

Original Research Article

DOI: <https://dx.doi.org/10.18203/2349-2902.isj20205448>

A clinicopathological profile of benign breast diseases in women in a tertiary care hospital

**Mufsil Parappurath, Samadarsi Raghavan, Jayasankar Vikraman Nair,
Sunandha Kumari Lawrence Thulasibhai***

Department of General Surgery, Sree Gokulam Medical College and Research Foundation, Venjarammoodu, Kerala, India

Received: 14 November 2020

Revised: 04 December 2020

Accepted: 07 December 2020

***Correspondence:**

Dr. Sunandha Kumari Lawrence Thulasibhai,
E-mail: Statisticsclinic2018@gmail.com

Copyright: © the author(s), publisher and licensee Medip Academy. This is an open-access article distributed under the terms of the Creative Commons Attribution Non-Commercial License, which permits unrestricted non-commercial use, distribution, and reproduction in any medium, provided the original work is properly cited.

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. Objectives were to find out the proportions of various benign breast lesions among women aged 18 yrs and above.

Methods: A prospective study was conducted in the Department of Surgery, Shree Gokulam Medical College, Thiruvananthapuram for a period of 18 Months from January 2016 to June 2017. A total of 180 study subjects were included in the study. All the women aged more than 18 yrs. old attending the surgery OPD with palpable or immunologically detected breast lesions will be consecutively selected for the study.

Results: The commonest case among the study population was fibroadenoma 56 (31.1%). There were 9 cases of duct ectasia, 8 duct papilloma's. Fibroadenoma could be diagnosed clinically with an accuracy of about 88% (56 cases) out of total 69 cases.

Conclusions: 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.²⁻¹⁰

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.¹¹

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.¹¹

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.¹²

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.¹¹

This is now easier with a systematic approaches and careful history and physical examination and development of diagnostic aids such as mammography, ultrasonography and aspiration cytology.

Objective

The objective of the study was to find out the proportions of various benign breast lesions among women aged 18 years and above.

METHODS

A prospective study was conducted in the Department of Surgery, Shree Gokulam Medical College, Thiruvananthapuram for a period of 18 Months from January 2016 to June 2017.

Based on the study done by Dr Uma Krishnaswamy 12 in 2003 regarding clinico pathological profile of benign breast diseases in urban females in India where the prevalence was found to be 12.75%, considering the confidence interval at 95% and absolute precision at 5 the sample size derived was found to be 180.

All the women aged more than 18 yrs. old attending the surgery OPD with palpable or immunologically detected breast lesions will be consecutively selected for the study.

Inclusion criteria

Inclusion criteria were all female patients aged more than or equal to 18 years; clinically or immunologically detected breast lesions.

Exclusion criteria

Exclusion criteria were clinically suspicious or pathologically proven malignancy; prepubertal age group and male sex; non breast parenchymal lesions.

After obtaining written informed consent a performa will be filled with patient particulars, history and clinical findings in female patient attending surgery OPD with breast related symptoms. patients will be followed up with histopathological, cytological and radiological studies in indicated cases. The patients will be followed up for 1 year. Most common benign breast related symptoms and condition among the study group and probable risk factors for the same will be analyzed. The percentage and proportions of patients with different benign breast diseases and their presenting symptoms will be obtained.

The data obtained will be entered in excel sheet and the statistical analysis of the results will be done with SPSS. The significance of the study will be analyzed at p value less than 0.05.

RESULTS

A total of 180 study subjects were selected for the purpose of the study and analyzed.

The mean age of patients presenting with benign breast disease in this study was 35.6 (SD-12.7). About 117 patients were below 40 yrs of age and about 20 % were above 60 yrs. Around 81.7% of patients in this study were married. 43% of the patients were nulliparous. Majority of the patients in this study didn't had any previous history of benign breast disease (Table 1).

Table 1: Social profile of the study participants.

Social Profile	Freq	%
Age (in years)	≤20	22
	21 - 30	54
	31 - 40	43
	41 - 5	41
	>50	20
Marital status	No	33
	Yes	147
Parity	No	43
	Yes	137
Breast fed	No	42
	Yes	138
Previous history of benign breast diseases	No	158
	Yes	22
		12.2

The commonest case among the study population was fibroadenoma 56 (31.1%). The next common was acute breast abscess (20), followed by fibrocystic disease (19). There were 9 cases of duct ectasia, 8 duct papilloma's.

Unlike previous studies this study showed 7 cases of granulomatous mastitis. There was 1 case of benign phyllodes tumor. There was 1 case of parasitic cyst. There were 3 cases of carcinoma breast diagnosed in biopsy in which cytology and radiology was reported as benign (Table 2).

Table 2: Percentage distribution of the sample according to histopathology report.

Histopathology report	Count	%
No diagnosis/not done	42	23.3
Fibro adenoma	56	31.1
Fibrocystic disease	19	10.6
Inflammatory lesion	14	7.8
Duct ectasia	9	5.0
Duct papilloma	8	4.4
Galactocele	1	0.6
Granulomatous mastitis	7	3.9
Diabetic mastopathy	1	0.6
Fibro adenoma with fibrocystic disease	10	5.6
Parasitic cyst	1	0.6
Simple cyst	3	1.7
Fat necrosis	1	0.6
Carcinoma Breast	3	1.7
epithelial proliferative disorder without atypia	4	2.2
Phyllodes	1	0.6

Lump alone detected either by patient herself or by the clinician was the most common presenting complaint in around 71 (39.4%) patients, followed by lump with pain in around 65 (36.1%) patients, followed by either pain (10.6%), nipple discharge (8.9%) (Table 3).

Table 3: Percentage distribution of the sample according to clinical presentation.

Clinical presentation	Count	%
Lump	71	39.4
Pain	19	10.6
Discharge from nipple	16	8.9
Lump + pain	65	36.1
Lump + Discharge	3	1.7
Pain + discharge	5	2.8
Lump + pain + discharge	1	0.6

Majority of the cases were right sided 91 (50.6 %) and only 75 (41.7%) were left sided and about 14 (7.8%) were bilateral. Majority of the cases 81 (45%) were situated in upper outer quadrant (Table 4).

The diagnosis of lumps was confirmed either by cytology or histopathology or in both ways. Fibroadenoma could be diagnosed clinically with an accuracy of about 88% (56 cases) out of total 69 cases. Abscess breast, phyllodes tumor and galactocele and few cases of granulomatous

mastitis was also able to be diagnosed clinically. There were 3 cases of carcinoma breast which could not be diagnosed either clinically or cytological and was evident only in histopathology (Table 5).

Table 4: Distribution of tumor based on the side and quadrant.

		Count	%
Quadrant	Upper outer	81	45.0
	Upper inner	31	17.2
	Lower outer	32	17.8
	Lower inner	8	4.4
	Combination	27	15.0
	Central	1	0.6
Side	Right	91	50.6
	Left	75	41.7
	Bilateral	14	7.8

Table 5: Percentage distribution of the sample according to clinical diagnosis.

Clinical diagnosis	Count	%
Fibroadenoma	77	42.8
Cyclical mastalgia with nodularity	5	2.8
Fibrocystic disease	34	18.9
Phyllodes	1	0.6
Simple cyst	3	1.7
Parasitic cyst	1	0.6
Abscess	25	13.9
Ductectasia	9	5.0
Papilloma	8	4.4
Periductal mastitis	1	0.6
Granulomatous mastitis	7	3.9
Diabetic mastopathy	1	0.6
Fat necrosis	2	1.1
Fibroadenoma with fibrocystic disease	1	0.6
Chronic mastitis	5	2.8

Table 6: Accuracy of predicting fibroadenoma by clinically when biopsy is gold standard.

Clinical diagnosis	Biopsy		
	Fibroadenoma	Others	Total
Fibroadenoma	56	21	77
Others	0	103	103
Sensitivity		100.0	
Specificity		83.1	
False negative		0.0	
False positive		16.9	
Positive predictive value		72.7	
Negative predictive value		100.0	
Positive likelihood ratio		5.9	
Negative likelihood ratio		0.0	
Accuracy		88.3	

Definitive diagnosis of fibrocystic diseases, phyllodes tumor and duct ectasia, duct papilloma, dirofilarial cyst was also diagnosed on histopathology. All together the clinical suspicion of benign breast disease turned out to be true with exception of 3 cases being turning out to be malignant. The diagnostic accuracy ranged up to 88 % for fibroadenoma (Table 6).

DISCUSSION

Benign breast diseases include a heterogeneous group of conditions which range from normal, to aberrations in physiology to frank disease. The patients of BBDs are generally presented with one or more of these complaints- Breast lump, breast pain or nipple discharge. It has been recommended that all patients with discrete breast lump should undergo a triple assessment to make an early assessment. By this approach we provided the diagnosis of most of the benign breast conditions within 72 hrs of initial consultation. In the study of Foncrot LM et al 13 they found that 87.4% of the women who attended the Wesley breast clinic had presented with breast lump, while in the series of Ratnachaikanont a breast lump was the presenting symptom in 75.35% of 331 benign breast patients. The corresponding figure for our study was 39.3%.¹⁴

Most western studies have shown that oral contraceptive pills with decreased progesterone reduced risk of benign breast disease. A study in black population revealed number of relationships between use of oral contraceptives and incidence of benign breast disease. Use of oral contraceptives is extremely low in Indian population and the effect protective or otherwise cannot be ascertained with certainty.¹⁵ In this study none of the patients had the history of OCP or HRT treatment.

Acute breast abscess was found in 25 (13.9%) case in our study. However, no cases of gangrene breast are found in our study as compared to the study done by Shukla and Kumar which reported two case of breast abscess progressing to gangrene as a result of neglect. Majority of inflammatory conditions of breast are found in the lactating mother.

A study conducted among Indian women shows that pain was the most common breast related complaint and mastalgia was the most common clinical problem occurring in the 3rd decade of life.

In the present study pain was the 2nd common presentation where as mastalgia (cyclical and non-cyclical together) was found to be the 2nd common clinical problem occurring in 3rd and 4th decade. Mastalgia was essentially a clinical diagnosis and USG and mammography were used as ancillary tools for diagnosis.

Sonography can be used to accurately classify some solid lesions as benign allowing imaging follow up rather than biopsy.¹⁶

The Sample size is very less and in-depth analysis of the tumors with tumor markers will give better picture about the benign breast disease.

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.

Funding: No funding sources

Conflict of interest: None declared

Ethical approval: The study was approved by the Institutional Ethics Committee

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 Canc Instit. 1980;65(1):13-20.
5. Kelsey JL, Gammon MD. Epidemiology of breast cancer. Epidemiol Rev. 1990;12:228-40.
6. Sarnelli R, Squartini F. Fibrocystic condition and "at risk" lesions in asymptomatic breasts, a morphologic study of post-menopausal women. Clin Exp Obstet Gynecol. 1991;18:271-9.
7. Cook MG, Rohan TE. The patho epidemiology of benign proliferative epithelial disorder of the female breast. J Pathol. 1985; 146:1-15.
8. Mansel RE. Benign breast disease. Practitioner. 1982;232:830-37.
9. Sainsbury RC. Bailey and Love's Short Practice of Surgery .25th. London: Edward Arnold Ltd; 2008. Breast IN: Norman WS, Bulstrode CJK, P. Ronan O'Connell editors; pp.827-35.
10. Love SM, Gelman RS, Silen W. Fibrocystic diseases of the breast – a non-disease? N Eng J Med.1982;309:1010-4.
11. 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.

12. Uma K. Refractory mastalgia or inadequately treated mastalgia? Indian J Surge 2004; 66:89-92
13. Foncroft LM, Evans EB, Hirst C, Hicks BJ. Presentation and diagnosis of adolescent breast disease. Breast. 2001;10(5):399-404.
14. Ratanachaikamont T. Clinical breast examination, palpable breast lesion. J Med Assoc Thai. 2005;88(4):505-7.
15. Pandey TS, Mackinnon JC, Bressler L. Idiopathic granulomatous mastitis-a prospective study of 49 women and treatment outcomes with steroid therapy. Breast J. 2014;20(3):258-66.
16. Starvos at, Thickman D, Rapp CL, Dennis MA, Parker SH, Sisney GA, Solid breast nodule: Use of sonographic to distinguish between benign and lesions. Radiology 1995;196:123-34.

Cite this article as: Parappurath M, Raghavan S, Nair JV, Thulasibhai SKL. A clinicopathological profile of benign breast diseases in women in a tertiary care hospital. Int Surg J 2021;8:63-7.