Original Research Article

Burden of Breast lesions in Females in Gwalior region – A 3 yr retrospective study

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Abstract

Background:Existence of Breast lesions in females is still a big health issue in Indian females and cases of carcinoma breast represent only tip of iceberg due to shyness, social stigma, illiteracy. This study is carried out to study the histomorphological spectrum of breast lesion so as to assess the burden of breast lesions in tertiary care centre draining Gwalior region. **Material & Methods**: Breast Biopsies and mastectomy specimen recieved during last three years in our department for histopathological examination were included in study. Histomorphological diagnosis were recorded and analyzed. **Results:**Total 354 Breast specimen were examined over a period of three years ,from 1st Jan 2018 to 31st Dec 2020. Among these 21(5.93%)were NonNeoplastic and333(94.07%) were Neoplastic. Among Neoplastic categorised into Benign and Malignant tumours. Fibroadenoma was found to be the most common Benign lesion followed by Fibrocystic disease of breast. Among malignancy ,Most common variant was infiltrating Ductal Carcinoma (NOS type).**Conclusion**: Breast carcinoma is the second most common carcinoma leading to increased mortality in females after Carcinoma of cervix. Actual assessment of incidence and type of histomorphological variants allows for better treatment strategy and plan awareness programs and accordingly policy making. Self examination and motivation to attend health clinics is very crucial to reduce the painstaking associated with morbidity and mortality caused by carcinoma breast.

Keywords: Fibroadenoma, Neoplastic, benign,Malignant, Infiltrating duct Carcinoma.

Introduction

Female Breast are subjected to various physiological and hormonal changes related to age, Pregnancy , Lactation and Menopause. Breast lumps are very commonly encountered in surgical outdoor clinics and in our Cytology Department. Different age group have different common lesions which are subclassified into Inflammatory, benign and Malignant [1,2] World-wide breast lesions have become a major cause of mortality among women. There is a wide variety of palpable breast lesion varying from benign, treatable by medicines, to most of presenting with lumps requiring surgical intervention, to fatal carcinomas which may be widespread requiring wide mastectomy along with Chemotherapy and Radiotherapy or may lead to death. Positively, Malignant breast lesions are less common than benign tumours. Common benign lesions of the breast include fibroadenoma, fibrocystic disease phyllodes tumour, lactating adenoma and tubular adenoma. Inflammatory lesions such as breast abscess, and granulomatous mastitis[3] Malignant lesions are Infiltrating ductal carcinoma, lobular carcinoma, colloid carcinoma, mucinous carcinoma and medullary carcinoma[4] Mostly Benign lesions are common in young females while malignancy in elderly age group.With Increase level of Stress in working Females, late marriages , Infertility, incidence of Hormonal problems and malignancy in early age is increasing. Nowadays because of increasing literacy, awareness and anxiety about the breast malignancy and its fatal effects, Females seeking health checkup is now on rise. Due to its increasing incidence, morbidity and mortality breast cancer is the commonest malignant tumour responsible for 18.4% of all female cancers worldwide. As it is the Second leading cause of death from cancer in women.The major concern of the treating surgeon and the responsibility of the surgical pathologist depends on the ability to differentiate a benign from a malignant lesion. With technical advancements ,diverse modalities are available for diagnosis of breast lumps But in many cases it is difficult to differentiate between benign & malignant lump & still Open surgical biopsy is the 'gold standard' for diagnosis of palpable breast lesions. [5]A triple test consisting of clinical examination, Radiology and Tissue sampling for Cytology or Histopathology is the mainstay for diagnosing a breast lump[6].

Material & methods

This is a retrospective study done in department of pathology ,GR Medical College, Gwalior, during a period of last three years. All type of breast biopsies, lumpectomy, mastectomy specimen were included in study. Specimen grossing was done accordingly, tissue was processed , sections were stained with Hematoxylene and Xylene and slides were examined microscopically. Histodiagnosis were retrieved , compiled and analysed.

Results

Over a period of three years we received total 365 breast specimen out of which 11 were male breast and 354 were female breast biopsies. Among Male breast biopsies 10(90.9%) were reported Gynecomstia and 1(9.09%) case was Infiltrating Ductal Carcinoma.Among Female breast biopsies, we had open biopsies, lumpectomy, and mastectomy specimen. We categorized female breast lesion into Noninflammatory (Neoplastic) and Inflammatory. Among Neoplastic, 230(64.97%) were benign tumours and 103(29.96%)were malignant. Among Benign lesions Fibroadenoma was the most common presenting lesion seeking surgical advice followed by Fibrocystic Disease, and then followed

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by Fibroadenosis ,Tubular Adenoma, Lactating Adenoma Benign Proliferative Lesion showed 6(2.39%) ductal hyperplasia, 2(0.79%) Phyllodes Tumour,1(0.39%)Lactational Changes, and 1(0.39%) case of adipose tissue tumour -Lipoma. Among malignant cases most common was Infiltrating Ductal Carcinoma NOS - 89(86.4%).Other Variants were Lobular ca, Secretory Ca, Medullary, Secretory carcinoma ,Metplastic and Colloid ca of Breast. Benign lesion were more common in early age group of second and third decade. Earliest age group of malignancy was 28 with max case ranging in 4th decade as contrary to the literature, in our region.(Table1)

Table 1:Age wise distribution of various Breast Lesions

Age group	Benign	Malignant
10-20	104	0
21-30	73	1
31-40	37	24
41-50	14	35
51-60	2	27
>60	00	16
Total	230(64.97%)	103(29.96%)

Table 2:Frequency of Distribution of Benign and Malignant lesion in our region

Benign	Frequency	Malignant	Frequency
Fibroadenoma	197 (78.48%)	Infiltrating Ductal Carcinoma	89 (86.4%)
Fibroadenosis	8 (3.51%)	Lobular Carcinoma	04 (3.88%)
Fibrocystic disease of breast	16 (6.37%)	Medullary Carcinoma	02 (1.94%)
Tubular adenoma	7 (2.78%)	Secretory Carcinoma	01 (0.97%)
Lactating adenoma	2 (0.79%)	Colloid Carcinoma	01 (0.97%)
Galactocoel	00 (00%)	Metaplastic Carcinoma	02 (1.94%)
Mastitis	6 (2.39%)	Clear cell Carcinoma	01 (0.97%)
Abscess	2 (0.79%)	Keratinising Squamous Cell Carcinoma	01 (0.97%)
Lactational changes	1 (0.03%)	Pagets Disease	01 (0.97%)
Lipoma	1 (0.39%)	Maignant PhyllodesTumour	01 (0.97%)
Granulomatous mastitis	01 (0.39%)	--	--
Others(Hydatid Disease)	01 (0.39%)	--	--
Papilloma	01 (0.39%)	--	--
Phyllodes(Benign& Borderline)	02 (0.79%)	--	--
DuctalHyperplasia	6 (2.39%)	--	--
TOTAL	251 (100%)	TOTAL	103 (100%)

Table 3:Yearly Incidence of NonNeoplastic as well as Neoplastic Lesion in Three Years

Year	2018	2019	2020	Total
Inflammatory	2 (1.57%)	8 (6.25%)	11(11.11%)	21(5.93%)
Benign	92 (72.44%)	82 (64.06%)	56(56.55%)	230(64.97%)
Malignant	33 (25.98%)	38 (29.68%)	32((32.32%)	103(29.09%)
Total	127	128	99	354

Table 4 : Various study showing Frequency Of Benign Breast Lesions.

Common Benign Breast lesions	Fibroadenoma	Fibrocystic disease	Inflammatory (Abscess and Mastitis)
Present Study	78.48%	6.31%	3.18%
Kulkarni Sangeeta et al16	62.32%	11.59%	4.35%
Pudale S et al [13]	40.00%	32.87%	3.88%
Vijaylaxmi et al[9]	70.00%	20.00%	--

Table 5:Comparative Study of Incidence of Malignancy found In different studies.

Hisological Types	Infiltrating Ductal Ca	Infiltrating Lobular Ca	Medullary Ca	Mucinous(Colloid) Ca
Present Study2021	86.4%	3.88%	1.94%	0.97%
Malik et al2003[14]	88.20%	3.21%	-	2.57%
Kulkarni et al2009 [16]	84.85%	3.03%	-	3.03%
Mohan Rao et al2017[17]	78.57%	7.51%	-	7.14

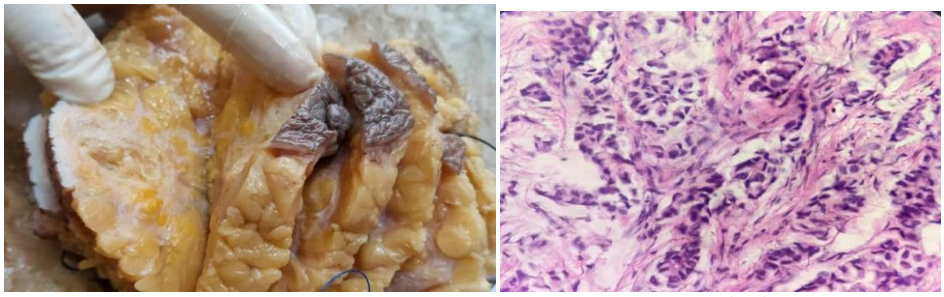

Fig 1:Photomicrograph Showing Gross (A) and Microscopic appearance (B)of Infiltrating Ductal Carcinoma

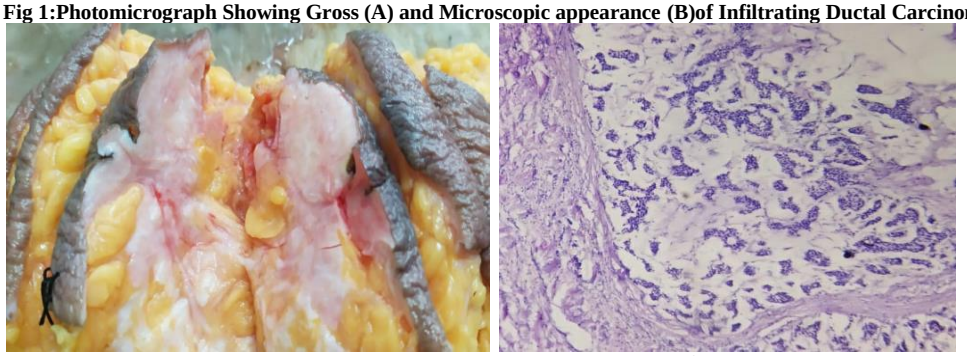

Fig 2: Photomicrograph showing Gross(C) and Microscopic Section Of Colloid Carcinoma Breast

Discussion

We did a retrospective analysis of three consecutive years, but got a disagreement in third year(Table 3). As because of Covid.19 Pandemic disease spread by Nobel corona virus effecting almost the entire world, lockdown was there and so many patients suffering from the disease were devoid of health facilities and we got a lower number of both benign as well as malignant cases from our draining areas.Fibroadenoma is the most common benign lesion in younger females showing variable proliferation of glandular or connective tissue giving rise to Intercanalicular or pericanalicular type. Our study showed the incidence of benign breast lesion 64.97% which was lower then study by Vilasini Patil et al in 20179(Table2)[7] who got 85% of benign breast lesions in their study. &HatimKS et al [8] who got80% In the present study fibroadenoma was the most common benign lesion (78.48%) followed by fibrocystic change (6.37%) which is comparable to the study done by Vijaylaxmi M et al[9] (70%) Whereas Fibrocystic disease was low as compared to various studies(Table 4). Fibrocystic disease show various components like apocrine metaplasia, with or without cystic glandular dilatation. Adenoma of breast can be of Tubular Lactating or apocrine type.we reported 7(2.78%) cases of Tubular adenoma,2 (0.79%) case of Lactating Adenoma and 1(0.39%) case of Intraductal Papilloma. Histologically Tubular adenoma showed closely packed small tubules lined by single layer of epithelial cells and flattened myoepithelial cells with sparse intertubular stroma. The peak age of benign lesions is between 21-30 years and malignant lesion is between 30-40 years and 50-60 years in our study similar to a study done by Kiran HS etal [10]The peak age of benign lesion is 10-30 years and malignant lesion is 41-50 years. Benin &Borderline Phyllodes tumour were one each in number in our study with a mean age of 40-50 years. In a study done by Riffat Mehboob et al in 2018 [11]reported 5 cases of phyllodes in a mean age of 46-55 years. Onecase of Chronic granulomatous mastitis was reported in our study in a 35 year female patient. In a study done by Chiragkumar L Prajapati et al in 2014 three cases of Tubercular mastitis were noted The peak age of benign lesion is 10-30 years and malignant lesion is 41-50 years. The malignancy rate in our study was 29.09 % which is much higher then a study done by Mujahid Ahmad Mir et al[12] in 2017 who reported 18.8% cases of malignancy. The commonest lesion was Infiltrating Ductal carcinoma in our study which constituted 86.4% cases of all malignant lesions.Similarly in a study by Malik et al [14] ,Kulkarni et al [15],Mohan Rao et al[16] IDC was the commonest malignant lesion obtained (Table 5) Other variants found were Lobular , Medullary and Mucinous carcinoma. Secretory and Clear cell squamous cell carcinoma were other rare reported types. The peak incidence of infiltrating ductal carcinoma was 4th and 5th decade, Similarly in a study done by Gogoi et al two peaks of occurrence of malignant lesions were seen i.e 4th and 6th decades

Conclusion

Our study shows that Benign breast diseases are more common more or less similar finding in previous studies. Fibroadenoma is the most common benign tumour . Peak incidence of benign lesions in the age group of 21-30 years. Infiltrating ductal carcinoma is the most common histological type of malignant tumour. Peak incidence of malignant lesions in the age of third and fourth decade. Early clinical presentation and rapid diagnosis is essential to relieve anxiety of non-neoplastic conditions, and in case of carcinoma, it can save the patient from metastases and complications. Analysis of histopathological patterns and prevalence will be a valuable guideline for clinicians of this location to compare with that of others and plan awareness and motivational programmes and update treatment strategies.

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