



Clinicopathological Profile of Benign Breast Disease at a Tertiary Care Hospital in Western Rajasthan

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ABSTRACT

OBJECTIVE: To characterize clinicopathological variations of Benign Breast Diseases in Western Rajasthan.

METHODS: Prospective study of six hundred females who attended the Surgery OPD, with any forms of breast complaints during the period from January 2016 to December 2016. A specially designed proforma was used to record the findings of history, clinical examination and pathological examination and the data was analysed to study the details of benign breast diseases in the group surveyed.

RESULTS: Of 600 patients studied 136 cases were found to have definitive evidence of Benign Breast Diseases in which Fibroadenoma was the most common lesion with 53 cases (8.83%), occurring at a mean age of 16-32 years, next was fibrocystic changes with 38 cases (6.33%) at a mean age of 23-45 years. Inflammatory lesions constituted 39 cases (6.5%) which included Abscess, chronic mastitis and tubercular mastitis. Other lesions made up less than 1% each. Benign breast lesions peaked at the 18-28 age range and then declined.

CONCLUSION: In our study, 600 females were examined and 136 cases were observed to have benign breast diseases. Most females belonged to younger age groups below 35 years of age. Benign conditions of breast are common and have an incidence of 22.6%. Fibroadenoma was the most common benign lesion followed by fibrocystic disease.

KEYWORDS : Benign breast disease, Risk factor, Pathology,

INTRODUCTION

Benign Breast Diseases (BBDs) is a group of non-cancerous breast diseases. It is more prevalent than Breast cancer in the west [1-6] and in-fact is the most common cause of Breast problems in any part of world. About one third of the women who suffer from BBDs will require treatment at some time in their lives [7-8]. The most common symptoms are lumpiness or a lump, breast pain and nipple discharge. A triple assessment which is done by a clinical examination, imaging like ultrasonography (USG) or mammography and a pathological examination – FNAC or core needle biopsy, during the initial consultation, allows clinicians to give immediate reassurance to most of the patients. Since a majority of the benign lesions are not associated with an increased risk for subsequent breast cancer, unnecessary surgical procedures can be avoided. Those BBDs patients with an increased risk of malignancy like atypical hyperplasia, can be 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. Pathologically, BBDs is divided into (a) non-proliferative lesions, (b) proliferative lesions without atypia and (c) atypical proliferative lesions. 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. We also attempted at correlating the clinical and pathological findings wherever possible.

MATERIAL AND METHODS

This prospective descriptive study was conducted over 600 female patients of childbearing age group presenting with any breast complaints to the general surgical outpatient clinics and subsequently treated on outpatient/inpatient basis between January 2016 to December 2016 at Dr. S.N. Medical College associated hospitals JODHPUR.

Ethical committee's approval was obtained from the Ethical

Committee prior to the study. Informed consent was also taken from all the patients and confidentiality was maintained.

Inclusion criteria

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

Exclusion criteria

—Postmenopausal women were excluded.
—Females who had not yet achieved menarche were not included in the study.

---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.

After clinical diagnosis of the particular benign breast disease, patient was further investigated and treated. Wherever clinical diagnosis was in doubt, fine needle aspiration cytology was performed.

Further confirmation of diagnosis was obtained on surgery or on relief of symptoms or on histo-pathological examination. Patients were followed up for a variable duration as demanded by the detected benign breast condition.

RESULTS

A total of 600 female patients who attended in the Surgery Outpatients Department for breast problems, were studied in the Department of General Surgery. 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 lumps which comprised 348 (58%) cases, out of which 36 (29%) had associated complaints like breast pain and nipple discharge. More than one symptom was present for the same patient.

Among 198 (33%) patients with breast pain, 60 (10%) 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 124 patients and it was non-cyclical in 33 cases. Pain was the predominant symptom in breast abscess.

Among the 72 cases with nipple discharges, only 18 case had nipple discharge only, without any associated lump or pain. Discharge was of various types - serous, milky, bloody or pus. Nipple discharge was serous in duct papilloma and milky in galactocele. The discharge was blood stained in 3 cases cause for 2 cases was intraductal papilloma and for the rest, it was mammary duct ectasia.

The different types of presentations and their incidences are shown in [Table 1].

Different types of Presentation	No. of patients	Percentage
1. Breast lump only	348	58%
2. Breast lump + Pain	120	20%
3. Breast lump + Nipples discharge	18	3%
4. Breast lump + Pain + Nipple discharge	36	6%
5. Breast Pain only	60	10%
6. Nipple discharge only	18	3%
Total	600	100%

Out of 600 females included in the study, 89 females were below 20 years, 221 females between 20 and 30 years age group, 193 were between 30 and 40 years age group and 97 females were above 40 years of age. Out of these, there were 8 females with age less than 20 years who had benign breast disease, 64 cases in 20-30 years group, 50 cases at 30-40 years and 14 cases above 40 years also had benign breast disease. Thus the age wise distribution of cases in 136 patients with positive evidence of benign breast conditions was 8.98% for females below 20 years and 28.95% for 20-30 years. The maximum number of cases were in the 20-30 years age group i.e. 29% of the patients. The next common age group was 30-40 years with incidence being 25.90% out of 136. The numbers of patients were above 40 years was 14.43 % of 60 patients with benign breast disease. Also fibroadenoma and fibroadenosis are seen as diseases of younger age group (age < 30 yrs.) and phylloides tumours are seen in older age group. Thus benign breast disorders are common in the 20-40 years age group as compared to breast cancer which is found more often in the older age group after 40 years.

Table 2 shows the age wise distribution of patients and cases of benign breast diseases.

Age(years)	Total No. Of females examined	Number of cases with benign breast disease	Percentage of cases with benign breast disease
< 20	89	8	8.98%
20-30	221	64	28.95%
30-40	193	50	25.90%
>40	97	14	14.43%
TOTAL	600	136	22.66%

There were 53 cases of fibroadenoma the incidence being 8.83% out of 600 and 38.97% of the 136 cases. The next common condition is fibroadenosis or fibrocystic disease of breast, the incidence being 6.33% out of 600 patients examined and 27.94% of the 136 cases. There were 14 patients of breast abscess. Tuberculous mastitis was seen in 9 patients out of 600, the incidence being 1.5% for 600 patients and 6.66% of the benign breast conditions. Chronic mastitis was found in 16 patients. There was only 1 case each of cystosarcoma phylloides, lipoma of the breast, duct papilloma, and sebaceous cyst of the breast. 2 cases of galactocele were also seen.

Table 3 shows the distribution of cases into various disorders

and percentage of distribution.

Disorder	Number of cases	% of cases
Fibroadenoma	53	38.97%
Fibroadenosis	38	27.94%
Breast abscess	14	10.29%
Tuberculous mastitis	9	6.61%
Sebaceous cyst	1	0.73%
Duct papilloma	1	0.73%
Lipoma	1	0.73%
Chronic mastitis	16	11.76%
Cystosarcoma phylloides	1	0.73%
Galactocele	2	1.47%
Total	136	100%

The quadrant wise distribution of fibroadenoma shows higher incidence of fibroadenoma in the upper quadrant. This is probably due to more breast tissue in the upper quadrant. Further bilateral involvement was seen only in one case of fibroadenoma and 2 cases of fibroadenosis. Recurrence was mainly seen in one case of cystosarcoma phylloides where patient had been operated for similar lump.

Out of 600 patients, 175 were nulliparous and 18 cases of benign breast diseases were detected in this group, most of them being fibroadenoma. 325 multiparous females were examined and 42 cases of benign breast diseases were detected. Lactation was found to have a very strong association with inflammatory breast lesions. 6 out of 9 patients of breast abscess were lactating.

Patient with galactocele was also lactating.

Clinical and histocytological correlations

The diagnoses of the lumps were confirmed either cytologically or histologically, or in both ways. FNAC and biopsy were done in 118 cases. The accuracy of the clinical diagnosis of fibroadenoma was 92% (48 out of 53 cases). The clinical diagnoses of the fibrocystic changes were made in 31 cases and 28 of them were correct. Two of them was reported by HPE as a proliferative lesion with atypia and the oldest lady of this group was reported as invasive ductal carcinoma, for whom further treatment was given in our hospital and they were advised follow up. So, the diagnosis was proved clinically wrong in these two cases of fibrocystic changes. Three of the non-tender breast lumps which were clinically reported as fibroadenomas, were diagnosed by HPE as fibrocystic disease in 2 cases and one was diagnosed as tubercular. On the whole, the clinical diagnosis was correct in 80 out of the 87 patients with benign breast lumps (91.95% accuracy).

DISCUSSION

Benign breast diseases includes a diverse group of conditions which range from normal, to aberrations in the physiology, to frank disease. The patients of BBDs generally present with combination of these complaints – breast lump, breast pain and nipple discharge. It is been proposed that all the patients having discrete breast lumps should be screened by triple assessment to make an early provisional diagnosis. By this approach, we attempted to diagnose most of the benign breast conditions within 72 hours of the first consultation.

Previous studies conducted on the spectrum of benign breast conditions shows some variations between Western statistics and the Indian statistics.

Fibroadenoma is most common in our study as well as reports elsewhere. In the King's College Hospital Breast Clinic, a study was conducted on breast conditions and 80% of patients with breast symptoms had benign diseases.[10]. A case control study of benign breast diseases was conducted in Greater Boston in 1968-69.

Fibroadenoma was commonest and found during second decade, commonly in married nulliparae. None had consistent relationship of risk with parity or with age at first birth. There is, however, no mention of the significance of tuberculosis in this study. [11] On a contrary analysis of black women showed fibrocystic disease as most frequent disorder in both black and white patients, between 25 and 45 years of age. [12] Most of the Indian studies done are retrospective studies with consequent problems of emphasis. Only one study by Shukla and Kumar is a prospective study, done in patients with benign breast conditions presenting in Department of Surgery, Varanasi between 1985-87. 90% of the patients in this study were less than 40 years of age. Table 4 shows the analysis of various studies done in India. [13] Fibroadenosis, Fibroadenoma, tuberculosis and mastalgia are common in these studies. Most of the studies have been done in women in their 40s than in their 20s as subjected to biopsy to rule out the possibility of malignant disease in the retrospective. [13]

Most Western studies have shown that oral contraceptive pills with decreased progesterone reduced risk of benign breast disease. [13] A study in the black population revealed number of relationship between use of oral contraceptives and incidence of benign breast diseases. [14] Use of oral contraceptives is extremely low in Indian population and the effect, protective or otherwise, cannot be ascertained with certainty. [13]

Department of Surgery at Tokyo, Japan conducted a study on recurrence of benign breast conditions after surgery and found rate of recurrence for phylloides tumour to be 50%. [14] Indian reports show a wide variation in incidence of phylloides tumour from 0.63% to 13.8%. [15] There is only one case of phylliodes tumour seen in our study. The tumour was recurrent and occupied the whole breast. This is low in comparison to other studies which showed higher incidence of phylloides tumour in India. [16]

The percentage of tuberculous affectation of breast amounts to 8% in our study. This is higher as compared to the incidence of tubercular mastitis in other Indian studies. This may be due to the high prevalence of tuberculosis in India as well as in western rajasthan. These patients in our study presented with chronic breast fistula, abscess or ulcer.

Acute breast abscess was also found in nine patients and six of these patients were lactating. However, no case of gangrene breast is found in our study as compared to the study done by Shukla and Kumar [15] which reported two cases of breast abscess progressing to gangrene as a result of neglect. This is a positive sign as it indicates higher awareness of patients with respect to conditions of the breast.

There was two case of Galactocoele noted in our study and the patients was lactating. This is in accordance with the retrospective study done by Khanna and Arya who reported all Galactocoele patients to be lactating. One case of lipoma is also seen in our study as compared to three cases in the Khanna and Arya's retrospective analysis. [16] Majority of infective lesions are seen in child bearing age group in our study as well as the Khanna and Arya's study due to traumatic lactation and are prevalent in lower socio-economic group. [16]

However, no study has been conducted regarding the correlation between clinical diagnosis and confirmed final diagnosis of histopathology or surgical confirmation. Thus, our study stresses the increased incidence and emergence of tuberculous mastitis as an important condition in the spectrum of benign breast neoplasms and the importance of clinical diagnosis in benign breast conditions. Hence, tuberculous affectation has to be kept in mind while dealing with benign neoplasm.

Lesions	Shukla and Kumar Retrospective	Khanna Retrospective	Rangaba shyam Retrospective	Shukla and Kumar Prospective
	n = 927	n = 1031	n = 215	n = 272
Fibroadenoma	46.4	40	56.7	37.8
Cystosarcoma Phylloides	0.6	14.2	2.3	10.6
Duct papilloma	0.9	0.7	2.3	2.9
Fibroadenosis	14.3	0	16.2	0
Lobular Hyperplasia	0	0.7	0	0
Sclerosing adenosis	0	4.8	0	3.3
Fibrocystic disease	0	14.3	0	0
Cysts	7.9	0	0	11.3
Fibrosclerosis	7.4	0	0	1.8
Duct Ectasia	7.6	4.4	0	2.5
Chronic Abscess	7.8	11.3	7.9	11
Tuberculosis	5.1	5.7	2.7	4.7
Filariasis	0.1	0	2.3	0.3
Cysticercosis	0.1	0.9	0	0
Fat Necrosis	1.2	0	1.3	1.4
Galactocoele	0	1.2	6.9	0

CONCLUSION

Benign breast diseases is a common problem in women. A breast lump 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. Clinical diagnosis of the breast pathology correlated well with the histological diagnosis with sensitivity of 90.24%.

In conclusion, the present study established a baseline of disease pattern on the basis of prospective histopathological experience in a tertiary care hospital. The findings were also compared with recent international and national publications on patterns of BBD. The pattern and demographic data of BBD observed in the present study is in accordance to the data reported in the recent literature with minor variations. This study is helpful to practising clinicians in diagnosing and managing the local patients presenting with breast lumps, or masses.

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TABLE 4
Comparison of various studies of benign breast disorders conducted in India [13]