Incidence and Clinico-Pathological Study on Benign Breast Diseases

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ABSTRACT

Background: To study the incidence patterns of clinically benign breast disease in females and to co-relate them with the pathological findings.

Methods: This descriptive study was conducted in the Out Patients Department of General Surgery in Medical College Kanpur, India. A routine histopathological examination was done for the core biopsy and the excision biopsy samples and a cytohisto-correlation was also done. The clinical diagnosis, particularly in the case of the benign breast lumps, was compared with the cytological or the histological findings and the accuracy of the clinical diagnosis was evaluated.

Results: Out of the 108 female patients who were studied, fibroadenoma, accounted for 44.44% of the cases, which was the highest number of patients. Fibrocystic changes and breast abscesses came next with 16.66% and 9.2% cases respectively.

Conclusion: Benign breast diseases are common in female patients and fibroadenoma is the commonest of them all. Triple assessment provided a quick diagnosis and it alleviated unnecessary anxiety from the patients about breast cancer.

KEYWORDS: Benign breast disease, Risk factors, Pathology, Triple assessment

ORIGINAL RESEARCH ARTICLE

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CITATION OF THE ARTICLE

I. INTRODUCTION

Benign Breast Diseases (BBDs) is a group of breast diseases which is not cancer. It is the most common cause of breast problems in females and it is more frequent than the malignant ones. In fact, it is at least 10 times more common than breast cancer in the west. Up to 30% of the women who suffer from BBDs will require treatment at some time in their lives.

A triple assessment which is done by a

- Clinical examination
- Imaging like ultrasonography (USG) or mammography and
- Pathological examination – FNAC or core needle biopsy,

During the initial consultation, allows a majority of the Patients with discrete BBDs to be given immediate reassurance. Since a majority of the benign lesions are not associated with an increased risk for subsequent breast cancer, unnecessary surgical procedures can be avoided. Making an early diagnosis and planning the treatment within 72 hours of the first consultation, helps in alleviating unnecessary anxiety about breast cancer and those BBDs patients with an increased risk of malignancy like atypical hyperplasia, are given a prompt treatment, a proper follow-up and awareness regarding the risk of breast cancer.

The popular classification of BBDs according to the Aberration of the Normal Development and Involution (ANDI) causes confusion due to a lack of clarity in distinguishing between the normal physiological changes and the pathologic ones.

One of the more satisfying classifications would be the one which was devised by Love S et al. [9], the so -called Nashville classification.

According to this, BBDs is classified by 2 systems.

1. Pathologically, BBDs is divided into
(a) Non-proliferative lesions,
(b) Proliferative lesions Section without atypia
(c) Atypical proliferative lesions.

2. Clinically, BBDs is classified as
(a) Physiologic swelling and tenderness,
(b) Nodularity,
(c) Breast pain,
(d) Palpable lumps,
(e) Nipple discharge and
(f) Infections or inflammation.

In this study, we profiled the incidence of BBDs, the relative frequencies of the different types of BBDs and their clinical features. Secondly, we attempted at correlating the clinical and pathological findings wherever possible.

II. MATERIALS AND METHODS

This descriptive study was conducted in the Out Patients Department of General Surgery in Medical College Kanpur, India. The patients were required to give written informed consents prior to their enrolment in the study and a Clearance was taken as per the institute's ethical committee guidelines.

Inclusion criteria

Female patients with any benign disorder/disease of the breast-for example, a breast lump, breast pain or a nipple discharge were included.

Exclusion criteria

Women with an obvious malignant disease or those who had been treated for malignancy earlier were excluded in this study. However, any patient who was diagnosed with carcinoma or proliferative lesions after she was clinically diagnosed as benign earlier was treated and included in this study.

A detailed history 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.

The FNAC smears were reported by using standardized diagnostic criteria by the same pathologist and they were categorized into non proliferative/proliferative without atypia/atypical proliferative lesion/frank carcinoma.

A routine histopathological examination was done for the core biopsy and the excision biopsy samples and a cytohisto-correlation was also done. The clinical diagnosis, particularly in the case of the benign breast lumps, was compared with the cytological or the histological findings and the accuracy of the clinical diagnosis was evaluated.

Figure 1   **Figure 2**

Figure 3   **Figure 4**

III. RESULTS

The patients were broadly divided into 3 groups, depending on their symptoms or presentations, such as a

- Breast lump,
- Breast pain and
- Nipple discharge.

The commonest presentation was breast lumps which comprised cases, out of which had associated complaints like breast pain and nipple discharge. More than one symptom was present for the same patient.

Among patients with breast pain, patients complained of breast pain (mastalgia) only, who were treated by using a conservative approach or Reassurance.

The rest had associated complaints like breast lumps and nipple discharges. Half of these had pain in both the breasts. The pain was cyclical in patients and it was non-cyclical in cases.

Among the cases with nipple discharges, only one case presented with nipple discharge only, without any associated lump or pain. The nipple discharge was blood in cases and it was serosanguinous fluid in cases, and only one case had a yellow discharge. The cause for cases was intraductal papilloma and for the rest, it was mammary duct ectasia.

Table 1- The different types of presentations and their incidences.

SL	Presentation	No. of patient	Percentage
1	Breast lump only	66	61.11%
2	Breast lump + Pain	22	20.37%
3	Breast lump + Nipples discharge	4	3.7%
4	Breast lump + Pain + Nipple discharge	6	5.5%
5	Breast Pain only	9	8.3%
6	Nipple discharge only	1	0.09%
	Total	**108**	**100%**

Table 2– Side wise distribution

Side involved	No. of patient	Percentage
RT Breast only	52	48.14%
LT Breast only	42	38.88%
Both breast	14	12.96%
Total	**108**	**100%**

Table 3- The age distribution of the patients (n=108)

Age in year	No. of patient	Percentage
0-10 year	1	0.09%
10-20 year	15	13.88%
20-30year	52	48.14%
30-40 year	28	25.92%
40-50 year	9	8.3%
50-60 year	2	1.8%
60-70 year	1	0.09%

The age distribution of the patients is given in Table 3 . The ages of the patients with BBDs ranged from 8 years to 68 years. The mean age at presentation was 28.4 years.

Table 4-The incidences of different types of benign breast diseases

Diagnosis	No. of patient	Percentage
Fibro adenoma	48	44.44%
Fibrocystic changes	18	16.66%
Breast abscess	10	9.2%
Phylloid	8	7.4%
Nipple discharge Intraductal papilloma–2 Mammary duct ectasia –6	8	7.4%
Traumatic fat necrosis	3	2.7%
Mycetoma of breast	2	1.8%
Galactocele	4	3.7%
Proliferative disease with atypia	4	3.7%
Proliferative disease with florid hyperplasia	2	1.8%
Zuska desease	1	0.9%
Total	**108**	**100%**

Table 5- Quadrant topography of disease

Decease	Total	UO	UI	LO	LI	Central	>IQ	bilateral
Fibro adenoma	48	18	6	8	6	1	7	2
Cyst sarcoma phylloid	8	4	1	1	-	-	2	-
Galaectocoel	4	2	-	-	-	-	2	-
Breast abscess	10	3	1	2	1	-	3	-
Fibrocystic decease	18	2	1	-	2	-	3	10
Duct ecstasia / papilloma	8	-	-	-	-	8	-	-
Proliferative decease with atypia /florid hyperplasia	6	4	-	-	-	-	2	-
Traumatic fat necrosis	3	2	1	-	-	-	-	-
Mycetoma of breast	2	2	-	-	-	-	-	-
Zuska desase	1					1		

UO- upper outer, UI- upper inner, LO-lower outer, LI-lower inner, >IQ-more than one inner quadrent

Table 6- Cytohistological correlation of BBD

Decease	FA	CSP	BSP	BEH	BDC	NSM
Fibro adenoma	44	-	2	1	1	-
Cystosarcoma phylloid	1	6	-	-	1	-
Galaectocoel	-	-	-	-	4	-
Duct ectasia/ papilloma	-	-	-	-	4	-
Proliferative desease with atypia	-	-	2	3	1	-
Mycetoma of breast	-_	-	-	-	-	2
Traumatic fat necrosis	-	-	-	-	-	3
Zuska decease	-	-	-	-	-	1

FA- Fibroadenoma, CSP-Cysto Sarcoma Phylloid, BSP-Benighn Subareolar Papillomatosis, BEH- Benign Epithelial Hyperplasia, BDC- Benign Ductal Cell, NSM- Non Specific Mastitis.

Table 7- Various type of treatment procedure in BBD

Decease	Excison	Wide Excison	Simpal mastec-tomy	Incison and drai-nage	Conser-vative manage-ment
Fibro adenoma	48	-	-	-	-
Cystosarcoma phylloide	3	5	-	-	-
Galaectocoel	4	-	-	-	-
Breast abcess	-	-	-	10	-
Fibrocystic desease	6	4	-	-	8
Duct ectasia/papilloma	8	-	-	-	-
Proliferative desease with atypia	-	4	2	-	-
Myectoma of breast	2	-	-	-	-
Zuska dsease	-	-	-	-	1
Traumatic fat necrosis	1	-	-	-	-

IV. DISCUSSION

Benign Breast Diseases includes 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. By this approach, we provided the diagnoses of most of the benign breast conditions within 72 hours of the initial consultation. In the study of Foncroft LM et al., [10], they found that 87.4% of the women who attended the Wesley Breast Clinic had presented with breast lumps, while in the series of Ratana Chaikanont T [11], a breast lump was the presenting symptom in 72.35% of the 331 benign breast patients. The corresponding figure for our study was 90%. Fibroadenomas (figure 1,2) accounted for 44.44% of the benign breast lumps in our study. Our finding was in agreement with most of the available literature on benign breast lumps, where the frequency of fibroadenoma ranged from 46.6%-55.6% [12]-[15].

The peak incidence of fibroadenoma ranged from the 2nd to the 3rd decade of life, which was consistent with the findings of other studies. FNAC was the quickest and the most reliable method which helped in making the diagnoses of the breast lumps.

The fibrocystic changes were the next common condition in our study and a majority of the patients belonged to the 3rd and 4th decades. The incidence varies geographically. Many authors like Adesunkanmi AR and Agbakwuru EA and Ihekwaba FN found that the incidence of the fibrocystic changes ranged from 29.5-42.2% for the benign breast lumps [12]-[13]. We had a slightly smaller figure, with 16.66%.

The mean age at presentation was 28.4 years. In the age group of 21-30 years, there were 52 patients. This was almost similar to the observation which was made by Navneet Kaur et al [16].

The incidence of breast pain in our series was 34.25%, which was nearly equal to the breast pain series, which ranged from 12.8%- 30.3% [11]-[17]. Leis HP et al., [18] reported that the incidence of breast discharge was only 10.18% of all the breast complaints in his study, which was almost equal to the 8% incidence which was found in our study.

Out of the 11 cases of nipple discharge, 2 were intraductal papilloma with bloody nipple discharges and 6 were mammary duct ectasia. The treatment of the nipple discharge must be done first, to exclude carcinoma on occult blood test and cytology. A simple reassurance may then be sufficient, but if the discharge is proving to be intolerable, an operation must be done to remove the affected duct or ducts [8]. A total excision of 2 cases of intraductal papilloma was done. Mammary duct ectasia generally does not require surgery and it should be managed conservatively [19]. We treated 6 cases of mammary duct ectasia by using a conservative management.

The incidence of benign breast diseases begins to rise in the 2nd decade and it peaks in the 4th or 5th decades as compared to the malignant lesions, for which the incidence continues to rise after menopause [20]-[22]. In the study of Dupont and Page [23], atypical hyperplasia was identified in only 2.7% of the biopsy samples. In our study, 4patients with breast lumps had proliferative lesion with atypia on the biopsy samples, which was 3.7% of the total 108 biopsy samples which were taken.

The findings of our study were almost the same as those of their studies. However, our samples were smaller in number than theirs. We advised follow up every 3 months for both the low and high risk categories, since some studies have shown the progression of the low risk category to carcinoma [24]. The risk factors for carcinoma of the breast were explained to the patients, which is a two-fold increased risk for developing Ca breast in florid hyperplasia and a four-fold increase risk in proliferative lesions with atypia. Out of 108 , 3 (2.7%)patient diagnosed traumatic fat necrosis, 2(1.8%) patient mycetoma of breast

Out of 108 case , 2 (1.8%) case mycetoma of breast(figure3), 3(2.7%) case traumatic fat necrosis, 1(0.09%) case Zuska decease (figure4).

The only case with invasive breast cancer was treated in our hospital and she wasadvised follow up every 3 months. Currently, there is a controversy over the classification of the proliferative lesions and the microscopic risk assessment, which have less relevance in the clinical practice. So, there is a need for non morphologic markers (genetic/molecular) so that chemoprevention agents can be used as an alternative to surgery and so that the histo-pathological criteria can be refined for the risk assessment [25].

V. CONCLUSIONS

Benign breast diseases is a common problem in women. A lump in the breast is the commonest presentation. Breast pain and nipple discharge are the other symptoms. Most of the patients have more than one symptom. The commonest age group which is affected is the 21-30 years age group. Among the breast lumps, fibroadenoma is the commonest, followed by fibrocystic changes and breast abscesses. The other lumps are relatively uncommon. Breast pain may occur alone or in association with a lump or a nipple discharge. The incidence of cyclical pain is 20% and that of non-cyclical pain is 13%. The nipple discharge, particularly if it is serous or greenish, is harmless. The clinical diagnoses of the benign breast lumps were accurate in 91.95 % cases.

The risk factors for developing invasive carcinoma in the patients with proliferative lesions were also identified and the patients were advised follow-up. Since there is no consensus on the morphologic risk markers, in future, molecular genetic markers may help in the risk stratification, which will help in a better clinical management.

VI. REFERENCES

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