The Pattern of Benign Breast Diseases in Rural Hospital in India

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Background: Benign breast diseases are most common cause of breast problems. Up to 30% of women suffer from benign breast diseases and requiring treatment at some time in their lives. Benign breast diseases are 5 to 10 times more common than breast cancer. Until recently benign disorders of the breast has been given less importance than breast cancer. Consequently, many patients with benign breast diseases receive little attention from clinicians.
Methods: The present cross-sectional study was carried out in Acharya Vinoba Bhave Rural Medical College and Hospital during the period April 2007 to September 2009. A total of 481 patients had breast disease, among these 380 patients had benign breast disease and which are included in the study.
Results: Among all the benign breast diseases, right sided breast involvement was more common constituting 181 (47.63%) cases while left breast involvement was less common constituting 151 (39.73%) of the patients. Bilateral involvement was seen in only 48 (12.63%) of patients. The pattern of benign breast disease, fibroadenoma was the most common lesion constituting 160 (42.1%) cases.

Introduction

During the past decade there has been increasing interest in benign breast diseases for number of reasons:-

1. Patients started demanding investigation and treatment for the benign breast diseases. These have participated in scientific studies, classification and treatment of their conditions.
2. There is a question of pre-malignant disorders and histological features, which imply an increased risk of breast cancer. Increasing understanding of these conditions may prove important in understanding the pathogenesis of breast cancer and defining the high risk groups in whom regular surveillance may be beneficial.
3. Finally, recently introduced breast screening programs are likely to present pathologists and clinicians with as yet ill defined histological entities, which may be of importance in understanding the development of invasive cancer and its eventual treatment

Thus, most of the previous epidemiological studies were based on histopathological evaluation, thus concentrated on fibroadenoma and fibrocystic disease neglecting fibroadenosis and breast pain which has significant contribution in benign breast disease. On this background the present study was undertaken to analyze pattern and estimate the epidemiological burden of benign breast diseases in a rural hospital.

Patients and Methods

The present cross-sectional study was carried out in Acharya Vinoba Bhave rural Medical College and hospital during the period April 2007 to September 2009. A total of 481 patients had breast disease, among these 380 patients had benign breast disease and which are included in the study. A detailed clinical history of symptoms related to the breast such as mastalgia, lump in breast, nipple discharge, retraction and their relation with menstruation was noted. Details of family history, menstrual history and history of malignancy of the organ were inquired. Breast was examined with respect to nipple, areola, details of the lump including size, site, surface, margins, mobility, consistency, fixity to underlying structures, skin and chest wall. Axilla of same side is examined for lymph nodes. The local examination was completed only after the examination of opposite breast and

axilla. The systemic examination included respiratory system, cardiovascular system, central nervous system, per abdomen, per vaginal and per rectal examination. Clinical record was maintained in each case on the proforma. Informed and written consent was taken in each case before interventional procedures. The ultrasonographic examination of breast was done with machine, sonoline model no. G-60, with hand held microtransducer of center frequency 7.5MHZ. The ultrasonographic examination was carried out with special reference to site, size, echogenecity, heterogenecity, margins, parenchymal interface of breast lesion & presence or absence of microcalcification. The final impression was noted.

Fine needle aspiration cytology was done in patients with palpable lump in breast and suspicious lesions on sonomammography. FNAC was done by using 22 gauze needle attached to 10cc. disposable syringe. The smears are prepared on a clean slide and sent for cytological examination

Results

A total of 18659 new patients attended the surgical outdoor patient department, out of which 481 patients had breast disease. 380 had benign breast disease and 101 had malignant breast disease. Thus, hospital incidence of benign breast disease was calculated as 2.03 % and that of malignant breast disease was calculated as 0.54 %. The benign to malignant ratio was calculated as 4: 1. The total magnitude of problem of breast disease in the hospital setup was calculated as 2.03 %.

In the present study of 380 female patients with benign breast diseases, 181 (47.63%) had right sided breast involvement while 151 (39.73 %) patients had left breast involvement whereas bilateral involvement was seen in 48(12.63%) patients.

In this study Fibroadenoma was more commonly seen in age group of 11-30 years constituting 119 (74.3%) of all cases followed by 29 (18.1%) cases in age group of 31-40 years. Giant fibroadenoma (6) and multiple fibroadenoma (3) were more commonly seen in age group 21-30 years. Only one case of fibroadenoma was seen in a paunder 60 years.

Table 1. Incidence of Benign Breast Disease in AVBRH

Incidence in hospital setup	Number(18659)	Percentage (%)
Breast disease	481	3.1
Benign breast disease	380	2.03
Malignant disease	101	0.54

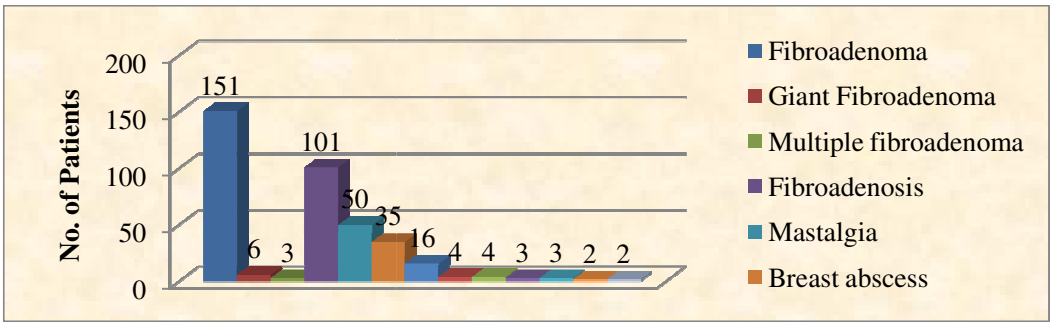

Figure 1. The Diagnosis of the breast diseases are as shown in the graph.

Considering the size of lumps in fibroadenomas, it was seen that majority of the solitary fibroadenomas 84 (55.6%) cases had size < 2 cm followed by 67 (44.3%) cases having size between 2-5 cm. All the cases of giant fibroadenomas had size more than 5 cm as per definition while majority of multiple fibroadenomas 2 (66.66%) cases had size between 2-5 cm.
Fibroadenosis was more commonly seen in age group of 21-30 years constituting 51 (50.4%) cases followed by 31-40 years constituting 28 (27.7%) cases and 41-50 years constituting 16 (16.8%) cases. No case of fibroadenosis was seen below 10 years and above 60 years.

Breast abscess was more commonly seen in age group of 21-30 years constituting 22 (62.8%) cases followed by 31-40 years constituting 11 (31.4%) cases. 1 cases were seen in age group of 11-20 years and only one cases were seen in age group of 41-50 years which constituted the group of non lactational breast abscess. No case of breast abscess was seen below 10 years and above 50 years. Mastalgia was more commonly seen in age group of 21-30 years constituting 33(66%) cases followed by 31-40 years constituting 9 (18.0%) cases and 41-50 years constituting 8(16%) cases. No case of mastalgia was seen below 20 years and above 50 years.

Mastitis was more commonly seen in age group of 21-30 years constituting 11 (68.75%) cases followed by 31-40 years constituting 5(31.25%) cases. No case of mastitis was seen below 20 years and above 40 years. In the present study of 380 cases of benign breast disease, pain was seen in 246 (64.7%) patients. The other lesions which had breast pain included 3 cases of duct ectasia, 2 cases of tuberculosis and 4 cases of galactocele. The breast lump was seen in 280 (57.3%) cases. The other lesions which had breast lump included 2 cases of papilloma, 3 cases of galactocele, 3 cases of duct ectasia, 3 cases of phyllodes tumour, 2 cases of tuberculosis and 2 cases of lipomas. Breast nodularity was seen in all cases of fibroadenosis i.e 101 (26.5%) cases. Nipple discharge was seen in 21 (5.5%) cases. The other lesions which had nipple discharge included 2 cases of papilloma, 3 cases of duct ectasia and 2 cases of galactocele. Fever was seen in 37 (9.7%) cases. The other lesions which had fever included 2 cases of tuberculosis and 2 cases of duct ectasia.

In the present study, among a total of 380 patients, only clinical diagnosis was done in 147 cases. These were not confirmed by fine needle aspiration cytology or histopathology because either they were confirmed with surety clinically or the patient was not willing for investigation or surgery or the patient did not follow up or the lesion was so small that patient was managed conservatively with regular followup. Only fine needle aspiration cytology was done in 95 cases, only nipple discharge cytology was done in 26 cases while histopathology confirmation was done in 98 cases. A total of 156 cases were operated which included 98 cases of which histopathology was available and 35 breast abscess for which histopathology confirmation was not done.

Discussion

For correct diagnosis of breast disease background knowledge of general features of individual breast disease like incidence, age distribution, symptoms and palpatory findings are very important. Benign conditions of breast are significantly more common than the malignant condition in developing countries. . The limited literature available suggests that benign breast disease is a common problem in the developing countries as well[1]. The incidence of these presentations varies in different geographical areas according to the spectrum of the benign breast diseases encountered[2].

The problem in treatment of breast disease in the developing countries is late because of illiteracy, social taboo, unawareness resulting in delay in diagnosis, especially in malignancy as well as in benign lumps in breast. Triple assessment that is combination of clinical examination, breast imaging and aspiration cytology has been shown to be accurate for the preoperative diagnosis of breast lumps. In the present study, 47.6% of patients had right sided breast involvement, 39.7% had left sided and 12.63% had bilateral involvement.

Raju et al[3] studied 1051consecutive breast biopsies over a period of 6 years and found that the right side was involved in 47% of cases, the left in 48% cases whereas 5% had bilateral involvement. In the current study, among benign breast disease, fibroadenoma was the most common and constituting 42.1% of cases among which solitary fibroadenoma accounted for 39.7%, 1.5% were giant fibroadenomas and 0.7% were multiple fibroadenoma.

Similar results were obtained by Khanna et al in 1988 (38.4%), Iyer et al[5] in 2000 (35.0%), and Mayun et al[6] in 2008 (39.8%). In all the above mentioned series, fibroadenoma was found to be the most common benign breast disease. Thus, the present study is in concordance with the studies available in the literature. The total incidence of fibroadenomas reported by Krishnaswamy et al[1] (6.9%) is less because it was a cross sectional analysis of women undergoing routine health checkup over a period of 10 years,he found that many females not presenting with any complaints while the present study included women who presented to hospital with some complaints related to breast. Siddiqui et al[7] also showed decreased incidence of fibroadenomas (17%) because his studies was based on histopathological analysis and he studied 3279 cases at tertiary care hospital while present study was based on clinical history and examination and all cases were not subjected to histopathology. Arihiro et al[8] reported higher incidence of fibroadenomas 84.6% in their study as the study was based on data retrieved from tumour tissue registry file between 1973 to 1995. The data did not included cases of mastalgia which were diagnosed purely on clinical basis in present study. Similarly, Akhator et al[9] reported higher incidence of fibroadenomas 68.0% in their study as the data was a 5 year retrospective review of all histologically proven benign breast lesions and did not include clinical lesions like mastalgia. Also, Irabor et al[10] reported higher incidence of fibroadenomas 64.3% in their study as the data was a retrospective data of all breast biopsies over a period of 8 years and 3 months.

The next common diagnosis was fibroadenosis constituting 101 (26.5%) lesions. Iyer SP et al in 2000[5] reported similar incidence (28.3%) of fibroadenosis and Irabor et al in 2008[10] (22.7%). The present study is in concordance with the study of Iyer et al[5] and Irabor et al[10]**.** Siddiqui et al[7] and Akhator et al[9] had lower incidence of fibroadenosis of 13% and 14.2% respectively. Kamal et al[6] reported a higher incidence of fibroadenosis (65.5%) as was reported by Memon et al[11] (66.3%) as the study was based on 500 young females in age group of 15-25 years.

Breast abscess accounted for 9.2% of lesions as compared to the 8.0% reported by Ochicha O et al[12] in 2002 and 6.8% found by Siddiqui et al[7]. Mastitis accounted for 4.2% of the lesions which was comparable with the 5% reported by Iyer et al[5] but was lower than the 8.0% recorded by Mayun[13] et al in 2008.

Phylloides tumour represented 3 (0.7%) of all lesions which is similar to that reported by Akhator et al[9] in 2007 (0.65%). Other series have reported a higher incidence of phylloides tumour. In the present study, fibroadenoma was more commonly seen in age group of 11-30 years. Similar results were shown by Khanna et al[4] in 1988 (11-30 years), Iyer SP et al in 2000[5](<30 years), Mcfarlane et al[14] in 2001 (mean 20 years), Ochicha et al[12] in 2002 (mean 21 years), Siddiqui et al[7] in 2003 (mean 27 years), Akhator et al[9] in 2007 (mean 23.9 years) and Irabor et al[10] in 2008 (mean 24.4 years). In most of the above mentioned series, fibroadenoma had the most common age of presentation 11- 30 years. Thus, the present study is in concordance with the studies available in the literature.

Fibroadenosis was more commonly seen in age group of 21-30 years. Similar results were shown by Khanna et al[4] in 1988 (21-30 years), Iyer et al[5] in 2000 (<30 years) and Akhator et al[9] in 2007 (mean 26.6 years). Thus, the present study is in concordance with the above study. Breast abscess was more commonly seen in age group of 21-30 years. A slightly higher age group was shown by Akhator et al[9] in 2007 (mean 39.0 years). Mastitis was more commonly seen in age group of 21-30 years. Similar results were shown by Khanna et al[4] in 1988 and Ochicha et al[12] in 2002. Thus, the present study is in concordance with the above study available in the literature.

In the present study of 380 patients, the most common symptom was breast lump seen in 84.1% of patients followed by breast pain in 64.7% of cases while nipple discharge was seen reported in 5.5%

of patients. Dixon et al [15] conducted a study and found that breast lump in 69%, breast pain in 50% cases and nipple discharge in 5% of cases. Iyer et al[5] studied 60 patients and found breast lump in all the (100%) whereas breast pain and nipple discharge were present in 50% and 15% respectively. Krishnaswamy et al[1] examined a total of 216 patients with benign breast disease and found that breast pain was present in 56.9% of patients while breast lump was present in 13%. Nipple discharge was present in only 3(1.4%) patients.

Memon et al (2007)[11] in their study of 500 young females (15 – 25 years) found that breast lumps were present in all 500 (100%) patients while breast pain was complained by 210 (71.42%) patients.

Most of the authors' studies mentioned above showed that breast lump was the most common presenting symptom followed by breast pain and nipple discharge except for Krishnaswamy U et al in 2003[1]which mentioned breast pain as the most common presenting symptom followed by breast lump. The findings in the present study are in accordance with majority of the studies reported in the literature except that, in our study, 3 patients had all the three symptoms of a lump, pain and nipple discharge.

Akhator et al[9] in 2007 conducted a study and concluded that fibroadenoma was more commonly seen in left side constituting 53 (49.9%) cases as compared to right side 46 (43.4%) cases while bilateral involvement was seen in 7 (6.6%) cases. Fibroadenosis was more commonly seen in right side constituting 10 (52.6%) cases as compared to left side constituting 9(47.4%) cases while no bilateral involvement was seen. Breast abscess was more commonly seen in left side constituting 5 (71.4%) cases as compared to right side constituting 2(28.6%) cases while no bilateral involvement was seen.

In the current study, solitary fibroadenoma and multiple fibroadenoma were on the right side in 72(47%), on the left in 54 (38.6%) of cases and were bilateral in 25(16.5%) of the cases. Fibroadenosis was also more commonly found in right breast and constituted 52(51.4%), left sided in 39(38.1%) and bilateral in only 10 (10.5 %) of cases.

In cases of breast abscesses, the right side involvement was in 13(37.1%), left side was involved in19 (54.2%) and were bilateral in 3(8.5%) of the patients.Thus in breast abscess left side was commonly involved than right side. Thus it is seen that present study is in concordance with the study of Akhator et al[9].

In present study, breast lumps commonly involved the upper outer quadrant which was in agreement with findings by Haque et al[16,] Gupta et al[17], Alam et al[18], Hussain et al[19] and Iyer et al[5].

It was seen that accuracy of clinical examination for detection of benign breast diseases was 99% as compared to histopathology and 96% as compared to cytology. The clinical diagnosis for fibroadenomas and phylloides tumour was correlated with histopathology and sensitivity of clinical diagnosis was found to be 99.4% for fibroadenoma and 100% for phylloides tumour. The clinical diagnosis for fibroadenosis, breast abscess, mastitis, galactocele and tuberculosis was correlated with fine needle aspiration cytology and the sensitivity was found to be 97% for fibroadenosis and 100% for breast abscess, 90.5% for mastitis, 85.8% for galactocele and 33.3% for tuberculosis.

Iyer et al[5] in 2000 conducted a study and concluded that the sensitivity of clinical diagnosis in correlation to histopathological diagnosis for fibroadenomas was 95.45%, 100% for fibroadenosis, mastitis, galactocele and phylloides tumour, 81.82% for breast abscess and 75% for tuberculosis. The present study is in agreement with clinical sensitivity for diagnosis of fibroadenomas, fibroadenosis and phylloides tumour.

Summaryand Conclusions

The benign to malignant breast diseases ratio was calculated as 4: 1. The hospital incidence of benign breast disease was calculated as 2.03 % and that of malignant breast disease was calculated as 0.54 %. The total magnitude of problem of breast disease in the hospital setup was calculated as 2.03%. Considering the pattern of benign breast disease, fibroadenoma was the most common lesion constituting 160 (42.1%) cases and which included 151 (39.73%) cases of fibroadenomas, 6 (1.5%)

cases of giant fibroadenomas and 3 (0.7%) cases of multiple fibroadenomas. Fibroadenosis (presently termed fibrocystic disease) was the second most common lesion constituting 101 (26.1%) of all cases followed by mastalgia and which constituted 50 (13.1%) of all cases.

Breast abscess was seen in 35 (9.2%) of all cases while mastitis constituted 16 (4.2%) cases. Other benign breast diseases included papilloma 4 (1.1%) cases, galactocele 4 (1.1%) cases, duct ectasia 3 (0.7%) cases, cystosarcoma phyllodes tumour constituted 3 (0.7%), tuberculosis 2(0.5%) cases and lipomas 2 (0.5%) cases.

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