A Clinicopathological Study of Benign Breast Diseases In Females At Tertiary Care Center In Western Rajasthan

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Abstract
Background: *In this study, we profile the benign breast diseases, the relative frequency of different types and their clinical features. Also, we attempt at relating the clinical, radiological and pathological findings.****Methods:****This study was conducted in the Department of Surgeryof a tertiary care hospital over a period of two years. Study group consisted of 164 patients with non-malignant breast conditions admitted in surgical wards. Malignant cases were excluded from the study. In addition to detailed history, triple assessment including thorough clinical examination, imaging study and tissue biopsy was done to arrive at a diagnosis.****Results:****In this study, the majority (56%) of our patients were fibroadenomas. The next common BBD was antibioma (10.9%) and fibrocystic disease (9.1%). Other findings were galactocele, phyllodes tumor, duct ectasia, fat necrosis, accessory breast and duct papilloma. Maximum 38.41% cases were noted in 3rd decade.****Conclusion:****Benign breast disease occurs in all age groups but are common in second & third decade.Among the breast lumps, fibroadenoma is the commonest, followed by fibrocystic disease. Triple assessment provided a quick diagnosis and it alleviated unnecessary anxiety from the patients about breast cancer.*
Key Words: *Benign breast disease, Triple Assessment, Fibroadenoma*

I.   Introduction

The breast presents with a plethora of pathological conditions. Benign conditions account for 90% of the clinical presentations related to the breast. About 30% of all women suffer from breast disorders requiring treatment at some time in their lifetime.[1]Benign breast diseases are common among young females. Most of them present as painless mobile breast lump. Breast pain and nipple discharge are the other symptoms. According to a study in Sheffield, UK, 60% of women referred to surgical outpatient or out-reach clinics because of breast symptoms were diagnosed with benign breast diseases.[2]The incidence of benign breast lesions begins to rise during the second decade of life and peaks in the third and fourth decades, as opposed to malignant diseases, for which the incidence continues to rise after menopause.[3] The incidence of benign breast diseases in 20-49 years of age is around 10.4 per 1000 woman-years for symptomatic disease and 5.4 per 1000 woman years for biopsied disease.[4]

The spectrum of condition ranges from simple breast abscess to as ominous as the breast cancer. Non-malignant breast conditions are a common problem but were given relatively lesser attention as compared to malignant breast diseases.

Aim is to study the age distribution of benign breast diseases and the spectrum of benign breast lesions with regard to mode of clinical presentation and relation with radiological and pathological findings.

II.   Material And Methods

The present cross-sectional observational study was conducted in the Department of Surgery of a tertiary care hospital over a period of two years. Study group consisted of patients with non-malignant breast conditions admitted in surgical wards.All females admitted in surgical wards with breast symptoms and/or conditions at any age with informed consent were included in the study.Patients who were diagnosed with breast cancer during the study were excluded.A detailed history and a thorough physical examination were the basis of

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the study. After making an appropriate clinical diagnosis, one or more of the special investigations – FNAC, mammography, ultrasound or a core-needle biopsy were carried out for the confirmation of the diagnosis.Type of surgical procedure, various treatment modalities and details of complications were noted. Categorical data were assessed in the form of absolute numbers and percentages. Quantitative data was assessed by calculating range and measures of central tendency such as mean and standard deviation.

III. Results

A total of 164 patients were admitted in surgery wards of our tertiary care hospital over a period of two years. The details of the patients were recorded on the proformas and were analysed. The observations were as follows.

The incidence of benign breast disease is maximum in the age group of 21-30 years (38.41%). 25.61% patients belonged to the age group of 11-20 years. 38.41% patients belonged to the age group of 21-30 years. 20.12% patients belonged to the age group of 31-40 years. 10.98% patients belonged to the age group of 41-50 years. 1.83% patients belonged to the age group of 51-60 years. 3.05% patients belonged to more than 60 years of age. In this study the youngest patient was 13 while the oldest was 65 years of age. Mean age at the time of presentation was 29.3 years.

In this study, all the patients had lump as their chief complaint. 64 (39.02%) patients also had pain along with lump whereas only 31 (18.9%) patients had history of nipple discharge.

Average age of menarche was 13 years. 7.93% had menarche in 9-10 years of age. 35.37% had menarche in 11-12 years of age. 51% were between 13-14 years age and 4.88% at more than 15 years of age.

In our study, out of 164 patients, 80 patients presented with right sided disease (48.7%), 78 patients with left side disease (47.5%) & 6 patients with bilateral disease (3.6%).

According to site, there was preponderance for upper outer quadrant (57%) followed by upper inner quadrant (16%), lower outer in 12.20%, lower inner quadrant in 4.88%. 6% lump had >1 quadrant presentation & 6.1% were subareolar.

Distribution of patients of benign breast disease according to FNAC reports showed that the most common finding was fibroadenoma (54%). duct ectasia (3.04%), duct papilloma (0.615), fat necrosis (4.26%), galactocele (6.7%), phyllodes tumor (3.65%), antibioma (7.31%), fibroadenosis (5.48%), accessory breast (1.22%), epithelial hyperplasia (6.09%), atypical ductal hyperplasia (0.61%) and others (6.7%) were the other findings observed in FNAC. Proliferative breast disease without atypia were more common finding than non-proliferative breast disease.

In our study, majority (92%) of patients were treated surgically, 8% were managed conservatively. (Table 1)

TABLE 1: Distribution of patients of benign breast disease according to management

Management	Total no. of patients	Excision	Wide Excision	Simple Mastectomy	Microdochectomy	Aspiration	Conservative
Accessory Breast	2	2	0	0	0	0	0
Antibioma	18	17	0	0	0	0	1
Duct Ectasia	8	0	0	0	8	0	0
Duct Papilloma	2	0	0	0	2	0	0
Fat Necrosis	7	6	0	0	0	0	1
Fibroadenoma	93	93	0	0	0	0	0
Fibrocystic Disease	15	4	0	0	0	0	11
Galactocele	11	4	0	0	0	7	0
Phyllodes	8	2	5	1	0	0	0

Out of 164 cases, HPE reports of 144 patients were available. On histopathological examination, 93 cases were confirmed as fibroadenoma. (Table 2)

TABLE 2: Distribution of patients of benign breast disease according to histopathology reports

Histopathology report	No. of patients	Percentage
Fibroadenoma	93	65.03
Duct Ectasia	8	5.59
Duct Papilloma	2	1.39
Fat Necrosis	6	4.89
Galactocele	4	2.79
Phyllodes Tumor	8	5.59
Antibioma	17	11.18
Fibrocystic disease	4	2.79
Accessory breast	2	1.39

Among 93 cases of fibroadenoma, in 87 cases FNAC results were consistent (93.5%) with histopathology results. (Table 3)

TABLE3: correlation of fnac with histopathology

Diagnosis	No. of cases	FNAC			
		Consistent		Non consistent	
		N	%	N	%
Acc. Breast	2	2	100.00	0	0.00
Antibioma	17	12	70.58	5	29.42
Duct Ectasia	8	5	62.50	3	37.50
Duct Papilloma	2	1	50.00	1	50.00
Fat Necrosis	6	6	100.00	0	0.00
Fibroadenoma	93	87	93.55	6	6.45
Fibrocystic	4	2	50.00	2	50.00
Galactocele	4	4	100.00	0	0.00
Phyllodes	8	6	75.00	2	25.00

In this study, the majority (56%) of our patients were fibroadenomas. The next common BBD was antibioma (10.9%) and fibrocystic disease (9.1%). Other findings were galactocele (6.7%), phyllodes tumor (4.8%), duct ectasia (4.8%), fat necrosis (4.2%), accessory breast (1.2%) and duct papilloma (1.2%). (Table 4)

TABLE 4: Distribution of patients of benign breast disease according to final diagnosis

Final Diagnosis	No. of patients	Percentage
Accessory Breast	2	1.22
Antibioma	18	10.98
Duct Ectasia	8	4.88
Duct Papilloma	2	1.22
Fat Necrosis	7	4.27
Fibroadenoma	93	56.71
Fibrocystic Disease	15	9.15
Galactocele	11	6.71
Phyllodes	8	4.88
Total	164	100.00

IV. Discussion

Benign breast diseases include a heterogeneous group of conditions which range from normal, to aberrations in the physiology, to frank disease. The patients generally present with one or more of these complaints – breast lump, breast pain or nipple discharge. It has been recommended that all the patients with discrete breast lumps should undergo a triple assessment to make an early diagnosis.

In this study, 25.61% of the patients were between 11-20 years of age. Maximum 38.41% cases were noted in 3rd decade followed by 20.01, 10.98 & 1.83% patients in 4th, 5th decade & 6th decade onwards respectively. The youngest and oldest patient was 13 and 65 years old respectively. Mean age at time of presentation was 29.3 years. Our study confirms well with the study of Shanker et al study[5] who noted the highest incidence in the 3rd decade (36%). Ilaiah et al, have also observed in a similar study that 58.3% of their cases of benign breast lesions were in the 21-30 years age group[6] Mallikarjuna et al, (n=50 cases) in a similar study found 44% of their cases in the 21-30 years age range.[7] Bhargava et al, also reported 47% cases in the age group of 25-40 years.[8]

In this study, all the patients had lump as their chief complaint. 64 (39.02%) patients also had pain along with lump whereas only 31 (18.9%) patients had history of nipple discharge. Our findings are similar to that of the Koorapati R et al study[9], 92% patients presented with breast lump, in which 68% breast lumps were mobile and painless,24% breast lumps were associated with pain, 6% presented with painful breast lump and in addition had nipple discharge also and only 2% cases presented exclusively with nipple discharge.

In our study, out of 164 patients, 80 patients presented with right sided disease (48.7%), 78 patients with left side disease (47.5%) & 6 patients with bilateral disease (3.6%). Our study confirms well with Koorapati R et al study[9], where 52% (130/250) cases had right breast lesion, 32% (80/250) had left breast lesions and 16% (40/250) had lesions in both breasts. Chalya et al, also reported right breast involvement in 53.8% cases and left breast involvement in 42.8% cases.[10] In the study by Selvakumaran S et al[11], 90 patients had a right sided lesion and 58 left sided lesion; bilateral disease was present in 20 patients.

In this study, there is preponderance for UOQ (57%) followed by UIQ (16%). 6% lump had >1 quadrant presentation & 6.1% were subareolar. Similar figures were noted in the Koorapati R et al study[9], where majority of breast lumps (60%) were located in the upper outer quadrant and least (8%) cases were seen in upper inner quadrant.

FNAC was the quickest and the most reliable method which helped in making the diagnoses of the breast lumps.In this study, all patients underwent FNAC. Most common finding was fibroadenoma (54%). Similarly, in study by Shanker et al[12], 48% were diagnosed as fibroadenoma, 18% fibrocystic disease and 6% each as antibioma and phyllodes tumor in FNAC.

In our study, majority (92%) of patients were treated surgically, 8% were managed conservatively. For all fibroadenoma, simple excision was done. Accessory breast, antibioma and fat necrosis was treated with excision. Duct ectasia and duct papilloma was managed with microdochectomy. Among 11 patients of galactocele, aspiration and done in 7 patients and excision in 4 patients. Among 8 phyllodes tumor, wide excision was done in 5 patients and one patient underwent simple mastectomy. For 2 patients' simple excision was done as FNAC showed false negative result as fibroadenoma. Shanker et al[12] also observed similar results. In their study, 36 (72%) underwent simple excision, 3 (6%) wide excision, 6 (12%) drainage and 5 (10%) were managed conservatively, which included 4 cases of fibroadenosis and 1 case of duct ectasia.

Out of 164 cases, histopathology reports of 144 patients were available. On histopathological examination, 93 cases were confirmed as fibroadenoma. 17 cases were confirmed as antibioma, 8 cases as phyllodes tumour and duct ectasia each, 6 cases as fat necrosis, 4 cases as galactocele and fibrocystic disease each. There were only 2 cases of accessory breast.

Among 93 cases of fibroadenoma, in 87 cases FNAC results were consistent (93.5%) with histopathology results. For fat necrosis, galactocele and accessory breast, FNAC was 100% accurate. Among fibrocystic disease, 10 were given as fibrocystic disease (66.67%) & other were false negative as fibroadenoma (33.33%). Among phyllodes tumor, 6 were accurately given as phyllodes tumor (75%) and remaining 2 cases were given false negative as fibroadenoma (25%). In the study by Selvakumaran S et al[11], FNAC was carried out in 147 cases, out of which the results were confirmed to be similar to the histopathologic examinations in 120 cases. In the study conducted by Mallikarjuna et al[7], FNAC forms the major investigatory modality with fair accuracy of 91.67% present to diagnose fibroadenoma and 66.67% for Cystosarcoma phyllodes. Intracanalicular type of fibroadenoma was the most common type of fibroadenoma on histopathological report (83.33%).

In this study, the majority (56%) of our patients were fibroadenomas. The next common BBD was antibioma (10.9%) and fibrocystic disease (9.1%). Other findings were galactocele (6.7%), phyllodes tumor (4.8%), duct ectasia (4.8%), fat necrosis (4.2%), accessory breast (1.2%) and duct papilloma (1.2%). In study conducted by Shanker et al[12], the majority (48%) of the patients were fibroadenomas. The next common Benign Breast Disease was fibrocystic disease (18%). Abscess, antibioma accounted for 16% of all the cases studied in their study. Duct ectasia formed 2% of their study.Similar results were observed by Kumar et al[13], in which most

common BBD diagnosed clinically and further correlated with radiological and pathological examination was fibroadenoma (42%), followed by fibroadenosis (16%) and breast abscess (13%). 06 (2%) patients had proliferative disease without atypia and 2 patients with florid hyperplasia.

V. Conclusion

Benign breast diseases occur in all age groups but are common in second & third decade. All patients present with lump, many presents with pain as well. Among the breast lumps, fibroadenoma is the commonest, followed by fibrocystic disease. Other lumps are relatively uncommon. Breast pain may occur alone or in association with a lump or a nipple discharge. FNAC is the single most useful investigation with high diagnostic accuracy. Surgical excision is the effective treatment for most of the benign breast disease. Wide excision and simple mastectomy are rarely needed.

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