

Clinicopathological study of benign breast diseases

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Abstract

Background: Study of pattern of benign breast disease is a challenge due to variants in occurrence and presentation in different age groups and different geographical areas. The objective is to study the clinical profile and pattern of benign breast disease and its pathological correlation.

Methods: This is a prospective study of females with breast disease presenting to surgery department over a period of one year. This survey was mainly meant for studying the age distribution, to evaluate the different types of benign diseases of the breast, their mode of clinical presentation and pathology and to evaluate the various modes of management for different types of Benign Breast Diseases. Patients with obvious malignancy and males were excluded from the study.

Results: A total of 100 females were included in the study. Fibroadenoma (37%) and fibroadenosis (23%) were the commonest diseases, both presenting mostly at 21-30 years of age. Left side involvement was most common. The commonest presentation was breast lump which comprised 84 (84%) cases, out of which 26 (26%) had associated complaints like breast pain and nipple discharge.

Conclusion: Benign breast diseases are common problems of 2nd and 3rd decade in females and raises considerable fear of malignancy. The patients of BBDs generally present with one or more of these complaints – breast lump, breast pain or nipple discharge. All the patients with discrete breast lumps should undergo a triple assessment to make an early diagnosis.

Keywords: Benign Breast diseases, Fibroadenoma, fibroadenosis, cystosarcoma phylloides.

1. Introduction

Benign breast disease is a neglected entity despite the fact that it constitutes the majority of breast complaints.[1] The vast majority of the lesions that occur in the breast are benign.

Breast is a dynamic organ which undergoes cyclical changes throughout a woman's reproductive life. Hormones and growth factors acting on the epithelial and stromal elements right from the onset of puberty till menopause cause significant morphological changes leading to Aberration in Normal Development and Involution (ANDI) causing majority of benign breast diseases.[2]

The term "Benign breast diseases" includes a heterogeneous group of lesions and may present with wide range of symptoms [3]. Benign breast diseases can occur any time during the life span of a female. The aberrations of normal development and involution (ANDI) classification of BBD provides an overall framework for benign conditions of the breast that encompasses both pathogenesis and the degree of abnormality [4]. It is a bidirectional framework based on the fact that most BBD arise from normal physiologic processes. Most BBD can be regarded as minor aberrations of normality and hence do not demand specific treatment.

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2. Materials and Methods

A prospective study of Benign breast lesions was carried out in the department of General Surgery, Bangalore Medical College and Research Institute, Bangalore from May 2015 to June 2016 for a period of one year. This survey was mainly meant for studying the age distribution, to evaluate the different types of benign diseases of the breast, their mode of clinical presentation and pathology and to evaluate the various modes of management for different types of Benign Breast Diseases.

2.1 Inclusion criteria:

Female patients with any benign disorder/disease of the breast-for example, a breast lump, breast pain or a nipple discharge in the age group of 15 to 55 years were included in the study.

2.2 Exclusion criteria:

Women with an obvious malignant disease or those who had been treated for malignancy earlier and male patients were excluded in this study.

A detailed history of presenting complaints like the lump, pain in the breast, nipple discharge, significant past and family history, menstrual and obstetric history, history of

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intake of contraceptive pills and a thorough physical examination were the basis of 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. All patients underwent operative treatment either in the form of excision biopsy or enucleation or wide excision or simple mastectomy. The excised specimen was sent for histopathological examination for confirmation of clinical diagnosis. All the patients were followed up for varying periods for evidence of recurrence.

3. Results

In the present study, 100 cases were examined and analysed. Fibroadenoma formed the most common benign breast disease accounting for 37 cases (37%), followed by fibroadenosis in 23 cases (23%). Benign breast disease was commonly seen in the age group of 21-30years constituting

37% of all patients followed by 33% cases in age group of 31-40years. Thereafter it was observed in 1st decade, then 5th decade in decreasing order. It is extremely uncommon in <10yrs and above 55years.

Among all the benign breast diseases, left sided breast involvement was more common constituting 44 (44%) cases while right breast involvement was less common constituting 42 (42 %) patients. Bilateral involvement was seen in only 14(14%) patients. Considering the pattern of benign breast diseases, fibroadenoma was the most common lesion constituting 37 (37%) cases followed by fibroadenosis (fibrocystic disease) constituting 23 (23%) cases, fibroadenoma with fibrocystic changes constituting 14(14%) and breast abscess constituting 7 (7%) cases. Other benign breast diseases include phylloides tumour (4%), lipomas and galactocele each constituting 3% cases. We witnessed one case of accessory breast.

Table 1: Type of benign breast disease

Type	Number of Cases	Percentage (%)
Fibroadenoma	37	37
Cystosarcoma phylloides	4	4
Fibroadenosis	23	23
Breast abscess	7	7
Duct ectasia	2	2
Lipoma	3	3
Fibroadenoma with fibrocystic changes	14	14
Duct papilloma	2	2
Galactocele	3	3
Accessory breast	1	1
TB Mastitis	2	2
Sebaceous cyst	2	2

Table 2: Age (years) distribution of different benign breast diseases

Disease	15-20yr	21-30	31-40	41-50	>50	Total
Fibroadenoma	7	14	10	6		37
Cystosarcoma phylloides		1	1	2		4
Fibroadenosis	5	9	7	2		23
Breast abscess		3	4			7
Duct ectasia		1	1			2
Lipoma		1	2			3
Fibroadenoma with fibrocystic changes	5	4	4	1		14
Duct papilloma		2				2
Galactocele	1	1	1			3
Accessory breast			1			1
TB Mastitis			2			2
Sebaceous cyst		1	1			2
	18	37	34	11		100

4. Discussion

Benign breast diseases include a heterogeneous group of conditions which range from normal, to aberrations in the physiology, to frank disease. The patients of BBDs 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 the present study, incidence of benign breast lesions and their clinicopathological correlations were studied. Fibroadenoma was the most common breast lesion in our study constituting 37 % of benign breast lesions. Similar findings were reported by Amr *et al*, [5] Kulkarni *et al*, [6]

Malik *et al.* [7] In their study they found most common benign breast lump was fibroadenoma. Amr *et al* [5] reported 30.7%, Kulkarni *et al* [6] 62.32%, Malik *et al* [7] 41 %, cases of fibroadenoma. In present study the most common age of fibroadenoma was second and third decade which is comparable to the above studies.

Second most common lesion in our study was fibroadenosis accounting for 23 % of benign breast lesions. Echejoh *et al* [8] observed maximum number of cases in 31-40 years. Amr *et al* [5] reported maximum incidence of fibrocystic disease in 31-35 years. In the present study the maximum age incidence observed in the age group of 21-30 years.

Naveen *et al.*, (2013) and Rashid *et al.*, (2005) noted fibrocystic disease as the second common BBD after fibroadenoma accounting for 36% and 17% respectively. Stern (1992) found fibrocystic disease as the most common in females of all ages especially in the middle age group.[9,10]

In present study, all patients presented with lump in breast. Kulkarni *et al* [6] observed lump as main presenting

symptom in most of the benign proliferative breast lesion, which is in accordance with this study.

Malik *et al* [7] reported breast abscess (12.4%) as second most common benign breast lesion. In present series we found maximum age incidence in the age group ranged from 31-40 years and majority of them were lactating mothers comparable with findings of Malik *et al.* [7]

Most of cases of granulomatous mastitis were in between 31-40 years of age. Galea *et al* [11] observed granulomas confined to the lobule. Our present study findings are similar to these workers that the granulomas are confined to lobule.

In present study, incidence of tuberculosis was found to be 2 %. Ikard and Perkins [12] and Haagensen, [13] Shinde *et al* [14] observed 0.025% and 0.062%, 1- 4.5% incidence of tuberculosis of breast, respectively. We observed maximum number of patients of breast tuberculosis in 31-40 years of age group, which is comparable with incidence reported by Tewari *et al* [14] (20-50 years of age group) while Goldmann *et al* [16] observed maximum number in 20-50years of age.

Table 3: Site of involvement

Disease	Rt Breast	Lt Breast	Both
Fibroadenoma	14	19	4
Cystosarcomaphylloides	1	2	1
Fibroadenosis	8	6	9
Breast abscess	3	4	
Duct ectasia	1	1	
Lipoma	2	1	
Fibroadenoma with fibrocystic changes	5	9	
Duct papilloma	2		
Galactocele	2	1	
Accessory breast	1		
TB Mastitis	2		
Sebaceous cyst	1	1	
	42 (42%)	44 (44%)	14 (14%)

Table 4: Different types of presentation and their incidence

Presentation	No of patients	Percentage (%)
Breast lump only	58	58%
Breast lump + pain	20	20%
Breast lump + pain + nipple discharge	2	2%
Breast lump only	4	4%
Breast pain only	15	15%
Nipple discharge only	1	1%

Number of patients with breast lump – 84%

Number of patients with breast pain – 39%

Number of patients with nipple discharge – 7%

The patients were broadly divided into 3 groups, depending on their symptoms or presentations, such as a breast lump, breast pain and a nipple discharge. The commonest presentation was breast lump which comprised 84 (84%) cases, out of which 26 (26%) had associated complaints like breast pain and nipple discharge. More than one symptom was present for the same patient.

Among 39 (39%) patients with breast pain, 15 (15%) patients complained of breast pain (mastalgia) only, who were treated by using a conservative approach or reassurance. The rest had associated complaints like breast lump and nipple discharge. Half of these had pain in both the breasts. The pain was cyclical in 24 patients and was non-cyclical in 15 cases.

Among the 7 cases with nipple discharge, only one case presented with nipple discharge only, without any associated lump or pain. The nipple discharge was serosanguinous fluid in 4 cases, and only one case had a yellow discharge. The cause for 2 cases was intraductal papilloma and for the rest, it was mammary duct ectasia. The different types of presentations and their incidence are shown in [Table 4].

All the cases in this study were subjected to USG of Breasts. After verifying with histopathological diagnosis, we found that USG of the breast has a sensitivity of 90% and specificity of 62% in the diagnosis of fibroadenoma. It was helpful in differentiating solid from Cystic lumps of the breast. FNAC forms the major investigatory modality with a sensitivity of 98% and specificity of 87% in diagnosing fibroadenoma.

Surgical excision is the effective treatment for most of the benign breast disease nearly upto 90% cases. Wide excision and simple mastectomy needed rarely. Women who came for follow up after surgical procedure were satisfied by treatment.

5. Conclusion

Thus we conclude from this study that the commonest benign breast lesion encountered in clinical practice is fibroadenoma (37%), followed by fibroadenosis (23%). The most common age group affected was 21-30 years. The most common site of involvement is left breast (44%). The commonest mode of presentation in patients with BBDs was Lump (84%) followed by pain (39%) in breast.

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