

CLINICO PATHOLOGICAL STUDY OF BENIGN BREAST LUMP – A HOSPITAL BASED STUDY*Anindita Bhar¹, Sagar Karmakar², Suman Mukherjee³*¹*Assistant Professor, Department of General Surgery, K. P. C. Medical College, Kolkata, West Bengal.*²*Residential Medical Officer cum Clinical Tutor, Department of Ophthalmology, Midnapore Medical College, Paschim Medinipur, West Bengal.*³*Associate Professor, Department of Ophthalmology, Malda Medical College, Malda, West Bengal.*

ABSTRACT

BACKGROUND

Despite the fact that in majority of cases the initial symptom of benign breast disease is a lump, which can be easily detected by the patient herself by self-examination they generally present at a very late stage and this poses a great difficulty in their management. Early and appropriate diagnosis of breast disease is of utmost importance.

AIM

The aim of the study was to find out the relative frequency and commonest site of occurrence of benign breast disorder and their relationship with age, parity, menstrual cycle, and socio-economic status and also to find out the accuracy of investigative procedures in their diagnosis.

DESIGN

This is a cross sectional, interventional. Hospital based study.

MATERIALS AND METHOD

This study was done in 58 female patients in the age group 10 yrs. to 55 yrs. presenting with clinically benign breast lumps randomly chosen from outpatient department and indoor wards of The Calcutta Medical Research Institute, Kolkata. After taking an accurate history and proper clinical examination these patients were sequentially studied by radiological methods (Ultrasonography and mammography), fine needle aspiration cytology (FNAC) and histopathology of removed specimen. Patients were enquired about their age, chief complaints, menstrual history, and use of oral pill, marital status, parity, lactation and socioeconomic status.

RESULTS

79% of the benign breast lumps were found to be between 10–35 years, Fibro adenoma being the commonest one (41.38%) and fibrocystic disease the second most common (29.31%). Breast lump were more common among unmarried and nulliparous females (48.27%), commonest site being upper and outer quadrant (38.8%). 69% patients were associated with an abnormal menstrual status. 76% of the cases were accurately diagnosed by clinical examination, 70% by mammography, 88% by FNAC and 84% by ultrasonography.

CONCLUSION

This clinicopathological study of benign breast lump is a small endeavour on our part to suggest that correct interpretation of clinical, radiological, cytological and histopathological findings will help for accurate diagnosis of benign breast lumps.

KEYWORDS

Benign breast disease, Clinicopathological study, Investigative procedures.

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INTRODUCTION: Ailments of the mammary glands have afflicted mankind from time immemorial. Breast lump is an enigma by itself, as few lumps in the whole of human body can be as baffling for correct diagnosis as breast lump. There were reported cases of inflammatory and malignant breast diseases in the ancient Egyptian records.¹

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In overwhelming majority of cases the initial symptom of breast disease is a lump, which the patient herself discovers accidentally while bathing or dressing easily accessible to palpation and inspection, the breast offers a better opportunity of self-examination than almost any other organ of the body. But tragic fact is that women ordinarily wait a long time before consulting a physician. Benign breast lump is very common in this subcontinent.^{2,3} Though overshadowed by enthusiasm of CA breast, still study of benign breast lump is of great importance because.

- The etiopathogenesis is unknown in many cases so study on this aspect is essential to understand the disease process.
- Some malignant lesions appear benign clinically. So proper investigation is required to assess lump in breast.
- Accurate diagnosis of benign breast lump needed to remove anxiety about breast carcinoma.

It is immensely important to detect breast disease as early as possible. One must have a proper knowledge of gradual evolution of breast tissue and benign breast disease presenting as lump.⁴

MATERIAL AND METHODS: A cross-sectional interventional study was carried out in outpatient department and indoor wards of The Calcutta Medical Research Institute, Kolkata during the period of January 2004 to December 2005. 58 female patients presenting with clinically benign breast lumps have been randomly chosen in the age group 10 yrs.–55 yrs. Male patients were excluded from this study. These patients were further divided in to two age groups 10 yrs. to 35 yrs. and 36 to 55 yrs. and were sequentially studied by clinical radiological methods, fine needle aspiration cytology, USG and histopathology of removed specimen. Final diagnosis was done co-relating the clinical diagnosis with investigation. After taking proper history and thorough clinical examination investigative procedures such as Fine Needle Aspiration Cytology, mammography, Breast Ultrasonography, histopathology examination of biopsy specimen were done. History was elicited as per the following proforma.

- i) Name.
- ii) Age.
- iii) Chief complaints—only lump, lump; with pain, lump with discharge.
- iv) History of Present Illness—Mode of onset, duration of illness, rate of growth of lump, menstrual history—regular/irregular, amount, whether pain cyclically related. Quadrants of breast affected, Use of oral contraceptives.
- v) Past History—H/O previous surgery on breast/ other organ, evening rise temperature, recent child birth.
- vi) Personal History—marital status, parity, lactation, obesity, socio economic status, dietary habits.
- vii) Family History—Family history of breast carcinoma, benign breast disease in close relative.

The patient was clinically examined with reference to history and detailed evaluation of lump was done by palpation and its site, size, margin, consistency, fixity to anatomical structure and draining lymph node were noted. Examination of both breast including axilla and supraclavicular area done thoroughly.

STATISTICAL ANALYSIS: Data was presented as actual numbers and Percentages.

RESULTS: In our study we found that among all patients 41.37% were suffering from fibro adenoma which was the commonest lump encountered. Next in order was fibrocystic disease (29.35%), breast abscess (10.34%), cystosarcoma

phyllodes (6.89%), breast tuberculosis (3.44%), duct papilloma (3.44%), breast antibioma (3.44%) and fat necrosis (1.72%). We also found that commonest age group of benign breast lump was 10–35 years (79.31%). Fibro adenoma was commonly encountered in this age group (91.66%), 64.70% of fibrocystic disease also occurred in this group.

Superolateral quadrant (41.37%) was the commonest site of occurrence of these lumps. Next was superomedial (17.24%), inferomedial (20.70%), inferolateral (12.06%), and periareolar (8.63%).

Nulliparous (including unmarried) were most commonly affected group (51.72%), next was primipara (29.31%) followed by multipara (18.97%).

68.96% patients were associated with abnormal menstrual cycle.

Most of the patients with benign breast disease were from middle class (39.65%), 36.21% were belonging to affluent society only 24.14% females were from lower socioeconomic class.

In our study we also found that by clinical examination 80% of fibro adenoma, 70% of fibrocystic disease, 100% of breast abscess and 100% of cystosarcoma phyllodes can be diagnosed accurately while by mammography it was 88.8%, 71.4%, 75% and 100% respectively. 100% cases of breast abscess and cystosarcoma phyllodes can be diagnosed accurately both by FNAC and USG while 96% of fibroadenoma and 88% of fibrocystic disease had an accurate diagnosis by FNAC and 87.5% of fibroadenoma and 76.4% fibrocystic disease had an accurate diagnosis by USG.

Cases	10 yrs.- 35 yrs.	36 yrs.-55 yrs.	Total
Fibroadenoma	22(91.66%)	2(8.34%)	24 (100%)
Fibrocystic disease	11(64.70%)	6(35.30%)	17(100%)
Breast abscess	6(100%)	0 (0%)	6(100%)
Breast TB	2(100%)	0 (0%)	2(100%)
Cystosarcoma Phyllodes	2(50%)	2(50%)	4(100%)
Duct Papilloma	1(50%)	1(50%)	2(100%)
Fat necrosis	1(100%)	0(0%)	1(100%)
Breast Antibioma	1(50%)	1(50%)	2(100%)
Total (%)	46(79.31%)	12(20.69%)	58(100%)

Table 1: Table showing age distribution of benign breast disorders

Cases	Number	Percentage (%)
Fibroadenoma	24	41.37
Fibrocystic disease	17	29.35
Breast abscess	6	10.34
Cystosarcoma Phyllodes	4	6.89
Breast Tuberculosis	2	3.44
Duct Papilloma	2	3.44
Breast antibioma	2	3.44
Fat Necrosis	1	1.73
Total	58	100

Table 2: Table showing the frequency of occurrence of different benign diseases. (n=58)

Site	No.	%
Superolateral	24	41.37
Superomedial	10	17.24
Inferomedial	12	20.70
Inferolateral	7	12.06
Periareolar	5	8.63

Table 3: Table showing site of occurrence of lumps. (n=58)

Parity	No.	%
Nulliparous (including unmarried)	30	51.72%
Primipara (P1)	17	29.31%
Multipara	11	18.97%
Total	58	100%

Table 4: Table showing association of benign breast disease with parity. (n=58)

Menstrual cycle	No.	%
Abnormal	40	68.96%
Normal	18	31.04%
Total	58	100%

Table 5: Table showing relationship of menstrual status with benign breast disease. (n=58)

Class/No. of cases	No.	%
Below average	14	24.14
Middle class	23	39.65
Above average	21	36.21

Table 6: Table showing relationship of benign breast disease with socioeconomic status. (n=58)

Disease	Histopathological Diagnosis	Clinical diagnosis		Mammography		FNAC		USG	
		C	A (%)	C	A (%)	C	A (%)	C	A (%)
Fibroadenoma	24	20	80	8	88.8	23	96	21	87.5
Fibrocystic disease	17	12	70	10	71.4	15	88	13	76.4
Breast abscess	6	6	100	3	75	6	100	6	100
Cystosarcoma Phylloides	4	4	100	4	100	4	100	4	100
Duct Papilloma	2	1	50	1	50	1	50	2	100
Fat Necrosis	1	0	0	0	0	1	100	1	100
Breast antioma	2	0	0	0	0	0	0	2	100
Breast Tuberculosis	2	1	50	0	0	1	50	1	50

Table 7: Table showing diagnostic accuracy with different investigative procedure. (n=58)

DISCUSSION: The principal diagnostic modalities for breast pathologies are through clinical examination, USG, mammography, FNAC and histopathology. The initial provisional diagnosis must always be confirmed by histopathology. By a single method it is not always possible to diagnose a solid or a cystic lesion or a benign from a malignant lesion.

Development and various physiological changes occur in the normal female breast under hormonal influence. Thus normal breast has a range of appearances depending on the endocrinal status of the patient at that time. Determining what constitutes a dominant mass is often difficult, particularly in premenopausal women. The normal glandular tissue of the breast is nodular and its nodularity is usually most pronounced in the upper outer quadrant of the breast and the area of inframammary ridge. Nodularity particularly when it waxes and wanes during the menstrual cycle, is a physiologic process and is not an indication of breast pathology. Dominant masses are characterized by persistence throughout the menstrual cycle. These masses may be discrete or poorly defined but they differ in character from surrounding breast tissue and the corresponding area in the contralateral breast. The differential diagnosis of a dominant breast mass includes fibro adenoma, cyst, prominent areas of fibrocystic changes and cancer.

Fibro adenoma is the most common benign breast disease and is often bilateral. It is usually seen in fully developed breast during 15–25 years’ period (Bailey and Love). As per Evans (15–25 yrs.) age group is the commonest⁵ and according to Sandison maximum incidence in 21–35 years’ age group⁶ Haque et al showed in his study that 80% patients are below 30 years.⁷ Youngest patient was of 14 years and oldest 55 years. According to Sandhya P. Iyer et al fibro adenoma is commonest and most of the patients are below 30 years’ age group.⁸ In this present study fibro adenoma was commonest and youngest patient was of 12 years, oldest of 45 years. Fibroadenosis or fibrocystic disease which is known as aberration of normal development and involution (ANDI) is a disease found in patients between 15–55 years. It is commoner in peri and post menopause. According to different books (35-50 years) is the commonest age group.^{2,9,10,11} According to Haagensen peak age is 35 years.¹² In our present study most patients are between 10 –35 years of age group. Patients with breast abscess–80% were lactational in our study. This corresponds with observation of Hutchison. Pus for culture and sensitivity mostly found Staph aureus.¹³ Two cases of tuberculosis breast was detected. A case of primary tuberculosis of breast was detected in a young muslim female of 14 years. Another patient with tubercular sinus was found where there was primary pulmonary tuberculosis

with axillary lymphadenitis. This correlates with findings of Bailey and Love.^{2,7,14} Two cases of duct papilloma found. Age incidences were 32 years and 46 years respectively. It is nearly similar with text book statement. Two cases of antibioma has been seen in a patient of 24 years. Though traumatic fat necrosis is common in old age^{2,15} a case of fat necrosis found at the age of 27 years. Four cases of cystosarcoma phyllodes were present in our series. Youngest patient of 26 years and two patients over the age of 40 found. This corresponds with Bailey and Love.

In this study percentage of married woman is 55% and unmarried 45%. Married women presented earlier probably due to less social inhibition. This corresponds with findings of Haagensen (1971)¹² both fibroadenosis and fibro adenoma commoner in unmarried and nulliparous group, correlating with findings of Bailey and Love.² Fibro adenoma and fibroadenosis found more commonly in nulliparous which corresponds with Philip Cole et al¹⁶ in Boston and also by Fabio Parazzini et al in 1983¹⁷ it was stated nulliparity or low parity, late age at first birth associated with increased risk of benign breast disease. Fibroadenosis are often bilateral in this series.

It is clear that hormonal status has an important bearing to breast pathologies. In this series majority of patients (69%) gave history of abnormal.

According Philip Cole et al and Louse A. Brinton et al¹⁸ low socio economic class and obese women are at lower risk of fibro adenoma and fibrocystic disease. Vegetable fat, dietary vit E found to be protective in benign breast disease and intake of red meat were positively associated with risk of proliferative breast disease. It was stated by Heather J. Baer et al.¹⁹

In our study there were only 14% patients with low socioeconomic group. No association with diet found.

According to Haagensen (1956) as upper and outer quadrant contains bulk of mammary tissue, lumps are commonest in that position. In our series lumps were found commoner in superolateral quadrant which correlate with findings of Haagensen (1956),²⁰ Bailey and Love² Sandhya P Iyer.⁸

CONCLUSION: Mammary development and function area initiated by a variety of hormonal stimuli, including oestrogen and progesterone; prolactin oxytocin, thyroid hormone, growth hormone, cortisol.⁹ Some of these changes are cyclical, while others are seen at specific ages or under special circumstances. The morphological changes involve a loss of glandular tissue with increasing age and a relative increase in fat after menopause under influence of decreased oestrogen. This changes can be detected on sonography. So glandular type of breast are only seen in the younger patients and fat replacement breast are in older age group.^{21,22}

In our study we tried to find out the exact diagnosis of benign cases by clinical examination and investigations. Correct diagnosis of benign breast disease is very much important. It is the most common cause of breast problem. Upto 30% of women suffer from it and require treatment (Bailey and Love 2004).² The principal diagnostic modalities

for breast pathologies are through clinical examination, USG, mammography, FNAC and histopathology. The initial provisional diagnosis must always be confirmed by histopathology. By a single method it is not always possible to diagnose a solid or a cystic lesion or a benign from a malignant lesion.

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