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ORIGINAL ARTICLE

PATTERNS OF BREAST LESIONS IN PATIENTS ATTENDING CIMS, BILASPUR, C. G.: A RETROSPECTIVE TERTIARY HOSPITAL BASED STUDY

Arya R. C[1], Minj M. K[2], Tiwari A. K[3], Singh D[4], Pandey S[5], Atul Manoharrao Deshkar[6]

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ABSTRACT: The present study is designed to find out frequency of various histological patterns of breast lesions in patients attending Chhattisgarh Institute of Medical Sciences (CIMS), a teaching institute in Bilaspur Chhattisgarh and their biopsy samples studied in department of pathology. A retrospective series study was conducted on 335 cases of breast lesions, reported from 2003 to 2014. Mean age of the subjects was 49.65 years with standard deviation 12.06 years, ranging from 12 to 75 years. In a total 335 cases, 40(11.94%) were non-neoplastic and 295(88.06%) were neoplastic. Among neoplastic lesions, 180(53.73%) were benign, 02(0.59%) borderline and 113(33.73%) found malignant. The commonest non-neoplastic lesion was fibrocystic disease of breast followed by fibroadenosis and sclerosing adenosis. Neoplastic lesions were more common than non-neoplastic lesions. Among histological types of breast tumours, fibroadenoma dominated the other types. Thus commonest benign tumour was fibroadenoma followed by phyllodes tumour and commonest malignant was infiltrating duct carcinoma followed by medullary carcinoma. The commonest borderline tumour was phyllodes tumour with borderline changes.

KEYWORDS: Breast lesions, Fibroadenoma, Infiltrating duct carcinoma, CIMS.

INTRODUCTION: Breast lesions are one of the major causes of surgical problems in females and present with marked variation in their histological types. The clinical presentation of breast diseases can be varied, including breast lump, breast "Lumpiness," nipple discharge, pain and redness of the overlying skin, or axillary lymph node enlargement. Most palpable breast masses are benign, and less than 30% of women with palpable masses have a diagnosis of cancer.[1,2,3] Approximately 4% of breast cancers present with a palpable mass without mammographic or ultrasonographic evidence of the disease.[4] Benign breast diseases refer to a heterogeneous group of lesions that may present a wide range of symptoms.[5] Though benign breast diseases constitute the majority of breast complaints, it is a neglected entity[6]. The vast majority of women presenting with breast symptoms have an underlying benign etiology.[7] Although as many as 65%-85% of breast biopsies are performed on benign lesions.[8] but studies are also available in support that 75,000 new cases occur in Indian women every year.[9]

Breast diseases are showing a rising trend worldwide. A number of studies have been done in order to know the magnitude of the problem.[10,11,12] Breast carcinoma ranks first among the malignant tumours affecting females in many parts of the world.[11,13,14] There is a wide variation in the spectrum of breast diseases and the epidemiology of breast carcinoma in various countries or ethnic groups.[12,15,16]

MATERIAL AND METHODS: A retrospective case-series study has been carried out in 335 patients who had undergone surgical lumpectomy or mastectomy. Samples were analysed in the Pathology department of CIMS Bilaspur, a tertiary centre of Chhattisgarh. All histopathologically diagnosed

cases of breast lesions referred to this department during year 2003 to 2014 were included in this study. These were mostly referred from Surgery department of CIMS Bilaspur, a tertiary centre of Chhattisgarh, but a few were referred from other hospitals in the vicinity. The retrospective data was retrieved from the record files of Pathology department. The acquired data was analysed using the descriptive statistics.

During the study period 2003 to 2014, 335 consecutive cases of breast lesions were selected. The specimens were received in 10% formalin and processed in tissue processors and studied under routine light microscopy. The data collected are tabulated as per their histopathological types including non-neoplastic breast diseases, and neoplastic including benign and malignant and their percentage.

RESULTS: In present study, Breast pathology is broadly divided into four major groups including non-neoplastic lesions, benign, borderline and malignant breast tumours, Table 1. Age of the patients and their histopathological diagnosis were recorded. Patients were divided into seven age groups, Table 2. The non-neoplastic lesions contributed 40 cases dominated by fibrocystic disease of the breast followed by inflammatory lesions (mastitis) Table 3. The neoplastic lesions contributed 295 cases in which 180 lesions were benign dominated by fibroadenoma followed by benign phyllodes tumour Table 4. Malignant lesions contributed 115 cases dominated by infiltrating duct carcinoma and followed by medullary carcinoma Table 5.

The malignant tumours were divided into two groups, namely carcinoma and sarcoma. The carcinoma divided into, CIN, infiltrating duct carcinoma, medullary carcinoma, lobular carcinoma, Small cell carcinoma, mammary carcinoma with neuroendocrine change and Pagets. The Infiltrating Duct Carcinoma were maximum in number 79/115; 68.70%), followed by Medullary carcinoma (15/115; 13.04%) Table 4.

In a total of 335 breast lesions, 40 (11.94%) were non-neoplastic and 295 (88.06%) were neoplastic. The neoplastic lesions comprised 180(53.73%) benign, 2(0.59%) borderline and 113(33.73%) malignant tumours Table 1. In a non-neoplastic lesions, fibrocystic disease of breast was the predominant category (28/40; 70%) followed by mastitis (5/40; 12.50%) Table3 .The commonest age group affected in benign lesions was 20 to 29 years, followed by<20 (12 years onwards) age group, but in malignant lesions the commonest age group was 40 to 49 years followed by 50 to 59 years. The youngest patient was 12 years old and the oldest was 75 years old Table 2.

Frequency pattern of different types and subtypes of benign and malignant breast neoplasms (n=295) is shown in table 4 & 5. Among all the benign lesions (n=180) fibroadenoma was the commonest (152/180; 84.44%), while phyllodes tumour found at the second number. On the other hand, among all the malignant lesions (n=115), infiltrating duct carcinoma is at the top (79/115; 68.70%), followed by Medullary carcinoma (15/115; 13.04%). The commonest borderline tumour was Phyllodestumour with borderline change. Least common lesions include fibroepithelial polyp(1), Papilloma with stromal sclerosis (1), and tubular adenoma (1).

DISCUSSION: The aim of this retrospective analysis was to study the patterns of breast lesions at a tertiary care hospital in a tribal zone of central India. Total cases studied in pathology department from 2003 to 2014 were 3526, in which malignant cases were 729(20.68%), and benign cases were 2797(79.32%). Out of total biopsies received in department of Pathology 113 (3.20%) cases found breast malignancies, only 2 cases were having borderline changes and 180 (5.10%) cases found

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benign breast diseases. The contribution of breast malignancy in overall malignancies was found 15.50% (113/729).

Age range of our subjects was from 12 to 75 years. Our study shows the maximum incidence of breast lesions between 20 to 50 years of age, and correlates with other study conducted in India.[17] The most commonly affected age group by benign lesions in our was 20-29 years consistent with studies done by other authors.[18,19] In our study non-neoplastic lesions were 11.94% (40/335) of all breast lesions and neoplastic lesions were 88.06% (295/335). In benign non-neoplastic lesions contribution of adenosis and sclerosingadenosis was equal in number and percent (5% each) which followed after fibrocystic disease of the breast (70%) and mastitis (12.5%). Other benign lesions including granulomatous, juvenile hypertrophy of breast and galactocele also contributed equally (2.5% each).

Neoplastic lesions contained 53.73% (180/335) benign, 33.73% (113/335) malignant and 0.59% (2/335) borderline. The high frequency of fibroadenoma (84.46%) is similar to what has been observed in black Americans.[20,21] and other studies in India.[17,22]. The fibroadenoma is followed by benign phyllodes tumour (10.56%) and a very small contribution of other benign tumours which include juvenile fibroadenoma, giant fibroadenoma and lipoma (1.11% each). Other rare benign tumours encountered were fibroepithelial polyp, Papiloma with stromal sclerosis and tubular adenoma (0.55% each).

Similarly our study as well other studies in India and the reports from western world also indicates that infiltrating duct carcinoma is the most commonly encountered histopathology.[23,24,25,26,27] The infiltrating duct carcinoma (68.70%) is followed by medullary carcinoma (13.04%) and lobular carcinoma (7.84%) respectively. Phyllodes tumour with borderline and malignant changes together contributed (3.55%) followed by small cell carcinoma (1.73%).

Other rare malignant tumours encountered were mammary carcinoma with neuroendocrine differentiation, schirrous carcinoma, spindle cell tumour with borderline change and premalignant lesion DCIS (0.87% each).

CONCLUSION: According to this study breast lesions are common in age group of 20 to 50 years. Neoplastic lesions are more common than non-neoplastic lesions. Fibrocystic disease is the commonest non-neoplastic lesion. Among the histological types of neoplastic lesions, fibroadenoma is predominant type, followed by phyllodestumours. The commonest benign tumour is also fibroadenoma and commonest malignant tumour is infiltrating duct carcinoma. We have concluded this study in order to gain insight about the overall pattern of breast diseases in our settings.

Histological Classes	Benign Tumors	Borderline Tumors	Malignant Tumors	Non- neoplastic lesions	Total
All types	(n =180)	(n=02)	(n = 113)	(n=40)	**335**

Table 1: Frequency of non-neoplastic lesions, benign, borderline and malignant breast tumours

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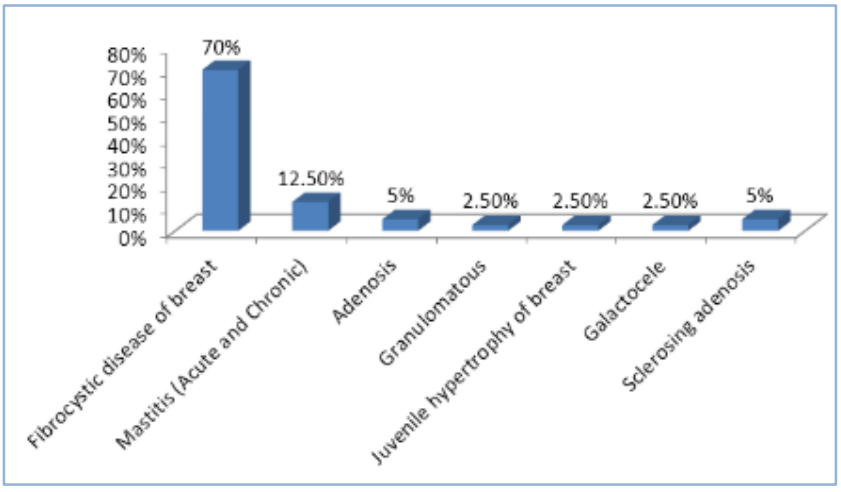
Age (years)	No. of Cases (Benign & non-neoplastic)	Percentage	No. of Cases (Malignant)	Percentage	Total number of cases
<20	65	29.54%	1	0.87%	66
20 – 29	92	41.82%	2	1.74%	94
30 – 39	37	16.82%	18	15.64%	55
40 – 49	22	10.00%	34	29.57%	56
50 – 59	2	0.91%	28	24.34%	30
60 – 69	2	0.91%	10	8.70%	24
>/=70	0	0.0%	22	19.14%	10
Total	**220**	**100.00%**	**115**	100.00%	**335**

Table 2: Age wise distribution of cases of breast lesions (n=335)

Non-Neoplastic Lesions	No. of Cases	Percentage
Fibrocystic disease of breast	28	70%
Mastitis (Acute and Chronic)	5	12.5%
Adenosis	2	5%
Granulomatous	1	2.5%
Juvenile hypertrophy of breast	1	2.5%
Galactocele	1	2.5%
Sclerosing adenosis	2	5%
Total	**40**	**100.00%**

Table 3: Distribution of various types of non-neoplastic breast lesions (n=40)



Graph. 1: Showing Distribution of various Types of non-neoplastic breast lesions (n=40)

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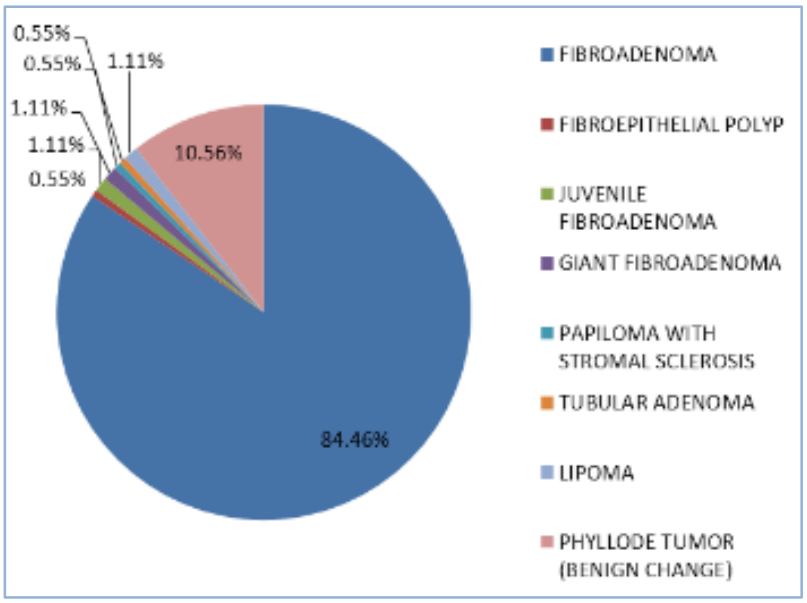
Types of Benign Tumours	No. of Cases	Percentage
FIBROADENOMA	152	84.46%
FIBROEPITHELIAL POLYP	1	0.55%
JUVENILE FIBROADENOMA	2	1.11%
GIANT FIBROADENOMA	2	1.11%
PAPILOMA WITH STROMAL SCLEROSIS	1	0.55%
TUBULAR ADENOMA	1	0.55%
LIPOMA	2	1.11%
PHYLLODE TUMOR (BENIGN CHANGE)	19	10.56%
TOTAL	**180**	**100%**

Table 4: Distribution of various types of benign breast tumours (n=180)



Graph. 2: Distribution of various types of benign breast tumours (n=180)

Types of Malignant Tumors	No. of Cases	Percentage
DCIS	1	0.87
INFILTRATING DUCT CARCINOMA	79	68.7
LOBULAR CARCINOMA	9	7.84
MEDULLARY CARCINOMA	15	13.04
PHYLLODE TUMOR WITH MALIGNANT CHANGE	4	3.47
PHYLLODE TUMOR WITH BORDERLINE CHANGE	1	0.87
SMALL CELL CARCINOMA	2	1.73
MAMMARY CARCINOMA WITH NEUROENDOCRINE DIFFERENTIATION	1	0.87

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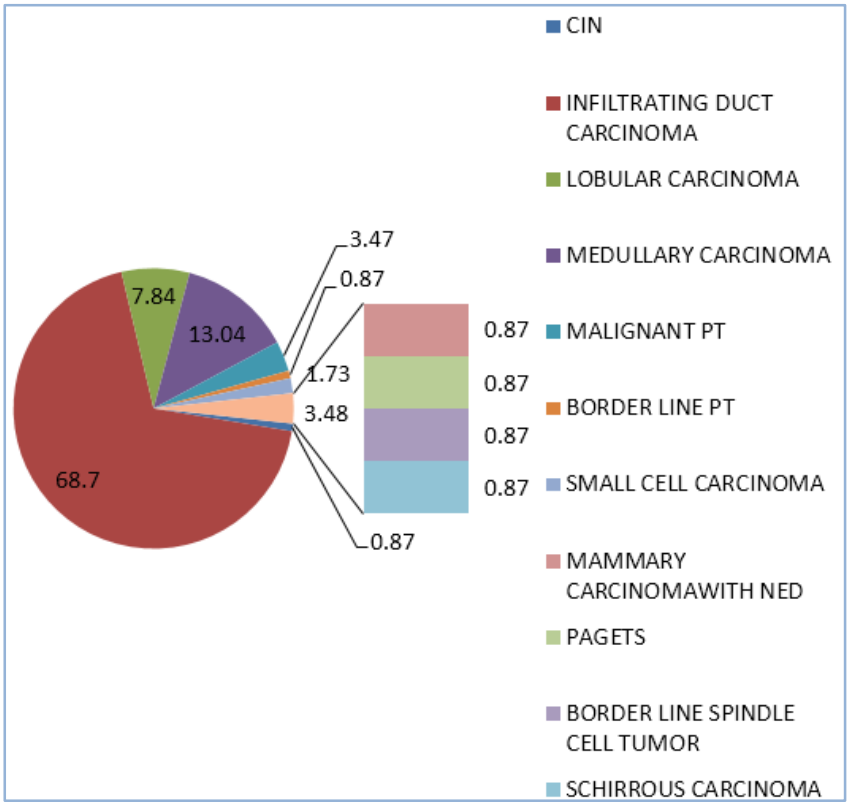
PAGETS	1	0.87
SPINDLE CELL TUMOR WITH BORDERLINE CHANGE	1	0.87
SCHIRROUS CARCINOMA	1	0.87
TOTAL	**115**	**100%**

Table 5: Distribution of various types of malignant breast tumours (n=115)



Graph. 3: Distribution of various types of malignant breast tumours (n=115)

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AUTHORS:

1. Arya R. C.
2. Minj M. K.
3. Tiwari A. K.
4. Singh D.
5. Pandey S.
6. Atul Manoharrao Deshkar

PARTICULARS OF CONTRIBUTORS:

1. Associate Professor and HOD, Department of Pathology, Govt. CIMS, Bilaspur, Chhattisgarh.
2. Associate Professor, Department of Pathology, Govt. CIMS, Bilaspur, Chhattisgarh.
3. Assistant Professor, Department of Pathology, Govt. CIMS, Bilaspur, Chhattisgarh.
4. Demonstrator, Department of Pathology, Govt. CIMS, Bilaspur, Chhattisgarh.
5. Assistant Professor, Department of Community Medicine, Govt. CIMS, Bilaspur, Chhattisgarh.
6. Associate Professor and HOD, Department of Physiology, Govt. CIMS, Bilaspur, Chhattisgarh.

NAME ADDRESS EMAIL ID OF THE CORRESPONDING AUTHOR:

Dr. Atul Manoharrao Deshkar,
Associate Professor and HOD,
Department of Physiology,
Govt. Chhattisgarh Institute of Medical Sciences,
Bilaspur-495001, Chhattisgarh.
E-mail: dratuldeshkar@gmail.com

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