

# Breast Diseases - Clinicopathological Correlation: A Three Years Study

S Shengulwar Sayanna<sup>1</sup>, Muvva Uday Shankar<sup>2</sup>, K Ranjith Babu<sup>3</sup>

<sup>1</sup>Associate Professor, Department of General Surgery, Maheshwara Medical College and Hospital, Patancheru, Telangana, India, <sup>2</sup>Junior Resident, Department of General Surgery, Maheshwara Medical College and Hospital, Patancheru, Telangana, India, <sup>3</sup>Assistant Professor, Department of Physiology, Maheshwara Medical College and Hospital, Patancheru, Telangana, India

## ABSTRACT

**Introduction:** To establish the early definite diagnosis in the cases of breast diseases, it is evaluated the relationship between clinical diagnosis, cytological, and histopathological findings. A definite diagnosis of breast disease at the proper time will lead to the correct and successful management. Breasts are the characteristic features of the mammalian family of the animal kingdom. Breasts are present in pairs in all animals. In human beings, mammary glands are present one on each right and the left side of the chest cage in both females and males. The diseases of the breast are more common in females. The common diseases are benign and malignant neoplasm's, infections such as mastitis and breast abscess. The usual clinical presentation is with a breast lump, breast pain, and breast enlargement. Benign breast diseases are not life-threatening, but malignancy is dangerous for life. The most common cause of death in females, all over the world is breast cancer. Therefore, early detection of the malignant condition is essential for successful treatment and better results which increases survival rate.

**Materials and Methods:** A total of 110 female and seven male patients who attended General Surgery Outpatient Department (OPD) of Maheshwara Medical College and Hospital, Chitkul of Telangana State with various types of clinical breast complaints are included in the present study. The data were collected from the outpatient register, operation theater, cytology, and histopathology register. All the patients who received treatment at this hospital from January 2016 to December 2018 are included in this study, after obtaining the Institutional Ethical Committee Clearance. The clinical provisional diagnosis was confirmed by investigations such as local ultrasound and fine-needle aspiration cytology before the definite line of management was planned. The patients who require surgical intervention were treated accordingly, and surgery under the necessary anesthesia was done. The excised specimen was sent for histopathological examination. The correlation between clinical diagnosis and histopathological findings was compared to evaluate accuracy.

**Results and Discussion:** A total of 110 female patients and seven male patients were studied. The age range was from 13 years to 80 years. The youngest girl of 13 years of age was presented with a lump in the left breast and oldest patient was of 80 years female presented with a mass in the right breast. The maximum number of patients presented clinically with a lump in the breast and the second symptom was a pain in the breast. The common breast diseases were benign and malignant neoplasms. In the benign conditions, most common was fibroadenoma (69 patients 62.72%) in young females. In older age >40 years, the breast cancer is common. All the seven male patients with breast enlargement clinically, diagnosed as gynecomastia and histopathologically confirmed.

**Conclusion:** In this series about 110 female and seven male patients who attended general surgery OPD in 3 years were studied. The provisional clinical diagnosis was compared with cytological and histopathological findings, which was found to be accurate in 86.3% of cases. The common clinical presentation with breast lump was histopathologically found to be fibroadenoma. The older females after menopause or above 50 years of age usually presented with a mass in the breast clinically diagnosed as cancer breast histopathologically proved in all cases 100%.

**Key words:** Benign breast conditions, Malignant breast conditions, Breast diseases

### Access this article online



www.surgeryijss.com

Month of Submission : 01-2019  
Month of Peer Review: 01-2019  
Month of Acceptance : 02-2019  
Month of Publishing : 02-2019

## INTRODUCTION

Breasts are the characteristic features of the mammalian family of animal kingdom.<sup>[1]</sup> Breasts are present in pairs in all animals. In human beings, mammary glands are present one on the right and one on the left side of chest cage in both females and males. In females at an

**Corresponding Author:** Dr. K. Ranjith Babu, Department of Physiology, Maheshwara Medical College and Hospital, Patancheru, Telangana, India. Mobile: +91-9912302200. E-mail: drranjithbabu@gmail.com

adolescent age, mammary glands develop to form breasts due to the effect of female sex hormones. The breasts are functionally responsible for secretion of milk for newborn baby. Significant changes in the breasts are seen during adolescence, menarche, and menopause. The diseases of breasts are more common in females. The common diseases are benign and malignant neoplasms infections such as mastitis and breast abscess. Usually, the cases of breast pathology are clinically present with a breast lump, breast pain, or breast enlargement. Benign breast diseases are not life-threatening, but malignancy is dangerous for life. The most common cause of death in females all over the world is breast cancer. Benign breast diseases which form the majority of breast diseases constitute a spectrum of lesions ranging from developmental abnormalities, inflammatory lesions, epithelial, and stromal proliferations to various neoplasms.<sup>[2-4]</sup>

In males, the breast tissue is non-functional and represented by only nipples. The most common clinical symptom with which the patients present to outpatient department (OPD) were breast lump and a second common symptom is breast pain. In infective conditions such as mastitis and breast abscess, there is only breast enlargement along with the presence of local signs of inflammation. The elder patients above 50 years of age and post-menopausal presented with a mass in the breast, pathologically proved of malignancy in all cases. In the males, the only presenting symptom was breast enlargement, which is clinically termed as gynecomastia and cytologically and histopathologically confirmed. The infective conditions such as mastitis and malignancy are rare breast diseases in males. The term "benign breast diseases" include a heterogeneous group of lesions and may present with a wide range of symptoms.<sup>[5]</sup>

Benign breast diseases are not life-threatening in females as they are common in young females, but breast cancer is dangerous for life. Reported studies have directed largely toward a possible relationship to cancer, rather than toward the basic processes underlying benign conditions.<sup>[6]</sup> The breast cancer is a common cause of death in females all over the world. Therefore, early clinical suspicion and special investigations are important to detect such conditions, which is essential for successful treatment and better results which increase the survival rate.

## MATERIALS AND METHODS

The present study was conducted in the OPD of General Surgery at Maheshwara Medical College and Hospital, Chitkul, Patancheru Mandal of Telangana state for a period of 3 years from January 2016 to December 2018. About 110 female patients and seven male patients who attended the surgical OPD are included in this study. The

patients were informed in their mother tongue about their inclusion in the study and consent was taken as per the Institutional Ethical Committee guidelines.

A proper clinical history and physical examination were the basis of the study for clinical provisional diagnosis then patients were necessary investigations who were done along with specific investigations such as breast ultrasound fine-needle aspiration cytology (FNAC) to compare the clinical diagnosis.

The patients who needed surgery were subjected for surgery under proper anesthesia, and the excised specimen was sent for histopathological examination.

Majority of the patients who clinically presented with a lump in the breast along with pain in younger patients, the elder patients presented with mass in the breast with palpable same side auxiliary lymph nodes.

Seven male patients all are presented with unilateral or bilateral breast enlargement. All patients operated under proper anesthesia and the excised specimen was sent for histopathological examination.

## RESULTS

A total of 117 patients attended surgical OPD with various breast complaints in 3 years. Out of 117, 110 were females and seven were male patients [Table 1]. The data of both sexes analyzed separately. Among most of the female patients presented clinically with a breast lump, 35 cases (31.81%) on one side and very few on both sides. The second most common symptom of clinical presentation of the patients was a pain in the breast particularly in the younger age group with or without lump 30 patients (27.37%).

About 17 cases (15.27%) had bilateral breast pain and with vague lump or small nodules of both sides. The 7 (6.36%) patients clinically having breast enlargement with signs of acute inflammation. 21 (18.08%) patients presented with breast mass out of 21 cases 17 (15.45%) had only breast mass and 4 cases (3.63%) had along with mass same side palpable auxiliary lymph nodes were present.

In the sidewise presence of a lesion, there is no much difference in the incidence. Out of 110 cases, in 56 cases (50.90%) lesion was on the right side and in 49 cases (44.54%) lesion was on the left side and in 5 cases (4.54%) patients had lesions on both the sides [Table 2].

The age wise distribution of breast diseases ranges from 13 years to 80 years [Table 3]. The youngest patients being of 13 years presented with a nodule in left breast

and the oldest patient of 80 years presented with a mass in the right breast.

The youngest 13-year-old girl having lump in left breast proved histopathologically of fibroadenoma and eldest patient of 80 years mass in the right breast histopathologically proved to be mucinous carcinoma breast.

The maximum incidence of breast diseases in the age group is 21–30 years, 44 patients (40%) followed by 10–20 years of age, 25 cases (22.72%) patients, and only 4 patients (3.63%) were of above the age of 60 years, and all are had malignancy.

In the pathological conditions, the incidence of benign breast diseases is predominant 87 cases (87.27%). In benign conditions, fibroadenoma is the most common of all 69 cases (62.72%) [Table 4]. Out of 69 cases, 35 (31.81%) were having a lesion on the right side 31 patients (28.18%) on the left side, and 3 cases (2.72%) were having the lesion on both sides. In four patients of (3.63%), fibroadenoma histopathologically had shown the fibrocystic changes.

Histopathologically, the second most common benign condition was fibrocystic breast disease 8 cases (7.27%), the 3 patients (2.72%) presented with large breast lump clinically diagnosed as phyllodes tumor histopathological findings confirmed the clinical diagnosis.

In 2 cases (1.81%) of fibroadenoma, histopathologically turned to be breast cyst, there was a single case of galactocele which presented as a soft nodule in the breast. Another case histopathologically turned to be an unusual tumor of angiomyolipoma.

Clinically and ultrasonographically one case of fibroadenoma, histopathologically reported with atypical ductal hyperplasia changes which are more likely to develop malignancy in the future very early. Infective conditions of the breast were 7 cases (6.36%) reported, out of which 6 cases (5.45%) were having granulomatous mastitis with suppurative changes and one patient (0.91%) had breast abscess, this patient was a lactating mother.

14 elder patients (12.72%) clinically diagnosed as carcinoma breast were histopathologically confirmed. Out of 14 cases, 9 cases (8.18%) had only breast mass whereas 3 patients (3.72%) had the same side palpable axillary lymph nodes. In all 14 cases, the clinical diagnosis of carcinoma breast histopathological findings confirmed the diagnosis along with 3 cases of positive secondaries in axillary lymph nodes. Out of 14 malignancy cases, 12

**Table 1: Clinical presentations of the patients and incidence**

Clinical presentation	Number of patients (%)
Breast lump	35 (31.82)
Breast lump with pain	30 (27.27)
Breast pain	21 (19.09)
Breast mass	14 (12.73)
Breast mass with draining lymph nodes	03 (2.73)
Breast enlargement with signs of inflammation	7 (6.36)
Total	110 (100)

**Table 2: Sidewise distribution of lesion**

Lesion side	Number of patients (%)
Right side	56 (50.91)
Left side	49 (44.55)
Bilateral	5 (4.54)
Total	110 (100)

**Table 3: Age prevalence of incidence of breast diseases**

Age range (in years)	Number of patients (%)
10–20	25 (22.73)
21–30	44 (40.00)
31–40	21 (19.10)
41–50	12 (10.91)
51–60	4 (03.63)
61 and above	4 (03.63)
Total	110 (100)

**Table 4: The incidence of pathological conditions of breast**

Pathological diagnosis	Number of patients (%)
Benign breast diseases	
Fibroadenomas	
Right side	35 (31.81)
Left side	31 (28.18)
Bilateral	03 (02.72)
Total	69 (62.73)
Fibroadenoma with cystic changes	04 (03.63)
Fibroadenoma with atypical ductal hyperplasia	01 (00.9)
Fibrocystic breast disease	08 (07.27)
Phyllode's breast disease	03 (02.72)
Solitary breast cyst	02 (01.81)
Others	
Galactocele	01 (00.91)
Angiomyolipoma	01 (00.91)
Total	89 (80.91)
Infective conditions	
Granulomatous mastitis with suppurative changes	06 (05.45)
Breast abscess	1 (00.91)
Total	07 (06.37)
Malignancies	
Infiltrating duct cell carcinoma only mass	09 (08.18)
Mass + positive lymphnodes	03 (02.72)
Mucinous carcinoma	02 (01.81)
Total	14 (12.72)
Total number of patients	110 (100)

**Table 5: Data of male patients**

Age (years)	Clinical presentation	Side	Clinical diagnosis	HP report
12	Breast enlargement	Bilateral	Gynecomastia	Gynecomastia
25	Breast enlargement	Left side	Gynecomastia	Gynecomastia
38	Breast enlargement	Left side	Gynecomastia	Gynecomastia
42	Breast enlargement	Bilateral	Gynecomastia	Gynecomastia
19	Breast enlargement	Left side	Gynecomastia	Gynecomastia
38	Breast enlargement	Left side	Gynecomastia	Gynecomastia
45	Breast enlargement	Bilateral	Gynecomastia	Gynecomastia

were clinically diagnosed and histopathologically were having infiltrating duct cell carcinoma; the remaining 2 cases were reported to be of mucinous carcinoma breast.

### Clinicopathological Correlation

The clinical diagnosis made on history physical examination and local ultrasonography in 95 cases (86.36%) and FNAC in 100 cases (90.90%). The clinical diagnosis was compared with ultrasonography report, which was accurate in 90 cases (81.81%), and FNAC in 95 cases (86.36%). The accuracy of clinical diagnosis overall was about 100 cases (90.90%). In case of the fibroadenoma, the clinical diagnosis was accurate in 67 cases out of 69 cases, i.e., 98%. The fibrocystic breast disease diagnosed in 8 cases is confirmed by ultrasonography and FNAC in all 8 cases, i.e., 100%. In 7 male patients diagnosed clinically gynecomastia subjected for surgery, the excised specimen sent for histopathological examination [Table 5]. The diagnosis is confirmed preoperatively by ultrasonography and FNAC and postoperatively histopathologically was correct in all cases, i.e., 100% accurate.

## DISCUSSION

Breast pathological conditions include a variety of heterogeneous breast diseases such as benign and malignant infective conditions. The patients of breast problems presented clinically with a single complaint such as a breast lump or lump with breast pain. The breast pain along with a nodular feeling of the breast may aggravate during the pre-menstrual period. The benign breast conditions are usually common in the younger age group and malignancy in elder age group after menopause. Proper clinical history and physical examination, one can diagnose accurately in most of the breast diseases. In this study, 80 cases (90%) were clinically diagnosed accurately. In the present study, 110 female cases and 7 male patients were analyzed about breast diseases. In females, common breast diseases are found to be benign and that too fibroadenoma is the commonest in 69 cases (62.73%). The incidence of benign conditions of the breast is significantly higher than malignant conditions. Kumar *et al.* asserted that in Indian rural population the

benign breast diseases are 5–10 times more common than breast cancers.<sup>[7]</sup> In a study of FoncroftLMetal found 87.4% of the women who attended Wesley Breast Clinic had presented with breast lump while in series of Chaikamont a breast was the presenting symptom in 72.35% of 331 patients.<sup>[8]</sup> The corresponding figure for this study is 86 cases (78.18%). Fibroadenoma is accounted for 62.72% (69 cases) in the present study. Our study is in agreement with most of the studies available on breast diseases through our data are much lower. The peak incidents of fibroadenoma are ranged from 2<sup>nd</sup> to 3<sup>rd</sup> decade of life in young females corresponding with other studies.

FNAC is the easiest quickest and cheapest reliable method of confirming the clinical diagnosis before starting the definite management. The fibrocystic breast disease is the next common breast condition 8 cases (7.27%). In this study out of 110 cases, the majority of the patients belong to the 3<sup>rd</sup> and 4<sup>th</sup> decades. These patients presented with multiple soft tender nodules in the breast with excagression of the symptoms during pre-menstrual period. Kelsay *et al.* reported that breast cancer is 100 times more common in women than in men. The incidence of breast cancer increases with age, more common in the urban population and women of the higher socioeconomic group. They also suggested that apart from genetic causes, change in lifestyle is responsible for the increase in the incidence of malignant breast lesions.<sup>[9]</sup>

The incidents of various breast conditions vary geographically. Adesunkanmi and Agbakwuru found that the incidence of fibrocystic changes ranged from 29.5% to 42.2%, but we have much lower range, i.e., 7.27%.<sup>[10]</sup> Similar inadequacy rate was achieved by Zajdela *et al.*<sup>[11]</sup> and Jayaram *et al.*,<sup>[12]</sup> in their studies on breast masses. All 14 cases, i.e., 12.72% presented with a hard mass in the breast, the incidence is more prevalent post-menopausal or after 4<sup>th</sup> decade of life. In the present study, out of 14 cases maximum about 12 cases were of histopathologically of infiltrating duct cell carcinoma, the 3 cases with palpable axillary lymph nodes were positive for secondaries in lymph nodes, two cases histopathologically proved to be of mucinous carcinoma.

## CONCLUSION

In this study of breast diseases out of 117 patients, 110 were females and 7 cases were males. The male 7 cases and female 110 cases of data analyzed separately. The clinical diagnosis was confirmed by specific investigations such as local breast ultrasonography and FNAC before planning the definite management postoperatively, the excised specimen was sent for histopathological examination to evaluate the accuracy of clinical diagnosis.

Most of the patients presented clinically with a lump in the breast and a few lumps with breast pain. There was no patient of nipple discharge in this series. The most common benign breast disease is fibroadenoma, which affected the age group of 20–30 years.

The second common breast disease was malignancy which affected elderly patients above 40 years are post-menopausal. The infiltrating duct cell carcinoma most common malignancy noted in this series.

The clinical diagnosis was accurate in benign conditions up to 95% were as 100% in malignancy. In most of the cases, the clinical diagnosis was confirmed with histopathology.

The seven male patients all were presented with breast enlargement 4 on the left side and three bilaterally were diagnosed clinically gynecomastia. The clinical diagnosis confirmed by breast sonography FNAC and histopathology.

## REFERENCES

1. Sainsburg RC. The breast. In: Russell RC, Wil-Liams NS, Bulsrode CJ, editors. Bailey and Love's Short Practice of

- Surgery. 24<sup>th</sup> ed. London: Arnold; 2004. p. 824-46.
2. Tavassoli FA, Devilee P. World Health Organization Histological Classification of Tumors of the Breast in Pathology and Genetics of Tumors of the Breast and Female Genital Organs. France: IARC; 2003. p. 10.
3. Guray M, Sahin AA. Benign breast diseases: Classification, diagnosis, and management. *Oncologist* 2006;11:435-49.
4. Khanzada TW, Samad A, Sushel C. Spectrum of benign breast diseases. *Pak J Med Sci* 2009;25:265-8.
5. Sangma MB, Panda K, Dasiah S. A clinico-pathological study on benign breast diseases. *J Clin Diagn Res* 2013;7:503-6.
6. Hughes LE, Mansel RE, Webster DJ. Benign Disorders and Disease of Breast. Concepts and Clinical Management. 2<sup>nd</sup> ed. London: Bailliere Tindall; 1989.
7. Kumar M, Ray K, Harode S, Wagh DD. The pattern of benign breast diseases in rural hospital in India. *East Cent Afr J Surg* 2010;15:59-64.
8. Chaikamont TR. Clinical breast examination palpable breast legion. *J Med Assoc Thai* 2005;88:504-7.
9. Kelsay JL, Gammon MD, John EM. Reproductive andhormonal risk factors: Reproductive factors and breast cancer. *Epidemiol Rev* 1993;15:36-47.
10. Adesunkanmi AR, Agbakwuru EA. Benign breast disease at Wesley guild hospital, Ilesha, Nigeria. *West Afr J Med* 2001;20:146-51.
11. Zajdela A, Zillhardt P, Voillemot N. Cytological diagnosis by fine needle sampling without aspiration. *Cancer* 1987;59:1201-5.
12. Jayaram G, Alhady SF, Yip CH. Cytological analysis of breast lesions: A review of 780 cases. *Malaysian J Pathol* 1996;18:81-7.

**How to cite this article:** Sayanna SS, Shankar MU, Babu KR. Breast Diseases - Clinicopathological Correlation: A Three Years Study. *Int IJSS Journal of Surgery* 2019;5(1):13-17.

**Source of Support:** Nil, **Conflict of Interest:** None declared.