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A Clinicopathological Study of Benign Breast Diseases: Our Experience at a Rural Medical College, Telangana

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Abstract

Introduction: Benign Disorders of Breast represent large proportion of workload at specialist breast clinic. It is important to carefully diagnose and distinguish these disorders from premalignant and malignant diseases of the breast. Management requires multidisciplinary approach involving surgeons, pathologists and radiologists. *Aims and Objectives:* To study incidence, age distribution, various clinical presentations, role and accuracy of fine needle aspiration cytology and management protocol based on the investigations and histopathology of benign breast diseases. *Material and Methods:* Present study was a prospective study done over a period of 2 years and includes 100 cases of benign breast lump who attended the outpatient department of General Surgery in a tertiary care hospital, Telangana. Data regarding age, sex, site, laterality and duration of symptoms of the lesion were documented for each case. All the cases underwent routine hematological investigations, mammography, fine needle aspiration cytology and excisional biopsy. *Results:* Study included clinically diagnosed 100 cases of benign breast lesions belonging to age group ranging from 11-80 years. Maximum numbers of patients 38 (38%) were in the age group of 21-30 years. According to sex distribution, females were 92 (92%) and males were 8 (8%). Patients presented with different types of symptoms. Sixty eight cases (68%) involved right breast, 28 cases (28%) left breast, and 4 cases (4%) bilateral breasts. Incidence of various lesions based on clinical diagnosis were fibroadenoma 60 (60%), fibroadenosis 12 (12%), gynaecomastia 8 (8%), breast abscess 6 (6%). Four (4%) cases each of galactocoele and mastitis. Two (2%) cases each of duct papilloma, filariasis, and accessory breast. Fine needle aspiration cytology accuracy was 96%. *Conclusion:* Benign breast diseases are common in female patients of 21-30 years of age group; fibroadenoma is the commonest of them all. Fine needle aspiration cytology provides a quick diagnosis and alleviates unnecessary anxiety about breast cancer.

Keywords: Benign Breast Disease; Fibroadenoma, Fibroadenosis; Fine Needle Aspiration Cytology.

Introduction

Breast is the symbol of womanhood and ultimate fertility. Anatomically it is a modified skin sweat gland that develops into a complex functional structure in females, but remains as a rudimentary organ in males. In females it is subjected to constant physical changes with changing endocrinal profiles associated with menarche, menstrual cycles, pregnancy, lactation and menopause. Associated with this dynamic and active physiological role breast faces many malfunctions and dysfunctions that can lead to varied pathology of benign and malignant diseases which are common clinical problems. As the breast constantly undergoes changes because of various hormonal influences there is a lot of confusion in differentiating between normality and pathology. Also interesting is the important though small relationship between benign diseases and cancer and malignant potential of benign disease.

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Benign Breast Disorders (BBDs) represent a large proportion of the workload at a specialist breast clinic. It is the most common cause of breast problems in females and it is more frequent than the malignant ones [1-6]. In fact, it is at least 10 times more common than breast cancer in the west [7]. BBDs are a group of breast diseases which are not cancer, therefore it is important to carefully distinguish these disorders from premalignant and malignant diseases of the breast. BBDs can cause considerable anxiety for the patient. A clear understanding is essential to establish a diagnosis. After establishing a firm diagnosis of BBDs, reassurance and an appropriate plan of management is needed. Management requires a multidisciplinary approach involving surgeons, pathologists and radiologists. About 30% of the women who suffer from BBDs will require treatment at some time in their lives [8]. A triple assessment which is done by a clinical examination imaging like ultrasonography (USG) or mammography and a pathological examination – Fine needle aspiration cytology (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 satisfying classification would be the one which was devised by Love S *et al* [9], the so called Nashville classification. According to this classification, BBDs are classified by 2 systems. Pathologically, BBDs are divided into: (a) non-proliferative lesions, (b) proliferative lesions without atypia and (c) atypical proliferative lesions. Clinically, BBDs are classified as: (a) physiologic swelling and tenderness, (b) nodularity, (c) breast pain, (d) palpable lumps, (e) nipple discharge and (f) infections or inflammation. Present study was conducted to evaluate the incidence, age distribution, various clinical presentations, role and accuracy of FNAC, and the management protocol based on the investigations and histopathology of BBDs. An attempt to correlate the clinical and cyto- and histopathological findings was also done wherever possible. Histopathological examination of the excised tissue was considered as gold standard.

Materials & Methods

Present study was a prospective study done over a period of 2 years and includes 100 cases of benign breast lump who attended the outpatient department of General Surgery in a tertiary care hospital, Telangana. Data regarding the age, sex, site, laterality and duration of symptoms of the lesion were documented for each case. All the cases underwent routine hematological investigations, mammography, and excisional biopsy. Formalin-fixed specimens were sent for histopathological examination.

Inclusion Criteria

Patients with breast lumps with benign nature on clinical examination and on further confirmation by FNAC were included in the study.

Exclusion Criteria

Patients with suspicious malignancy (fixity to skin or chest wall, family history of carcinoma breast, palpable lymph nodes) were excluded.

Results

The study included clinically diagnosed 100 cases of benign breast lesions belonging to age group ranging from 11-80 years. Maximum numbers of patients were in the age group of 21-30 years 38 (38%) (Table 1, Bar Diagram 1). According to sex distribution, females were 92 (92%) and males were 8 (8%) (Table 2).

Patients presented with different types of symptoms such as patients with breast lump were 100, with breast pain 30, and 4 cases with nipple discharge (Table 3). The commonest presentation was breast lump which comprised 100 (100%) cases, out of which 68 (68%) had only breast lump while 32 (32%) had associated complaints like breast pain and nipple discharge. More than one symptom was present for the same patient. Amongst 30 (30%) patients with breast pain, 28 (28%) patients complained of breast pain associated with breast lump and 2 (2%) had associated nipple discharge along with breast lump. Pain was cyclical in 20 cases and non-cyclical in 10 cases. Amongst the 4 cases

with nipple discharge, 2 cases (2%) was associated breast lump and 2 cases (2%) with breast lump and pain. The nipple discharge was bloody in 2 cases (Intraductal papilloma), and purulent in 2 cases of breast abscess. Duration of symptoms was less than 6 months in 60% of patients, 26% presented within one year and the rest 14% had more than 1 year of duration.

Considering the laterality, amongst total 100 cases, 68 (68%) cases involved the right breast, 28 (28%) cases left breast, and 4 (4%) cases bilateral breasts.

Incidence of various diseases based on clinical diagnosis was: fibroadenoma 60 (60%), fibroadenosis 12 (12%), gynaecomastia 8 (8%), breast abscess 6 (6%). Four (4%) cases each of galactocoele and mastitis. Two (2%) cases each of duct papilloma, filariasis, and accessory breast (Table 4, Pie Diagram 1).

Fine needle aspiration cytology accuracy was 96%. Four clinically diagnosed cases of fibroadenoma on FNAC were suggestive of proliferative breast disease with atypia which on histopathology were diagnosed as Fibroadenoma.

Table 1: Age incidence of various benign breast lesions

Age in years	No. of cases (%)
0-10	-
11-20	28 (28)
21-30	38 (38)
31-40	24 (24)
41-50	6 (6)
51-60	-
61-70	2 (2)
71-80	2 (2)

Table 2: Age and sex distribution of various benign breast lesions

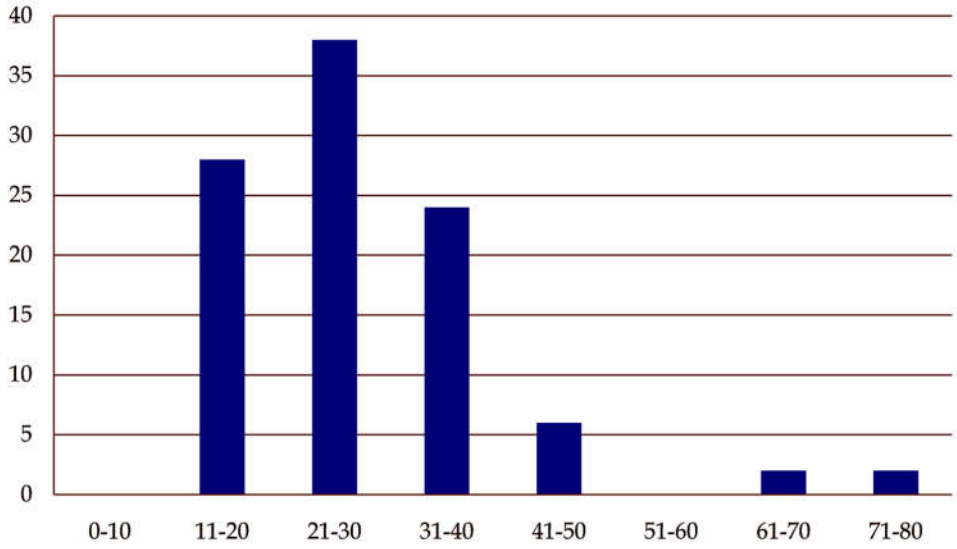
Age in years	No. of cases (%)	Male (%)	Female (%)
0-10	-	-	-
11-20	28 (28)	4 (4)	24 (24)
21-30	38 (38)	2 (2)	36 (36)
31-40	24 (24)	-	24 (24)
41-50	6 (6)	-	6 (6)
51-60	-	-	-
61-70	2 (2)	2 (2)	-
71-80	2 (2)	-	2 (2)
Total	100	8 (8)	92 (92)

Table 3: Different types of presentation and their incidence

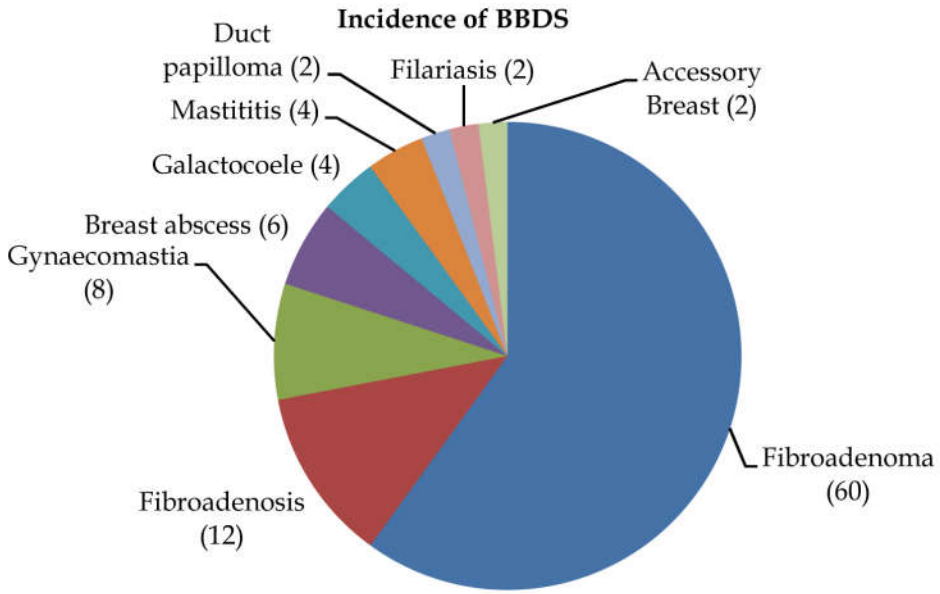
Presentation	No. of cases (%)
Breast lump only	68 (68)
Breast lump + Pain	28 (28)
Breast lump + Nipple discharge	2 (2)
Breast lump + Pain + Nipple discharge	2 (2)
Breast Pain only	-
Nipple discharge only	-
Total	100

Table 4: Incidence of various benign breast lesions based on Clinical Diagnosis

Diagnosis	No. of cases (%)
Fibroadenoma	60 (60)
Fibroadenosis	12 (12)
Gynaecomastia	8 (8)
Breast abscess	6 (6)
Galactocoele	4 (4)
Mastitis	4 (4)
Duct Papilloma	2 (2)
Filariasis	2 (2)
Accessory breast	2 (2)
Total	100



Bar diagram 1: Bar diagram depicting age incidence of various benign breast diseases



Pie diagram 1: Pie diagram depicting incidence of various benign breast diseases based on clinical diagnosis

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. 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 Ratanachaikamont T [11], breast lump was the presenting symptom in 72.35% of the 331 benign breast patients. The corresponding figure for our study was 100%. Fibroadenomas accounted for 60% 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]. Peak

incidence of fibroadenoma ranged from the 21-30 years, 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.

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 12%. The mean age at presentation was 26.4 years. In the age group of 21-30 years, there were 38 patients. This was almost similar to the study done by Navneet Kaur *et al* [16].

Incidence of breast pain in our series was 30%, 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 9% of all the breast complaints in his study, which was almost equal to the 4% incidence which was found in our study.

Out of the 4 cases of nipple discharge, 2 were intraductal papilloma with bloody nipple discharges and 2 were of breast abscess with purulent discharge. 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. Incision and drainage was done in 6 cases of breast abscesses.

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 [19-21]. Excision was the commonest mode of treatment in all cases. Incision and Drainage was done in 6 cases of Breast Abscesses. Subcutaneous mastectomy was done in 8 cases of Gyncaeomastia.

Conclusion

A benign breast disease 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 causes of lumps are relatively uncommon. Breast pain may occur alone or in association with a lump or a nipple discharge. FNAC has become a routine test in evaluating the breast lesion, either benign or malignant. Trucut biopsy is almost abandoned due to its high morbidity and difficulty of procedure. Incisional biopsy has no role in benign breast diseases. Surgery is the definite modality of treatment. Though conservative treatment is preferred in fibroadenosis excision of painful lumps give relief to the patients' symptoms.

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