Bilateralism of various breast lesions is observed in 9.30 per cent of the cases. These findings conform with similar studies by M. Neeraja et al, Kalyani etal[2,3]. In the present study, 83 (96.51%) cases were female, and 3(3.48%) were male. This was similar to a study by Sree ND et al[12], which found that 95.13 per cent were female, and 4.8% were male patients. Hence, breast lesions are more common in females than males.

Table 8: Comparison of Breast Lesions with Other Studies.

Study	Benign	Borderline(Phyllodes tumour)	Malignant	Inflammatory
1.Nwafor et al[5](Nigeria); 2018	51.8%	Nil	44.3%	3.9%
2. FekadeYerakly et al[7](Ethiopia); 2015	51%	Nil	49%	Nil
3.Sarah Ali Abed et al[11] (Iraq);2020	49.06%	Nil	50.94%	Nil
4. DeepikaDhruw et al[6](Bastar region, India);2018	74%	Nil	26%	Nil
5. M.Neeraja et al 2 Andhra Pradesh (AP), India;2019	59.68%	Nil	39.68%	0.6%
6.Mrudula et al[13](Telangana,India); 2023	78.5%	Nil	21.5%	Nil
7.Dnyaneshwar S. et al[14](Maharashtra, India); 2017	67.88%	Nil	28.46%	3.64%
8. Present study, (Dahanu, India), 2023	69.76%	1.16%	20.93%	8.13%

As observed in Table No. 8, compared with other studies [2,5-7,11,13,14], we have a significant number of benign cases, while malignant lesions were less frequent. Inflammatory lesions are showing slightly higher incidence.

Table 9. Comparison Of Benign Breast Lesions With Other Studies.

Study	Fibroadenoma	Fibrocystic diseases	Fibroadenosis	Duct papilloma	Gynecomastia
1.Nwafor et al[5] (Nigeria); 2018	253(32.7%)	78(9.8%)	Nil	2(0.3%)	6(0.8%)
2.Fekade Yerakly et al[7] (Ethiopia); 2015	65(54.2%)	8(6.7%)	Nil	1(0.8%)	5(4.2%)
3.Sarah Ali Abed et al[11](Iraq);2020	33(31.1%)	6(5.7%)	Nil	Nil	Nil
4.Deepika Dhruw et al[6] (Bastar region, India);2018	90(60.8%)	19(12.8%)	2(1.4%)	Nil	4(2.7%)
5.M.Neeraja et al[2]Andhra Pradesh (AP), India;2019	141(45.48%)	13(4.19%)	Nil	Nil	18(5.80%)
6. Mrudula et al[13](Telangana,India); 2023	33(60%)	12(21.8%)	2(3.6%)	Nil	Nil
7. Dnyaneshwar S. et al[14](Maharashtra, India); 2017	137(50%)	15(5.48%)	5(1.82%)	Nil	7(2.55%)
8.Present study, (Dahanu, India), 2023	39(45.34%)	14(16.27%)	4(4.65%)	1(1.16%)	2(2.32%)

As observed in Table no 9, our study results for benign lesion spectrum are comparable to the other seven studies[2,5-7,11,13,14]. In the current study, fibroadenoma constitutes the dominating lesion, with 39 (45.34%) cases of all benign breast lesions. This finding is almost similar to the findings in the studies by M. Neeraja et al. and Sree ND et al., who reported 45.48 per cent[2,12]and 46.35 per cent cases of Fibroadenoma, respectively. In the present study, the most common age group of females affected by fibroadenoma is 31-40 years, while the common age group of females affected by fibroadenoma, as reported in a similar study by Sree ND et al. is a slightly younger age group of 21-30 years [12]. Fibroadenoma is followed by fibrocystic breast disease, observed in 14 (16.27%) cases, with the peak incidence noted in the age group of 31-40 years. Fibroadenoma occurs as a result of hormonal stimuli in an exaggerated fashion in women between adolescence and the middle of the second decade of life. In the present study, a sole case (1.16%) of borderline Phyllodes tumour occurred in a 40-year-old female. It occurred as a mass in the left breast's upper quadrant, mimicking an infiltrating malignant lesion as it had restricted mobility. Histologically, it was a cellular tumour composed of ovoid to spindled cells with mild to moderate nuclear atypia, stromal overgrowth with increased mitotic activity, and an occasional stromal giant cell. The mitotic count varied from 5 to 9 per high power field and an occasional stromal giant cell.

Table-10 Comparison of Malignant Breast Lesions with Other Studies.

Study	IDC-NOS	DCIS	Medullary CA	Metaplastic CA	Invasive papillary CA	Mucinous CA	Malignant phyllodes
1. Nwafor et al[5](Nigeria); 2018	310 (40%)	11 (1.4%)	2 (0.3%)	1 (0.1%)	2 (0.3%)	5 (0.6%)	Nil
2. FekadeYerakly et al[7](Ethiopia); 2015	77 (67%)	3 (2.6%)	Nil	4 (3.5%)	1 (0.9%)	4 (3.5%)	1 (0.9%)
3. Sarah Ali Abed et al[11](Iraq);2020	113 (64.9%)	10 (5.7%)	5 (2.8%)	Nil	Nil	Nil	Nil
4. DeepikaDhruw et	42	Nil	1	1	Nil	1	Nil

al[6](Bastar, India);2018	(80.8%)		(1.9%)	(1.9%)		(1.9%)	
5. M.Neeraja et al[2]AP, India, 2019	97 (31.29%)	2 (0.6%)	15 (4.83%)	Nil	3 (0.9%)	3 (0.9%)	Nil
6.Mrudula et al[13](Telangana, India); 2023	10 (14.28%)	2 (2.85%)	Nil	Nil	Nil	1 (1.42%)	Nil
7. DnyaneshwarS. et al[14] (Maharashtra, India) 2017	65 (23.86%)	2 (0.72%)	3 (1.09%)	1 (0.36%)	1 (0.36%)	1 (0.36%)	Nil
8. Present study	11 (12.79%)	3 (3.48%)	1 (1.16%)	2 (2.32%)	Nil	Nil	1 (1.16%)

In the present study, malignant breast lesions account for 20.93 per cent of all breast lesions, which is similar to findings of the studies in Telangana, India, Mrudula et al [13] and studies carried out in a predominantly tribal region of Bastar, India, by Deepika Dhruw[6], which reported 21.5 per cent and 26 per cent, respectively, the latter being slightly higher than the present study. The studies conducted abroad reported a higher percentage of malignant tumours. A study in Iraq by Sarah Ali et al[11]reported 50.94 per cent of malignant which is more than benign tumours. Similarly, studies by Nwafor et al[5] in Nigeria and Fekade Yerakly[7] in Ethiopia reported 44.3 per cent and 49 per cent of malignant lesions, respectively, almost twice the cases reported in the present study. Among the malignant lesions, invasive ductal carcinoma, not otherwise specified (No specific type), is the most common type of malignant lesion, constituting 11 (12.79%) cases, followed by DCIS, comprising 3(3.48%) cases. These findings are similar to those of a study conducted by Dnyaneshwar J S et al[14]. Out of 18 malignant breast lesions, special variants of infiltrating carcinomas constituted a sixth of all malignant lesions of the breast. Among the special types of invasive duct carcinoma, 2(2.32%) cases were diagnosed as Metaplastic carcinoma, and one (1.16%) was reported as medullary carcinoma. In the present study, one (1.16%) case of Malignant Phyllodes is noted (Tables 8 and 9, 10). Table No. 10, IDC –NOS is the most common breast malignancy as also observed in other studies[2,5-7,13,14] Among the special or specific types of invasive breast carcinoma, one (1.16%) cases of medullary carcinoma and two (2.32%) cases of metaplastic invasive breast carcinoma, one of them being metaplastic squamous cell carcinoma, are noted, and in a similar study by Fekady Yerakedly[7]has found the incidence of metaplastic breast carcinoma higher with 4 (3.5%). Out of the 18 malignant breast lesions, 12 are found to have been reported to be of grade 2, 5 cases grade 3, and one case to be of grade 4 as per the standard grading system of malignant breast lesions.

5. CONCLUSION

In the trible region of our study, benign breast lesions are more common than malignant lesions. Fibroadenoma is the most common benign breast lesion, followed by a fibrocystic breast lesion. The benign breast lesions are more common in the third decade of life. Malignant lesions form one-fifth of all breast lesions. The highest number of malignant lesions occur in the sixth decade of life. Invasive duct carcinoma is the most common type, not otherwise specified (No specific type). Among special types of invasive carcinomas of the breast, metaplastic breast carcinoma has turned out to be an unforeseen outlier of the present study. The present study found Fine Needle Aspiration Cytology (FNAC) to be a significant, useful ancillary resource in the diagnosis of breast lesions rapidly with almost unequivocal cyto-histological conformity and correlation.

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7. AUTHORS CONTRIBUTION STATEMENT

Miss Saniya Dsouza has played a pivotal role in collecting data and preparing the comprehensive database for the article with adequate help from Dr. Kirti Pardeshi, who gave useful inputs on collecting, compiling, and tabulating the data. Dr. Hoogar M. B. has been central to the present study in mooting the idea for publication, its broad planning and organization, preparation, and final comprehensive editing of the manuscript. Necessary inputs were provided towards the designing and smooth execution and completion of the study by all the authors. Dr. S. Bhasale has helped, albeit tangentially, in being a tireless surgeon who has provided a sustained stream of histopathology case study material over the years that helped in the cumulative enrichment of the clinical database that has had the lion's share in the present study.

8. ETHICAL APPROVAL STATEMENT

The study commenced after obtaining unconditional approval from the Institutional Ethics Committee of Vedanta Institute of Medical Sciences, Palghar (Reference number EC/06/2023).

9. CONFLICT OF INTEREST

Conflict of interest declared none.

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