

Original research article

An observational study to evaluate the clinical and pathological profile of benign breast conditions

Dr. Akhilesh Kumar¹, Dr. I.S. Thakur²

¹Senior Resident, Department of General Surgery, Patna Medical College and Hospital,
Patna, Bihar, India

²Professor & HOD, Department of General Surgery, Patna Medical College and
Hospital, Patna, Bihar, India

Corresponding Author: Dr. Akhilesh Kumar

Abstract

Background: Benign breast conditions are associated with morbidity and great concern for the patient and are 4-5 times more common than breast cancer. Benign breast diseases are the most common cause of breast problems in females and it is more frequent than malignant ones up to 30% of women will suffer from a benign breast disease requiring one or other sort of treatment at some part of their lives.

Aim: Aim of this study was to evaluate the clinicopathological profile of benign breast diseases in women.

Methods: A Prospective study was conducted in the Department of General Surgery, Patna Medical College and Hospital, Patna, Bihar, India for one year. Patients presented with different breast related problems like lump in breast, nipple discharge, associated fever and mastalgia were admitted in surgical ward for evaluation.

Results: In the present study, 100 cases were examined and analysed. Fibroadenoma formed the most common benign breast disease accounting for 40 cases (40%), followed by fibroadenosis in 23 cases (23%). Benign breast disease was commonly seen in the age group of 20-30 years constituting 45% of all patients followed by 28% cases in age group of 30-40 years. Among all the benign breast diseases, left sided breast involvement was more common 48 (48%) cases while right breast involvement was less common constituting 41 (41%) patients. Bilateral involvement was seen in only 11 (11%) patients. Considering the pattern of benign breast diseases, fibroadenoma was the most common lesion constituting 40 (40%) cases followed by fibroadenosis (fibrocystic disease) constituting 23 (23%) cases, fibroadenoma with fibrocystic changes constituting 15 (15%) and breast abscess constituting 6 (6%) cases. Other benign breast diseases include phylloides tumour 4 (4%), lipomas 2 (2%) and 2 (2%) galactocele. Patients with breast lump 81%, patients with breast pain 37% and patients with nipple discharge 3%.

Conclusion: In short, a comprehensive clinical history and a triple assessment would suffice the tool for effective diagnosis of Benign breast diseases within 72 hrs. With correct radiological and cytological assessment unnecessary morbidity associated with surgeries can be avoided in some patients. **Keywords:** Breast, Tumor, Adolescent, Benign, Fibroadenoma

Introduction

The breast is the most important feature of female anatomy and an integral part of female reproductive system.¹ They are symbols of female fertility and womanhood. However, a reluctance on the part of the patient to complain about breast problems is universal and have

led to a neglect of it and often delayed detection even in well-educated females.¹ Benign breast conditions are associated with morbidity and great concern for the patient and are 4-5 times more common than breast cancer. It is 10 times more common than cancer in west. Benign breast diseases are the most common cause of breast problems in females and it is more frequent than malignant ones up to 30 % of women will suffer from a benign breast disease requiring one or other sort of treatment at some part of their lives.²⁻⁷ until recently benign disorders of breast were regarded as relatively unimportant. As a result, many patients with benign breast disease received rather scant attention from clinicians. There have been relatively little academic investigations into complex subject.⁸ during the past decade there has been increasing interest in benign breast disease. More patients demand investigations and treatment for symptoms of benign disease, which in turn has increased the number of women referred to specialist breast disease units.⁸ Many women have symptoms of breast disease but few have cancer. Yet these symptoms are understandably a source of great concern for women for women. The challenge for physician is to distinguish between benign and malignant lesions and to know when to treat and when to reassure. Making such discrimination is not easy as the condition are diverse and vary in presentation.⁹ There is a question of premalignant disorders and histologic features that may imply an increased risk of breast cancer. Increasing understanding of these conditions may prove important in understanding the pathogenesis of breast cancer and in defining high risk group in whom regular surveillance may be beneficial. Clinicians must therefore provide a high degree of diagnostic accuracy while at the same time ensuring that an excessive rate of biopsy is prevented.⁸ Aim of this study was to evaluate the clinicopathological profile of benign breast diseases in women.

Material and methods

A Prospective study was conducted in the Department of General Surgery, Patna Medical College and Hospital, Patna, Bihar, India for one year, after taking the approval of the protocol review committee and institutional ethics committee. patients presented with different breast related problems like lump in breast, nipple discharge, associated fever and mastalgia were admitted in surgical ward for evaluation. Patients were clinically examined to record all clinical details. Sonography, mammography and fine needle aspiration cytology was done in selected cases as per need. Patients were posted for surgery as indicated. Final diagnosis was made after histopathological examination of the specimen.

Inclusion criteria:-Patient of either sex, presented with breast lump, nipple discharge, sinus, associated fever and mastalgia in whom histopathology revealed any type of non-malignant BBD were included in the study.

Exclusion criteria:-Patient treated on outdoor patient basis and patient with malignant breast lesions and acute breast abscess requiring incision and drainage were also excluded from the study.

Methodology

All patients satisfying above criteria were considered for the study. All clinical records were collected, and evaluated for various parameters like age, sex, type of breast disease. Clinical, imaging and histopathological diagnosis was noted. Information regarding surgical and medical treatment given to the patients was collected and reviewed. 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

Results

In the present study, 100 cases were examined and analysed. Fibroadenoma formed the most common benign breast disease accounting for 40 cases (40%), followed by fibroadenosis in 23 cases (23%). Benign breast disease was commonly seen in the age group of 20-30years constituting 45% of all patients followed by 28% cases in age group of 30-40years. It is extremely uncommon in <10yrs and above 55years.

Among all the benign breast diseases, left sided breast involvement was more common instituting 48 (48%) cases while right breast involvement was less common constituting 41 (41 %) patients. Bilateral involvement was seen in only 11(11%) patients. Considering the pattern of benign breast diseases, fibroadenoma was the most common lesion constituting 40 (40%) cases followed by fibroadenosis (fibrocystic disease) constituting 23 (23%) cases, fibroadenoma with fibrocystic changes constituting 15(15%) and breast abscess constituting 6(6%) cases. Other benign breast diseases include phylloides tumour 4 (4%), lipomas 2(2%) and 2(2%) galactocele.

Table 1: Spectrum of benign breast diseases

Type	Number of Cases	Percentage (%)
Fibroadenoma	40	40
Cystosarcoma phylloides	4	4
Fibroadenosis	23	23
Breast abscess	6	6
Duct ectasia	2	2
Lipoma	2	2
Fibroadenoma with fibrocystic changes	15	15
Duct papilloma	3	3
Galactocele	2	2
Accessory breast	1	1
TB Mastitis	1	1
Sebaceous cyst	1	1
Total	100	100

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

Disease	Below 20yr	20-30	30-40	Above 40	Total
Fibroadenoma	6	21	9	4	40
Cystosarcoma phylloides		1	1	2	4
Fibroadenosis	5	10	7	1	23
Breast abscess		2	3	1	6
Duct ectasia		1	1		2
Lipoma		1	1		2
Fibroadenoma with fibrocystic changes	7	4	3	1	15
Duct papilloma		2	1		3
Galactocele		2			2
Accessory breast			1		1
TB Mastitis			1		1

Sebaceous cyst		1			1
Total	18	45	28	9	100

Table 3: Site of involvement

Disease	Rt Breast	Lt Breast	Both	
Fibroadenoma	14	20	6	40
Cystosarcoma phylloides	1	2	1	4
Fibroadenosis	8	11	4	23
Breast abscess	2	4		6
Duct ectasia	1	1		2
Lipoma	1	1		2
Fibroadenoma with fibrocystic changes	8	7		15
Duct papilloma	2	1		3
Galactocele	1	1		2
Accessory breast	1			1
TB Mastitis	1			1
Sebaceous cyst	1			1
Total	41(41%)	48 (48%)	11 (11%)	100

Table 4: Different types of presentation and their incidence

Presentation	No of patients	Percentage (%)
Breast lump only	60	60%
Breast lump + pain	19	19%
Breast lump + pain + nipple discharge	2	2%
Breast pain only	16	16%
Nipple discharge only	3	3%

Patients with breast lump 81%, patients with breast pain 37% and patients with nipple discharge 3%.

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 we found fibroadenoma was the most common breast lesion in our study constituting 40 cases (40%), benign breast lesions. Similar findings were reported by Amr et al,¹⁰ Kulkarni et al,¹¹ Malik et al.¹² In their study they found most common benign breast lump was fibroadenoma. Amr et al¹⁰ reported 30.7%, Kulkarni et al.¹¹ 62.32%, Malik et al ¹² 41 %, cases of fibroadenoma. In present study the most common age group was 20-30years constituting 45% of fibroadenoma 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.¹³ observed maximum number of cases in 30-40 years. Amr et al ¹⁰ reported maximum incidence of fibrocystic disease in 31-35 years. In the present study the maximum age incidence observed in the age group of 20-30 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.^{14 15}In present study, 81% patients presented with lump in breast. Kulkarni et al.¹¹ observed lump as main presenting symptom in most of the benign proliferative breast lesion, which is in accordance with this study. Malik et al.¹² 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 20-30 years and majority of them were lactating mothers comparable with findings of Malik et al.¹²

Most of cases of granulomatous mastitis were in between 30-40 years of age. Galea et al.¹⁶ 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 1 %. Ikard and Perkins¹⁷ and Haagensen,¹⁸ Shinde et al.¹⁹ 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 30-40 years of age group, which is comparable with incidence reported by Tewari et al.²⁰ (20-50 years of age group) while Goldmann et al.²¹ observed maximum number in 20- 50years of age.

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(81%) cases, patients with breast pain 37% and patients with nipple discharge 3%.

More than one symptom was present for the same patient. Among 37 (37%) patients with breast pain, 16(16%) 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. The pain was cyclical in 22 patients and was non-cyclical in 16 cases. Among the 5 cases with nipple discharge, 3 case presented with nipple discharge only, without any associated lump or pain. The cause for 3 cases was intraductal papilloma and for the rest, it was mammary duct ectasia.

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 good sensitivity and specificity 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 90% in diagnosing fibroadenoma. Surgical excision is the effective treatment for most of the benign breast disease nearly upto 91% cases. Wide excision and simple mastectomy needed rarely. Women who came for follow up after surgical procedure were satisfied by treatment.

Conclusion

In short, a comprehensive clinical history and a triple assessment would suffice the tool for effective diagnosis of benign breast diseases within 72 hrs. With correct radiological and cytological assessment unnecessary morbidity associated with surgeries can be avoided in some patients.

References

1. Krishnaswamy U. Profile of benign breast diseases in Urban India. *Ind J Surg.* 2003;65:178-81.
2. Khemka A, Chakravarthi N, Shah S, Patel V. Palpable breast lumps: fine needle aspiration cytology versus histopathology, a correlation of diagnostic accuracy. *Internet J surgery.* 2009;18:1.
3. Cole P, Mark Elwood J, Kaplan SD. Incidence rates and risk factors of benign breast neoplasm. *Am J Epidermal.* 1978;108:112-20.

4. Hutchinson WB, Thomas DB, Hamlin WB, Roth GJ, Peterson AV, Williams B. Risk of breast cancer in women with benign breast disease. *J Nat CancInst.* 1980;65(1):13-20.
5. Mansel RE. Benign breast disease. *Practitioner.* 1982;232:830-37.
6. Sainsbury RC. *Bailey and Love's Short Practice of Surgery .25th.* London: Edward Arnold Ltd; 2008. Breast IN: Norman WS, Bestrode CJK, P. Ronan O'Connell editors; pp.827-35.
7. Love SM, Gelman RS, Silen W. Fibrocystic diseases of the breast – a non-disease? *N Eng J Med.*1982;309:1010-4.
8. Greenal MJ, Benign conditions of breast eds. In: Morris PJ, Wood WC Eds. *Oxford textbook of surgery Vol 2, 2nd ed,* Newyork: Oxford University Press Inc. 2000:1172-89.
9. Uma K. Refractory mastalgia or inadequately treated mastalgia? *Indian J Surge* 2004; 66:89-92
10. Amr SS, Abdul Rahman, M Sadi, Fazallahi, SS Sheikh. The Spectrum of Breast Diseases in Saudi Arab Females: A 26 yr Pathological Survey at Dhahran Health Center. *Ann Saudi Med* 1995;15(2):125-132.
11. Kulkarni S, Vora I. M, Ghorpade K G, Shrivastava S: Histopathological spectrum of breast lesions with reference to uncommon cases. *ObstetGynecol India*2009; 59(5):444-452.
12. Malik MAN, Salahuddin O, Azhar M, Dilawar O, Irshad H, Sadia, Salahuddin A. Breast diseases; Spectrum in WahCantt; POF Hospital experience. *Professional Med J Sep* 2010; 17(3):366-372.
13. EchejohGodwins, D David and J Akeem. Histopathologic analysis of benign breast diseases in Makurdi, North Central Nigeria. *Int Nat J of Medi and Med Sci.* May 2011; 3(5):125-128.
14. Naveen N, Avijeet M and Vikrant M.A clinical study of benign breast disease in rural population. *Journal of Evolution of Medical and Dental Sciences* 2013; 12:5499-511.
15. Rashid R, Haq SM, Khan K, Jamal S, Khaliq T and Shah A. Benign breast disorders, a clinicopathological Study. *Annals of Pakistan Institute of Medical Sciences* 2005; 1:187-90.
16. Galea MH, Robertson JF, Ellis IO, Elston CW, Blamey RW. Granulomatous lobular mastitis. *Aust N Z J Surg.* 1989 Jul;59(7):547-50.
17. Ikard RW and Perkins SD. Mammary tuberculosis; a rare modern disease. *South Med. J* 1977; 70:208-12.
18. Haagensen CD. Infections in the breast. In: *Disease of breast.* Philadelphia W.B. Saunders 3rdedn. 1986; 333- 342.
19. Shinde SR, Chandaworker RY and Deshmukh SP. Tuberculosis of the breast, masquerading as carcinoma. A study of 100 patients. *World J Surg.*1995;19:379-8.
20. M Tewari and H S Shukla. Breast tuberculosis: diagnosis, clinical features and management. *Indian J Med Res* 2005; 122:103-110.
21. Goldman KP: Tuberculosis of the breast. *Tubercle.* 1978; 59:41.

Received: 18-06-2020 || Revised: 08-07-2020 || Accepted: 22-07-2020