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A Clinico-Pathological Study and Management of Benign Breast Disorders

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Abstract

Context: Benign Breast disease occurs in females from child hood, puberty to menopause It is 10 times more than breast cancer. 30% of female population suffers from breast disease. This study was undertakento evaluate the incidence and morphological features of Benign Breast Disease. *Aims:* To study various clinical presentations and management of benign breast diseases Settings and Design: Prospective study, done in the Department of General Surgery, tertiary care centre from November 2014 to April 2016. *Methods and Material*: Patients of all age groups with lump, pain, nipple discharge, were selected. A detailed history was noted down in the proforma designed for the study. Patients were subjected for FNAC, HPE, Mammogram depending on need. Surgery was done as indicated. Excised specimen sent for histopathological examination. All the patients were followed up. Statistical analysis used: mean and percentages are calculated. *Results*: Among 150 cases Fbroadenomas are common 44%, Fibroadenosis 41.3%, breast abscess 4%, phyllodes tumor 2.7%, galactocele 2.7%, gynaecomastia 3.3%. Mean age is 29.6 years. The right breast is more commonly involved. More common in multipara with < 6 months. Commonest presentation is lump in upper outer quadrant. Conclusions: benign lesions of breast need to be differentiated from malignancy. Approach is by triple assessment. FNAC, USG, Mammography are radiological tools. Surgical treatment, assurance, follow up is the main modality of treatment.

Keywords: FNAC; Mammography; Benign Breast Disorders.

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Introduction

Breast disease is a common disease that occurs in females from puberty to menopause. It is 10 times more than breast cancer. 30% of female population suffers from breast disease. All benign breast diseases are classified on the basis histological findings of fibrosis; cyst formation & epithelial activity in the biopsy specimen.

Increasing breast awareness and tendency to relate all breast related symptoms to breast cancer in the population makes it imperative to quickly differentiate benign breast diseases efficiently from breast cancer and lessen the related anxiety This study was undertaken to evaluate the incidence and morphological features of Benign Breast Disease.

Materials and Methods

Patients of all age groups with lump, pain, nipple discharge, males with gynecomastia were selected. A detailed history was noted down in the proforma designed for the study. Patients were subjected for USG, FNAC, HPE, Mammogram depending on need. Surgery was done as indicated. Excised specimen sent for histopathological examination. All the patients were followed up.

Results

Most of the patients were in the age range of 20-29 years (43.3%). The youngest female patient in the present study is 16 years and youngest male patient 13 years, the oldest female patient is 51 years, oldest male patient 43 years. Majority of Benign breast disease presented in 2nd decade(43.3%) and 3rd decades (28.0%) of life (Table 1-22).

Table 1: Distribution of various benign breast diseases

Diagnosis	Frequency	Percent
Fibroadenoma	66	44.0
Fibroadenosis	62	41.3
phyllodes tumor	4	2.7
breast abscess	6	4.0
Gynaecomastia	5	3.3
Galactocele	4	2.7
Others	3	2.0
Total	150	100.0

Table 2: Age distribution of study population

Age	Frequency	Percent
10-19 years	14	9.3
20-29 years	65	43.3
30-39 years	42	28.0
40-49 years	24	16.0
> 50 years	5	3.4
Total	150	100.0

Table 3: Sex distribution of study population

Sex	Frequency	Percent
Female	145	96.7
Male	5	3.3
Total	150	100.0

Table 4: Sides of breasts involvedd

Side involved	Frequency	Percent
Right	72	48.0
Left	66	44.0
bilateral	12	8.0
Total	150	100.0

Table 5: Parity of study group

Parity	Frequency	Percent
P 0	13	8.9
P 1	32	22.1
P 2	73	50.5
P 3	24	16.5
P 4	3	2.0
Total	145	100.0

Table 6: Duration of complaint

Duration	Frequency	Percent
< 2 months	33	22
2-6 months	71	47.3
> 6 months	46	30.7
Total	150	100

Table 7: Residential status

Residence	Frequency	Percent
rural	86	57.3
urban	64	42.7
Total	150	100.0

Table 8: Mode of presentation

Compliant	Frequency	Percent
Lump	77	51.3
Discharge	3	2.1
Mastalgia	17	11.3
lump and mastalgia	45	30
lump and discharge	3	2
Enlargement of male breast	5	3.4
Total	150	100

Table 9: Quadrants involved

Quadrant involved	Frequency	Percent
upper outer	61	40.7
upper inner	31	20.7
lower outer	14	9.3
lower inner	15	10.0
sub areolar	4	2.6
no lump	25	16.7
Total	150	100.0

Table 10: Treatment modality used

Treatment modality	Frequency	Percent
Incision and Drainage	5	3.3
excision Biopsy and wide	85	56.7
excision	1	0.7
Excision of duct	54	36
Conservative treatment	5	3.3
Subcutaneous mastectomy	5	3.3

Table 11: Marital status

Marital h/o	Frequency	Percent
Married	136	90.7
Un married	14	9.3
Total	150	100.0

Table 12: Menopausal status

Menstrual History	Frequency	Percent
Pre menopausal	138	95.3
Post menopausal	7	4.7
Total	145	100.0

Table 13: SIZE of the LUMPS

Lesions	Number of Cases in sizes in cms			
	< 2 cm	2-5 c m	6-10 cm	> 10 cm
Fibroadenoma	5	60	-	1
Fibroadenosis	29	15	-	-
Phylloides	-	-	-	4
G alactocoele	-	2	2	-
BreastAbscess	-	5	1	-
O thers	-	1	-	-
Total	34 (27.2%)	83(66.4%)	3 (2.4%)	5(4%)

Table 14: Treatment modality for various benign breast diseases

	Fibroadenoma	Fibroadenosis	phylloids	Breast abscess	Gynaecomastia	Galactocele	Others
I & D	0	0	0	5	0	0	0
Excision	61	14	4	1	0	4	1
Excision of Duct	0	0	0	0	0	0	1
Conservative	5	48	0	0	0	0	1
Sub cutaneous mastectomy	0	0	0	0	5	0	0

Table 15: Age incidence in various benign breast diseases

Age	fibroadenma	fibroadenosis	Phyllodes tumor	Breast abscess	Gynaeco mastia	galactocele	others
10-19 yrs	10	1	0	0	3	0	0
20-29yrs	28	27	1	4	1	3	1
30-39yrs	18	18	3	1	0	1	1
40-49yrs	9	12	0	1	1	0	1
>50 yrs	1	4	0	0	0	0	0

Table 16: Duration of various benign breast diseases

Diagnosis	Up out	Up inner	Low outer	Low inner	subareolar	No lump
Fibroadenoma	38	16	6	6	0	0
Fibroadenosis	17	13	5	7	2	18
Phyllodes tumor	1	0	2	1	0	0
Breast abscess	4	0	1	0	1	0
Gynaecomastia	0	0	0	0	0	5
Galactocele	1	1	0	1	1	0
Others	0	1	0	0	0	2

Table 17: Quadrants involved in different breast diseases

Diagnosis	Right side	Left side	bilateral
Fibroadenoma	34	30	2
Fibroadenosis	32	22	8
Phyllodes tumor	3	1	0
Breast abscess	0	6	0
Gynaecomastia	3	1	1
Galactocele	0	4	0
Others	0	2	1

Table 18: Sides involved in different breast diseases

Menstrual status	Fibroadenoma	Fibroadenosis	Breast abscess	Phyllodes tumor	Galactocele	Others
Pre Menopausal	65	56	6	4	4	3
Post menopausal	1	6	0	0	0	0

Table 19: Menstrual history in various benign breast diseases

Parity	Fibroadenoma	Fibroadenosis	Phyllodes tumor	Breast abscess	Galactocele	Others	Total
P0	13	1	0	0	0	0	18
P1	13	12	1	2	1	1	32
P2	30	35	2	2	2	1	73
P2	9	12	1	0	1	1	24
P4	1	2	0	0	0	0	3

Table 20: Parity in various benign breast diseases

Mode of presentation	Fibroade noama	Fibro-adenosis	Phyllodes	Breast abscess	Gynaeco mastia	Galacto cele	Others
Lump	64	5	4	1	0	3	0
Discharge	0	2	0	0	0	0	1
Lump and mastalgia	0	16	0	0	0	0	1
Lump and discharge	0	2	0	0	0	1	0
Enlargement of male breast	0	0	0	0	5	0	0

Table 22: Diagnostic modality used in various benign breasts diseases

Diagnostic modaliy	Fibro adenoma	Fibro adenosis	Phyllodes	Breast abscess	Gynaeco mastia	Galactocele	Others
FNAC	57	28	4	1	5	3	
Mammogr am	0	14	0	0	0	0	2
FNAC and mammo	9	20	0	0	0	1	0

Discussion

In the present study of 150 cases of benign breast disease fibroadenoma was most common, constituting 44%.Similar incidence is found in studies of M Kumar et al. [2], A.N.Olu eddo et al. [4], Adesunkanmi [1], Mayun et al. [5], Khanna et al. [6], Iyer et al. [7]. The current study has incidence of 40 of fibroadenosis that is consistent with studies of Adesunkanmi [1] Cittao [8] Italy, Donegan et al. [9].

Phyllodes tumor in present study accounted 2.7% of all cases, coinciding with study of Rangabhashyam et. al. [10], Naveen et al. [3]. Breast abscess constituted 4% of all cases coinciding with study of Naveen et al. [3] and M.E.C. Mc farlane [11]. Breast abscess accounted for 9.2% of lesions in study of M Kumar et al. [2]. Galactocele constituted 2.7% coinciding with study of Adesunkanmi [1]where as incidence in Naveen et al. [3] 8% M Kumar et al. [2] 1.1%, Abhijit et al. [12] 1.8% Gynaecomastia has incidence of 3.3% compared to study of Naveen et al. [3] which has incidence of 4%, Adesunkanmi [1] 3%, A.N. Olueddo et al. [4] 2.1%. Other diseases in this study are like periductal mastitis, traumatic fat necrosis, ductectasia constituted 2% of all cases. (Table 23).

Age Incidence

In this study majority of the cases fall within the age group of 20-29 years (43.3%) while according to Shukla S. Hari [13] peak incidence of benign breast disease were similar to our study, i.e 21-30 years. Naveen et al. [3] has similar study 21-30 years (50%incidence). Oluwole F. Soji [14] study showed peak incidence between 20-35 years. De Chelnocky [15], and Gupta J.C. et al. [16], gave the same opinion of age incidence about 55% cases occur within 40years of age.

In the present study majority of fibroadenomas occurred between 20 to 29 years. While according to M Kumar et al. [2] fibroadenoma most commonly seen in age group of 11- 30 years 74.3% cases. According to P.Tiwari [17] fibroadenoma is most commonly (52.33%) seen in patients with 3rd decade. In study of Samir S. Amr [18] fibroadenoma was the most common lesion encountered, with 36.6% of the patients (73 cases) below the age of 20 and 52.5% (232 cases) below the age of 30. No significant difference was noted in recent literature regarding the age groups having fibroadenoma [19]. This is because of its presentation as freely mobile discrete lump in the breast of young females and more awareness among females due to electronic media and education [17].

Fibroadenosis was also more commonly seen in age group of 20-29 years. According to M Kumar et al. [2] it is most commonly seen in age group of 21-30 years. Similar results were shown by Khanna et al. [6], Iyer et al. [7]. According to P.Tiwari [17] majority of patients (44.52%) were from 3rd decade. Stern et al. [20] found fibroadenosis in the middle age group. Chaudhary et al. [19] in his study found fibroadenosis in 5th decade of life. Kamal et al. [21] found fibroadenosis in 31-50 years.

Breast abscess was more commonly seen in age group of 20-29 Years. In study of M Kumar et al. [2] Breast abscess was more commonly seen in age group of 21-30 years. According to P. Tiwari [17] peak incidence of breast abscess is found in 3rd decade of life. Breast abscess was most commonly observed in lactating females during first three months of delivery.

In our study, Duct ectasia is found in one case, in female of age 42 years. According to P. Tiwari [17] duct ectasia is found 50% in 3rd decade. Duct ectasia is commonly seen in 30-50 year age group in western population and more than 40% have substantial duct dilatation by age of 70 years.

Of the 4 cases of galactocele present in our study 3 cases (75%) belong to age group of 20-29 years.1 case is in the age group of 30-39 years. In study of P. Tiwari [17] cases of galactocele belong to 3rd and 4th decades of life. In the present study one case of traumatic fat necrosis present belonged to 3rd decade of life. In study of P. Tiwari [17] two cases of traumatic fat necrosis beloged to 2nd and 3rd decades of life.

Sex Incidence

In the present study females constituted of 96.7% males of 3.3%. All 5 male are gynaecomastia, managed by subcutaneous mastectomy. In study of Adesunkanmi [1] of 225 patients found 3% cases of gynaecomastia. In studies of A.N.Olu eddo et al. [4], Naveen et al. [3] the incidence of gynaecomastia was 2.1% and 4%.

Table 23: Incidence of various BBD in different studies

Lesions	Number of cases	Present study	Adesunkanmi [1]	M Kumar et Al[2]	Naveen et al[3]
Fibroadenoma	66	44%	39.5%	42.1%	52%
Fibroadenosis	62	41.3%	42.7%	26.5%	20%
Phyllodes tumor	4	2.7%	-	0.7%	4%
Breast abscess	6	4%	-	9.2%	4%
Gynaecomastia	5	3.3%	4%	1.1%	8%
Galactocele	4	2.7%	3%	-	4%

Side of breast Involved

According to Naveen et al. [3] 42 % breast lesions seen on the left side, 34% on right side 24% bilateral. Oluwole F. Soji [14] showed 45% benign breast lesions in right breast, 41% left breast, 14% bilateral.

In the present study 75% (3 cases) of phyllodes tumor found on the right side and 25 % (1 case) found on the left side. In study of Naveen et al. [3] phyllodes tumor 70% (2 cases) found on the left side. In the current study, galactocele 70% (4 cases) found on the left side. In study of Naveen et al. [3] galactocele is found 50% (2 cases) on right side and 50% (2 cases) on left Side. (Table 24).

Parity

In study population BBD have more preponderance in multiparous women. In the current study 19.69% cases having fibroadenoma are nulliparous. In study of Oluwole F. Soji [14] 47% nulliparous are with fibroadenoma. According to DeChelnoky et.al. [15] 63% nulliparous had fibroadenoma. Multiparity seems to influence the higher incidence in our population. (Table 25).

Duration of Complaints

In the present study the common duration of symptoms were within 1 year. These patients who presented earlier helped us not only in treating them at the early stage of the disease, but also to rule out the presence of cancer; which is although less common in young has been known to occur. (Table 26).

Mode of Presentation

According to hagensen [24] lump was common type of presentation of benign breast disease. In study by Naveen et al. [3] 70% cases presented with lump. Similar findings is observed in study of De Chelnocky[15] Mastalgia is one of the commonest presenting symptom in patients attending breast clinic and is also most frequent reason for breast related

Table 24: Comparison of side of breast involved in various BBD in different studies

Diagnosis	Akthor et al[22]			M Kumar et al[2]			Present study		
	Left	Right	B/L	Left	Right	B/L	Left	Right	B/L
Fibroadenoma	49.9%	43.4%	6.6%	38.6%	47%	16.5%	45.46%	51.5%	3.03%
Fibroadenosis	47.4%	52.6%	-------	38.1%	51.4%	10.5%	35.48%	51.61%	12.9%
Breast abscess	71.4%	28.6%	-------	54.2%	37.1%	8.5%	100%	0%	0%

Table 25: Comparison of Parity in different studies

Duration	Present study	Naveen et al[3]	De Chelnocky[15]
<1 year	83.5%	78%	66%
>1 year	16.5%	22%	34%

Table 26: Duration of complaints in different studies

Duration	Present study	Naveen et al[3]	De Chelnocky[15]
<1 year	83.5%	78%	66%
>1 year	16.5%	22%	34%

Residence (Table 27)

Table 27: Distribution based on residence in different studies

Residence	Shukla S. Ha ri[13]	Present study
Rural	58%	57.3%
Urban	42%	42.7%

Table 28: Mode of presentation in different studies

Mode of presentation	Present study	Naveen et al[13]	U.krishnaswamy[23]
Lump	83.3%	70%	13%
Mastalgia	41.3%	34%	56.9%
Discharge	2%	14%	1.4%

Table 29: Comparison of Quadrants involved in different studies

No.	Quadrants	Soji. F.OluWole[14]	Premila Desouza Rocha Et.al 1967[26]	Present Study
1.	Upper and outer	41%	45.2%	40.7%
2.	Upper and inner	19%	7.6%	20.7%
3.	Lower and outer	14%	5.2%	9.3%
4.	Lower and inner	7%	4.4%	10%
5.	All Quadrants	4%	30.4%	2.6%

consultation in general practice [25]. In studies of De Chelnocky [15], Naveen et al. [3] mastalgia present in 34% cases respectively in each study. In the study by Oluwole F. Soji [14] 5% of the cases presented with nipple discharge. (Table 28).

Quadrants in Volved

In the present study upper and outer quadrant of the breast is most commonly involved than other quadrants. The same finding has been observed in the studies of Haque et al. [27], Gupta et al. [16], Alam et al. [28], Hussain et al. [29], and Iyer et al. [7]. The explanation for the involvement of upper outer Quadrants is situation of maximum amount of the breast tissue in upper outer quadrant, hence it is the most common site for carcinoma of the breast. The same may be applied to benign breast diseases also. (Table 29).

Use of Oral Contraceptive Pills

10% used oral contraceptive pills. In Oluwole et. al. [14], study 13.7%, in naveen et al. [3] 26% used contraceptive pills. Vassey et. al. [30] ascertained that oral contraceptive pills were not the cause of benign disease but can be protective to it if taken more than 2 years.

Size of the Lumps

Majority of the fibroadenomas were 2-5 cm in size (66.4%). Only one gaint fibroadenoma was reported. In study naveen et al. [3] most of the fibroadenomas were 2-5 cm in size (58%), l2% were less than 2 cm size while 7% were giant fibroadenomas. Rangabhashyma et. al. [10], showed that 6% fibroadenomas were giant ones in his study. In our study maximum size of fibroadenosis is 3cm in diameter. De Chelnoky [15] described maximum of 2 cm diameter. All Phyllode tumors were of >10 cm . In naveen et al. [3]15% of the phyllodes were > 10 cm in size.

Management

A. Conservative Management: Majority of the cases were managed with surgery. Medical management was done in selected cases. Majority of fibroadenosis cases studied were managed conservatively, Regimen of management followed was: Reassurance, follow-up, NSAIDS, Primrose oil, Cap vit E, Tab. Danazol 100 mg TID. Of the 150 cases of the study population 54 cases were managed conservatively.

B. Surgical Management: Of the 150 cases, surgical management was done in 96 cases. 61 fibroadenoma, 14 fibroadenosis underwent simple excision. 4 galactocele were managed by excision. Wide excision was done for phyllodes as per Haagensen's guidelines. Gynaecomastia cases underwent subcutaneous mastectomy. Duct excision was done for duct ectasia. 5 cases of acute breast abscess underwent I & D and a case of chronic breast abscess had lump excision.

Summary & Conclusion

Fibroadenomas are the commonest benign breast lesions constituting 44% of the total. Fibroadenosis is the 2nd most common 41.3%, breast abscess 4%, phyllodes tumor 2.7%, galactocele 2.7%, gynaecomastia 3.3%.

Benign breast lesions were common in 20 – 29 years 43.3%, followed by 30-39 years 28% and only 5 cases are reported after 50 years of age. Mean age is 29.6 years. Fibroadenoma common in 20-29 years. Females constituted 96.7%, male 3.3%.

The right breast is commonly involved. Fibroadenoma and Fibroadenosis are found more commonly on the right side of the breast. The incidence of breast abscess is more in left breast. Benign breast diseases have more preponderance in multiparous women. Most of them presented with < 6 months. Majority of the study population came from rural area 57.3%.

Commonest presentation of benign breast disease in our study is the lump in the breast. Majority of lumps present in upper outer quadrant. Approach to the management is by triple assessment. FNAC, USG, Mammogragm are diagnostic modality used.

Surgical treatment was the main modality such as excision biopsy, I & D, subcutaneous mastectomy are done. Medical management is with vit E or Tab Danazole.

Acknowledgement

Nill

Conflict of Interest

Nill

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