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Original Research Article

Clinicopathological Study of Benign Breast Lesions

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Abstract: Benign breast lesions represent a wide spectrum of disorders that come to clinical attention either as palpable lumps or as imaging abnormalities. Some of these are clinically suspected as malignant lesions but diagnosed as benign after histopathological examination. The aim of this is to study benign breast lesions to correlate their clinicopathological parameters and to study incidence of benign breast lesions in different age groups. A descriptive study with cross sectional design was conducted in the Department of Pathology at MIMSR medical college, Latur, Maharashtra, India, between July 2014 to June 2016. A total of 90 cases were analyzed during this period. Benign breast lesions were studied in detail with relation to available clinical data. Incidence of benign breast lesions reported in our study was 65.21%. Fibroadenoma was the most common benign lesion found with incidence 71.11%, followed by fibrocystic change and benign phyllodes tumors. The most common age group for fibroadenoma was 11 to 20 years. Benign breast lesions are common in females and fibroadenoma being the most common of them all. The most common presenting complaint was painless breast lump.
Keywords: benign breast lesion, fibroadenoma, fibrocystic change.

INTRODUCTION

Most women who present at the breast clinics have benign breast conditions which range from non-specific breast pain to discrete lumps. Benign breast lesions consist of heterogeneous conditions which in the majority of women go undetected and are identified incidentally during screening mammography or in the surgical specimens for cancer. Although, most women present with benign breast conditions than with cancer, there is more written about breast cancer than benign lesions because this is the most common malignant tumor in women. Nomenclature of benign breast lesions was confusing in the past with the use of terms such as aberrations of normal development and involution (ANDI), which is supposed to encompass both the pathogenesis and the degree of abnormality [1].

Benign processes may be asymptomatic or have clinical manifestations, which include nodularity, thickening, a palpable mass, pain, inflammation, or nipple discharge. Many of the signs and symptoms of breast disease are nonspecific and must be evaluated further with imaging and sometimes biopsy to determine whether the lesion is benign or malignant. The benign lesions include skin lesions, vascular lesions, lymph nodes, fat necrosis, foreign bodies, infections, fibroadenomas, cysts, galactoceles, adenosis, fibrosis, duct ectasias, papillomas, radial scar, and epithelial hyperplasias with and without atypia. Phyllodes and other lesions like lipoma, granular cell tumors [2].

Benign epithelial lesions are classified into three groups, according to the subsequent risk of developing breast cancer. (1) Nonproliferative breast changes, which include, fibrocystic changes are not associated with an increased risk of breast cancer. (2) Proliferative breast disease characterized by proliferation of epithelial cells, without atypia, are associated with a small increase in the risk of subsequent carcinoma in either breast. They are predictors of risk but unlikely to be true precursors of carcinoma. (3) Atypical hyperplasia is a clonal proliferation associated with a moderately increased risk of carcinoma and includes two forms, atypical ductal hyperplasia and atypical lobular hyperplasia. The relative risk of developing invasive carcinoma is 13 to 17%.

Gynecomastia (enlargement of the male breast) is the only benign lesion seen with any frequency in the

male breast[3]. Risk assessment is important for both the clinician and the patient to assist in making decisions regarding screening, prophylactic treatment and surveillance. The advantage of assessing the possible risk of progressing to malignancy in benign disease is that regular clinical and radiological follow-up can detect malignancy at an early, potentially curable stage [2].

It is important for pathologist, radiologist and oncologist to recognize benign lesions, so that most appropriate treatment modality in each case can be established. Here we have attempted to study incidence, clinical features and histopathological features of various benign breast lesions in different age groups.

MATERIAL AND METHODS

This descriptive study was conducted in the Department of pathology MIMSR Medical College, Latur, Maharashtra during period of July 2014 to June 2016. All patients male and female with any benign breast lesions reported were included in the study. The patients reported as malignant tumors were excluded from this study.

A total of 90 benign breast specimens received for histopathological study were analyzed during this period. In each case detail history and clinical data was collected. The surgical specimens include excisional and incisional biopsies, lumpectomies and simple mastectomies.

All breast specimens were subjected to gross examination. Tissue were fixed in 10% neutral buffered formalin, stained by H & E stain and studied under routine light microscopy.

RESULTS

In the present study total 138 breast specimens were received. Out of which 72 were benign and 48 were malignant breast neoplasms.18 specimens were non neoplastic breast diseases.

The incidence of benign breast lesion was 65.21%. A total of 90 cases of benign breast lesions were analyzed, 88 (97.77%) were female and 2 (2.22%) males. The commonest age group affected was 11 to 30 years. The youngest patient was12 year old young girl and the oldest was 63 year old lady.

Table-1: Age incidence

Sr. No.	Age (years)	No.of cases	Percentage (%)
1	0-10	00	00.00
2	11-20	24	26.66
3	21-30	29	32.22
4	31-40	20	22.22
5	41-50	14	15.55
6	51-60	02	2.22
7	>61	01	1.11
	Total	90	100

All cases presented with breast lumps, followed by breast lump associated with pain in 20% cases and in 2.22% of cases lump with nipple discharge. Out of 90 cases right breast was involved in 46 (51.11%) and left breast was involved in 40(44.44%) cases. Bilateral involvement was reported in 4 (4.5%) cases. The common location of involvement was upper outer quadrant (66.33%) followed by upper inner (14.44%) and lower inner (11.11%) quadrant.

Table-2: Clinical presentation

Sr. No.	Clinical presentation	No.of cases	Percentage (%)
1	Breast lump only	69	76.66
2	Breast lump + pain	18	20.00
3	Breast lump + nipple discharge	02	2.22
4	Breast lump + pain + nipple discharge	01	1.11
	Total	90	100

The commonest benign neoplasm reported was fibrodenoma (71.11%) followed by phyllodes tumors. The commonest non neoplastic benign lesion was fibrocystic change. Most fibroadenomas were nodular, lobulated; gray white in two cases bilateral breast was involved. In 8 cases multiple fibroadenomas were reported. One case of giant fibroadenoma was reported with tumor size of 15x10x5cm. Two cases each showed apocrine metaplasia and hyaline change. Calcification was detected in one case.

Table-3: Distribution and incidence of benign breast lesions

S.No.	Type of lesion	No. of cases	Percentage (%)
	Benign neoplasms		
1	Fibroadenoma	64	71.11
2	Benign phyllodes	05	5.55
3	Intraductal papilloma	01	1.11
4	Lactating adenoma	01	1.11
5	Lipoma	01	1.11
	Benign lesions		
6	Breast abscess	02	2.22
7	Fat necrosis	01	1.11
8	Galactocele	01	1.11
9	Mammary duct ectasia	01	1.11
10	Tuberculous mastitis	01	1.11
11	granulomatous lobular mastitis	02	2.22
12	Fibrocystic change	07	7.77
13	Sclerosing adenosis	01	1.11
14	Gynaecomastia	02	2.22
		90	100

Benign breast lesions maximum cases (33.33%) were reported in 21 to30 years and only 2.22% cases were reported above the age of 50 years. Fibroadenoma was the commonest neoplasm detected; highest incidence (37.5%) was reported in 11 to 20 years. The youngest case was reported in a 12 year old girl.

5 cases of benign phyllodes reported in the age range between 40 to 61 years. Maximum cases of fibrocystic change were detected in between 31 to 50 years. Most of the patients presented with lump and pain. Fibrocystic change was associated with cyst formation, apocrine metaplasia, fibrosis and epithelial hyperplasia without atypia. Two male patients reported having gynecomastia fall in age group between 20 to 30 years.

Table-4: Age wise distribution of benign breast lesions

Sr. No.	Type of lesion	0-10	11-20	21-30	31-40	41-50	51-60	Above 60
	Benign breast neoplasms							
1	Fibroadenoma	0	24	21	13	6	0	0
2	Benign phyllodes	0	0	0	0	3	1	1
3	Intraductal papilloma	0	0	1	0	0	0	0
4	Lactating adenoma	0	0	1	0	0	0	0
5	Lipoma	0	0	1	0	0	0	0
	Non neoplastic lesions							
6	Breast abscess	0	0	2	0	0	0	0
7	Fat necrosis	0	0	0	0	1	0	0
8	Galactocele	0	0	1	0	0	0	0
9	Mamary duct ectasia	0	0	0	0	1	0	0
10	Tuberculous mastitis	0	0	0	0	1	0	0
11	Granulomatouslobular mastitis	0	0	0	1	1	0	0
12	Fibrocystic change	0	0	1	3	3	0	0
13	Sclerosing adenosis	0	0	0	0	1	0	0
14	Gynaecomastia	0	0	2	0	0	0	0
	Total	0	24	30	17	17	1	1

DISCUSSION

In present study the incidence of benign breast lesions in various age groups and their clinicopathological correlation was studied. Benign

breast lesions were common in women. In the present study incidence of benign breast lesion was 65.21%. Khanna *et al.;* [4] reported 61.36% and Godwins *et al.;* [5] reported 67% incidence of benign breast lesions which is comparable with our study.

Male participation was 2.22% in our study which is in accordance with Bagale *et al.;* [6] and Pandey *et al.;* [7] Benign breast lesions are common in reproductive age group, majority of the cases (58.88%) were reported in age group 11 to 30 yrs. Similar incidence was reported by Godwins *et al.;* [5] and Pandey *et al.;* [7] 53% and 64.75% respectively. The common clinical presentation was breast lump found in all cases, followed by pain. Similar findings were recorded by Mima *et al.;* [8].

Right breast was involved in 51.11% cases Mima *et al.;* [8] and Pandey *et al.;* [7] noted 48% and 47.8% of cases involving right breast. Upper outer quadrant was involved in 66.33% of cases. Pudale *et al.;* [9] also observed similar findings in their study, right breast (52.22%) and upper outer quadrant was the common site.

The most common lesion detected histopathologically was fibroadenoma in 71.11% cases. Sagar *et al*.; reported 64 % *et al.;* [10], Khanna *et al.;* [4] reported 60 % and Oluwole *et al.;* [11] reported 70.5% cases of fibroadenoma which is comparable with our study.

The most common age group for Fibroadenoma was 11 to 30 years, similar findings recorded by Godwins *et al.;* [5] Fibroadenomas tend to occur in young women and adolescent girls. The second most common lesion was fibrocystic change observed in 7.77% of cases. Bagale *et al.;* [6] reported fibrocystic disease in 11.24 %. The common age group in our study was 31 to 50 years. Maximum cases were reported in age group 31 to 40 years by Mima *et al.;* [8] & Bagale *et al.;* [6].

In present study the third common lesion reported was benign phyllodes in 5.55% of cases. All the cases reported above 40 years of age, presented as unilateral solitary masses. Ageep AK [12] reported 5.7% of phyllodes tumour in his study which is comparable with our study. Oluwole *et al.;* [11] reported 2.3% of phyllode tumours the percentage is less than our study. In our study we found breast abscess and granulomatous lobular mastitis in 2.22% of cases each, similar findings were noted by Pudale *et al.;* [9].

Present study reports the incidence of tuberculosis 1.11% which is comparable with the incidence reported by Ageep AK [12] and Pudale *et al.;* [9] 1.6% and 1.67% respectively. In present study we found the incidence of intraductal papilloma in 1.11% of cases. Pudale *et al.;* [9] reported 1.10%, Oluwole *et al.;* [11] reported 2.3 % and Ageep AK [12] reported1.1% cases of duct papilloma. Lactating adenoma was reported with incidence of 1.11% in reproductive age group. Pudale *et al.;* [9] reported 1.67% incidence of lactating adenoma.

Interesting cases reported in benign breast lesions were fat necrosis, galactocele, mammary duct ectasia. Galactocele was reported in a 24year old lactating female with the incidence 1.11% similar incidence was reported by Bagale *et al.;* [6] and Khanna *et al.;* [4].

Gynecomastia is the only benign lesion seen with any frequency in the male breast [3]. Two male patients included in our study were reported having gynecomastia with incidence of 2.22%. Similar incidence was reported by Bagale *et al.;* [6], Pudale *et al.;* [9] and Ageep AK [12].

CONCLUSION

Benign breast lesions are common than malignant neoplasms. Fibroadenoma is the commonest benign breast lesion. Fibroadenomas is common in the second and third decade of life. The most common presenting complaint was painless breast lump. Benign breast lumps are common in right breast, the common site being the upper outer quadrant. Histopathology plays important role in the diagnosis of benign breast lesions. All cases of palpable breast lumps should be carefully evaluated before definitive surgical procedures are employed.

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