



Original Research Article

Surgical profile of patients with of benign breast disease at a tertiary care centre: A hospital based retrospective study

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ABSTRACT

Background: Benign Breast Diseases, though more frequently responsible for bringing the patient to the doctor, have not found many places in good recent researches. Benign lesions of the breast have assumed increasing importance in recent years because of the public awareness of breast cancer. These benign lumps are a recognized important risk factor for later breast cancer.

Objective: To study the surgical profile of patient with benign breast disease

Materials and Methods: This retrospective study was conducted at ESIC medical college and Hospital Gulbarga, India. Study conducted after approval of Scientific committee and Ethical committee. Records of all patients undergoing breast surgery from the period March 2016 to March 2021 were analysed, and age, sex, laterality, diagnosis and surgery performed were noted.

Results: The most common type of benign breast disease was fibroadenoma in 58.4% of the cases. The most common age group affected was 21-30 years seen in 60.3% of the cases. Right side was most commonly affected in 57.3% of the cases. Benign breast disease as expected is more common in females (98.7%) compared to males who had only eight cases. Most common type of surgery performed was excision in all cases except for duct ectasia in which case microdochectomy was performed. Circumareolar type of incision was most commonly used in all cases.

Conclusion: Fibroadenoma was most common type of benign breast disease affecting 21-30 years of age commonly and right side. Excision remains the most commonly performed surgery for benign breast disease. Most of benign breast lumps surgery was done using circumareolar incision.

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1. Introduction

Benign breast disease constitutes the most common cause of morbidity due to breast lesions compared to the malignant one. But they remain neglected.^{1,2} They constitute a variety of disorders including clinical varieties as well as the pathological varieties. They are non-malignant in nature.³ Their clinical features also vary a lot. The benign breast disease also constitutes a majority of the breast lesions overall.⁴ Among females of any part of the world, the

benign breast disease is the most common disease. It has been estimated that more than one third of women suffer from benign breast disease in their lifetime. The disease compels them to go to the hospital.^{5,6} The breast disease is characterized by a variety of symptoms right from simple pain in the breasts to the pre-cancerous lesions to completely developed cancer of the breast. Thus, it is a physiological process that undergoes development and the involution. Of all the breast diseases, benign breast lesions are very common in females. It has been estimated that they are ten times more common than that of the malignancies of the breast.^{7,8} Benign breast disease is more common in the age

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group of 20 to 40 years. It is most commonly due to the hormonal changes taking place. It is rare after menopause as the ovarian stimulation stops.⁹

Benign Breast Diseases, though more frequently responsible for bringing the patient to the doctor, have not found many places in good recent researches. Benign lesions of the breast have assumed increasing importance in recent years because of the public awareness of breast cancer. These benign lumps are a recognized important risk factor for later breast cancer. Also, whether the burden of benign breast diseases transforms into numbers in terms of hospitalization and surgeries in India is not studied much.

Hence, to understand the pattern of breast diseases requiring surgical intervention, we undertook this retrospective analysis of all breast surgeries for benign done at our institute over the past five years.

2. Materials and Methods

This retrospective study was conducted at ESIC medical college and Hospital Gulbarga, India. Study conducted after approval of Scientific committee and Ethical committee. Records of all patients undergoing breast surgery from the period March 2016 to March 2021 were analysed, and age, sex, laterality, diagnosis and surgery performed were noted.

2.1. Duration of study

This retrospective study performed between March 2016 to March 2021

2.2. Inclusion criteria

All patients who underwent surgery for benign breast disease were included in this study.

2.3. Exclusion criteria

Patients diagnosed or suspected with Carcinoma of breast are excluded from the study

Steps of each procedure.

1. Excision Biopsy: Circumareolar incision of adequate length over areola, it is also called curvilinear incision. Subcutaneous fat dissected and subcutaneous tunnel created to reach lump. Lump is excised, good hemostasis maintained, one or two absorbable multifilament sutures for subcutaneous fat and skin closed with absorbable monofilament suture in subcuticular fashion. This technique was used in most patients. In some patients where lump was far away from the areola, the linear skin incision over lump, or inframammary incisions were used as per Operative notes in the records. This technique used for Gynecomastia, Fibroadenoma, Breast cyst, Fibrocystic disease, Antibioma and Lipoma. For sebaceous cyst

excision was done using elliptical incision over the cyst.

2. Incision and Drainage: An adequate sized linear incision over the abscess to reach the abscess cavity and pus drained, all loculations divided, cavity washed with povidone-iodine 5% solution followed by normal saline, wound packed with gauze soaked in povidone-iodine 5% solution.
3. Simple mastectomy: A horizontal elliptical incision (Stewart or modified Stewart incision was used) including nipple-areolar complex was used in all three patients due large size of tumour. Skin flaps elevated superiorly (almost up to clavicle), inferiorly (up to costal margin), medially (up to sternal edge) and laterally (up to the edge of pectoralis major muscle) to dissect complete breast. A sub fascial dissection is performed lifting the breast off the pectoralis major muscle up to axillary tail of breast. Good hemostasis ensured and washed with saline, suction tube drain placed through inferior flap, wound edges sutured with non-absorbable monofilament suture.
4. Microdochectomy: Surgeon identified the offending duct by expressing it which discharges, then an incision mark is made on areolar border, a fine lacrimal probe was gently inserted into discharging duct. An adequate sized Circumareolar incision was made, nipple skin flap raised and the duct containing probe identified and excised with a margin of surrounding tissue from dermis to deeper breast tissue (about 4cm). Good hemostasis ensured wound washed with saline. Breast tissue approximated using absorbable suture and skin closed using absorbable monofilament suture in subcuticular fashion.

The data was entered in the Microsoft excel sheet and analysed using proportions.

3. Results

Table 1: Distribution as per various types of benign breast disease

Type of benign breast disease	Number	%
Fibroadenoma	362	58.4
Breast abscess	131	21.1
Breast cyst	45	7.3
Fibrocystic disease	31	5
Lipoma of the breast	16	2.6
Antibioma	12	1.9
Sebaceous cyst	10	1.6
Gynecomastia	8	1.3
Benign phylloids tumor	3	0.5
Duct ectasia	2	0.3
Total	620	100

The most common type of benign breast disease was fibroadenoma in 58.4% of the cases followed by breast

abscess in 21.1% of the cases. The duct ectasia was the least common type seen in two cases only (Table 1)

The most common age group affected was 21-30 years seen in 60.3% of the cases with the benign breast disease. Elderly of age more than 50 years were least affected with the benign breast disease. Similar trend was seen for all types of benign breast disease (\$)

Right side was most commonly affected in 57.3% of the cases. Only 9% had bilateral disease. Similar trend was seen for other types except lipoma of the breast which was more common on left side (Table 3)

Benign breast disease as expected is more common in females (98.7%) compared to males who had only eight cases. (Table 4)

Most common type of surgery performed was excision in all cases except for duct ectasia in which case microdochteomy was performed. Circumareolar type of incision was most commonly used in all cases (Table 5)

4. Discussion

The most common type of benign breast disease was fibroadenoma in 58.4% of the cases followed by breast abscess in 21.1% of the cases. The duct ectasia was the least common type seen in two cases only. The most common age group affected was 21-30 years seen in 60.3% of the cases with the benign breast disease. Elderly of age more than 50 years were least affected with the benign breast disease. Similar trend was seen for all types of benign breast disease. Right side was most commonly affected in 57.3% of the cases. Only 9% had bilateral disease. Similar trend was seen for other types except lipoma of the breast which was more common on left side. Benign breast disease as expected is more common in females (98.7%) compared to males who had only eight cases. Most common type of surgery performed was excision in all cases except for duct ectasia in which case microdochteomy was performed. Circumareolar type of incision was most commonly used in all cases.

Kaur N et al¹⁰ carried out a prospective study. They included 262 cases with benign breast disease. The incidence of benign breast disease was 17%. The most common condition was fibroadenoma in 77 cases. We also found that the most common condition was fibroadenoma. 98 cases in their study had mastalgia with nodularity. Nipple discharge was reported in 13 cases. They found that 18 cases had giant or multiple fibroadenomas; 13 cases had mastalgia and nodularity; 7 cases had sub areolar abscess; four cases had mastitis. 82 cases had non proliferative disease; 19 cases had proliferative disease without atypia, three cases had proliferative disease with atypical and 11 were miscellaneous cases.

Ortiz BM et al¹¹ studied younger women of age less than 40 years. They were assessed by three independent observers for the diagnosis of the disease. They carried out

698 ultrasound examinations. Out of these, 52% reports were normal. Among those who had abnormal reports, 38% were found to have fibroadenomas. In the present study also we found that the fibroadenomas were the most common entity of the benign breast disease. They found that 27% had cyst, benign nodule was seen in 24% of the reported cases.

Sangma MBM et al¹² included 100 women with benign breast disease over a period of one year in their study. They used combination of clinical examination, fine needle aspiration cytology method, biopsy with core needle and mammography or ultrasonography for the diagnosis of the benign breast disease. They compared the clinical diagnosis with that of the diagnosis made from histopathology reports to study the diagnostic accuracy of the clinical examination. In their study, 48% were found to have fibroadenomas. In the present study also we found that the fibroadenomas were the most common entity of the benign breast disease. 18% of the cases were found to have fibrocystic changes in their study. 12% of the cases were found to have breast abscess in their study. These findings are found to be comparable with the present study findings. Three cases were found to have proliferative disease with atypia. One case was found to have florid hyperplasia. One elderly lady turned out to be having invasive carcinoma after she was suspected to have benign breast disease on clinical examination. All cases were treated as per the standard guidelines based on the final confirmatory diagnosis.

Stachs A et al¹³ wrote a review on benign breast disease after exhaustive review of literature from all available articles and presented their findings. They observed that about half of women aged about 30 years had mastalgia and fibrocystic changes. In their study, 25% were found to have fibroadenomas. In the present study also we found that the fibroadenomas were the most common entity of the benign breast disease. The authors emphasized the importance of the difference between benign and malignant disease to avoid risk to the health of the women. They also observed that there is a 23% to 31% risk of malignancy in cystic breast diseases. There is a 16% risk of malignancy in papillary breast diseases. In case of the radial scars, the risk of being turned in the malignancy is about 7%. Hence, it is important that histopathology should be performed in all cases of suspected malignancies.

Richter-Ehrenstein C et al¹⁴ studied 376 cases having B3 lesions. 42.8% of these were found to have atypical ductal hyperplasia. 26.1% of the cases were found to have flat epithelial atypia. 13.3% of the women were found to have lobular neoplasia. 10.6% of the cases were found to have papillary findings. 7.2% of the cases were found to have radial scar complex. But majority i.e. 74% of the cases were found to have benign breast disease. Remaining of the cases were malignant in nature.

Dillon MG et al¹⁵ identified 211 patients with B3 lesion and they had 51 patients of B4 lesions included in their

Table 2: Age wise distribution of the different types of benign breast disease

Age (years)	Fibroadenoma	Abscess	Cyst	Fibrocystic disease	Others	Total
11-20	88 (24.3%)	4 (3.1)	11 (24.4%)	8 (25.8%)	3 (5.9%)	114 (18.4%)
21-30	202 (55.8%)	105 (80.2%)	28 (62.2%)	21 (67.7%)	18 (35.3%)	374 (60.3%)
31-40	48 (13.3%)	18 (13.7%)	4 (8.9%)	2 (6.5%)	10 (19.6%)	82 (13.2%)
41-50	20 (5.5%)	3 (2.3%)	2 (4.4%)	0	14 (27.5%)	39 (6.3%)
> 50	4 (1.1%)	1 (0.8%)	0	0	6 (11.8%)	11 (1.8%)
Total	362 (58.4%)	131 (21.1%)	45 (7.3%)	31 (5%)	51 (8.3%)	620 (100%)

Table 3: Laterality wise distribution of the different types of benign breast disease

Type of benign breast disease	Right side	Left side	Bilateral	Total
Fibroadenoma	206 (58.1%)	107 (51.2%)	49 (87.5%)	362 (58.4%)
Breast abscess	73 (20.6%)	56 (26.8%)	2 (3.6%)	131 (21.1%)
Breast cyst	29 (8.2%)	16 (7.7%)	0	45 (7.3%)
Fibrocystic disease	18 (5.1%)	10 (4.8%)	3 (5.4%)	31 (5%)
Lipoma of the breast	7 (1.9%)	9 (4.3%)	0	16 (2.6%)
Antibioma	8 (2.3%)	4 (1.9%)	0	12 (1.9%)
Sebaceous cyst	6 (1.7%)	4 (1.9%)	0	10 (1.6%)
Gynecomastia	5 (1.4%)	2 (0.9%)	1 (1.8%)	8 (1.3%)
Benign phylloids tumor	1 (0.3%)	1 (0.5%)	1 (1.8%)	3 (0.5%)
Duct ectasia	2 (0.6%)	0	0	2 (0.3%)
Total	355 (57.3%)	209 (33.7%)	56 (9%)	620 (100%)

Table 4: Sex wise distribution of benign breast disease

Sex	Number	%
Male	8	1.3
Female	612	98.7
Total	620	100

Table 5: Distribution of study subjects as per the type of surgery performed

Type of benign breast disease	Type of surgery performed	Number (%)	Type of incision	
			Circumareolar	Linear
Fibroadenoma	Excision	362 (58.4%)	356 (61.7%)	6 (13.9%)
Breast cyst	Excision	45 (7.3%)	32 (5.5%)	13 (30.2%)
Fibrocystic disease	Excision	31 (5%)	25 (4.3%)	6 (13.9%)
Lipoma of the breast	Excision	16 (2.6%)	3 (0.5%)	13 (30.2%)
Antibioma	Excision	12 (1.9%)	7 (1.2%)	5 (11.6%)
Gynecomastia	Excision	8 (1.3%)	8 (1.4%)	0
Duct ectasia	Microdochtecomy	2 (0.3%)	2 (0.3%)	0
Total		476	433 (93.3%)	43 (6.9%)

study. In 86% of the cases, the open biopsy was performed. 21% of the cases were found to have B3 lesions. 6% of the cases were found to have radial scars. 14% of the cases were found to have papilloma. 44% of the cases were found to have lobular neoplasia.

5. Conclusion

Fibroadenoma was most common type of benign breast disease affecting 21-30 years of age commonly and right

side. Excision remains the most commonly performed surgery for benign breast disease. Most of benign breast lumps surgery was done using circumareolar incision.

6. Conflict of Interest

There are no conflicts of interest in this article.

7. Source of Funding

None.

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