

Clinico pathological study of breast lumps in a teaching hospital

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Abstract:

Introduction: this prospective study on breast lump is chosen as 50-55% of women suffer from breast related disorders during their life time and exclusion of serious pathology of the breast after evaluation has a major reassuring effect on the patient. This prospective study comprises of 100 cases. The objective of this study is to have a clinical study of a series of cases of lump in the breast regarding their incidence clinical and pathological features of various breast lumps and the method of treatment and the results obtained there by. **Method of collecting data:-** Cases are selected from the OPD and from in-patients in the treatment wards who presented with lump in the breast. Proforma with relevant history clinical examination and investigations are prepared and patients are assessed. **Summary and Conclusion:-** The present study is based on 100 cases admitted in SVRR Government General Hospital, Tirupati from October 2009 to October 2011. During this period out of the total in patient surgical admission of 7940, 100 cases are admitted for lump in the breast. Out of 100 cases 25 cases are admitted for carcinoma of breast and 75 cases are admitted for benign breast lumps. All patients are women only.

Key Words: breast lump, mammogram, radical mastectomy,

I. Introduction

This study comprising of 100 cases was done between 2009-2011 at S.V. Medical College and Hospital, Tirupati. The study group consisted of 100 female patients.

This study was chosen, as 50-55% of women suffer from breast related disorders during their life time, and exclusion of serious pathology of the breast after evaluation, has a major reassuring effect on the patient.

The objective of this study is to have a clinical study of cases of lump in the breast admitted in SVRR Government General Hospital, Tirupati, to study their incidence, clinical and pathological features of various breast swellings and the method of treatment and the results obtained by treatment.

A prospective study of patients attending surgical OPD and also admitted to surgical wards with breast disorders was done. Patients predominantly presented with fibroadenoma and fibrocystic disease and Carcinoma breast. Most of patients underwent FNAC and a few of them had mammograms done. (Suspected to be carcinomas)

Treatment was mostly surgical in the form of excision, subcutaneous mastectomy, Modified radical mastectomy and incision and drainage of abscess. All the specimens were subjected to histopathological examination. Clinical diagnosis, aided by FNAC and histopathology increased the accuracy of diagnosis. Cases of fibroadenosis were treated conservatively with drugs.

A follow up period ranging from 6 months to 1 year was analysed. The cases had uneventful post treatment period. Satisfactory results were seen in conservative line of management also.

In conclusion, breast diseases are fairly prevalent with fibroadenoma and fibrocystic disease comprising most of the cases of benign diseases and intraductal carcinoma being the most common among of malignant diseases. Patients who were anxious about their breast disease had much relief after it was proved benign.

II. Mode of Selection of Cases

- Screening of cases by clinical examination in OPD and investigations such as FNAC and when necessary, mammogram is advised.
- Patient were studied and analysed in detail, with regard to: History, Clinical Examination, FNAC, Mammogram (in certain cases only)

Based on the provisional diagnosis, patients are subjected to surgery which is usually excision or modified radical mastectomy as the case required. Preoperative preparation was done by giving prophylactic single dose of antibiotic in non-infected cases.

Physiotherapy was given in required cases to prevent shoulder stiffness, axillary contractions, or arm edema. In all cases of carcinoma, Tamoxifen_{20mg} od was started post operatively. Two cases were referred for radiotherapy to Oncology centre.

- Cases were again analysed based on: Operative findings, Histopathological findings, Post operative course and outcome.

Patients were followed up for a maximum period of 1 ½ years to detect any recurrence. Late followup was discouraging as the patients did not respond to correspondence in most cases.

About 50-55% of all women suffer from breast disorders in their life time. Benign disorders of the breast are usually seen in the reproductive period of life, are thought to be largely hormone induced and there is a dramatic fall in their incidence, after menopause due to cessation of ovarian stimulation. Benign breast disease is 4-5 times more common than breast cancer, which is more common in perimenopausal age group. The clinician should clearly differentiate between benign and malignant conditions of the breast, and reassure the patients after serious pathology is excluded, as it has a major psychological effect on them

III. Aim Of Study

- To study the incidence of lump breast in surgical admissions in SVRR Government general Hospital, Tirupati.
- To study distribution of breast disease with respect to demographic factors and to correlate relation if any, between the type of breast disease and quadrants.
- To do at least one (1) year follow up, to evaluate the outcome of treatment.

IV. Method Of Collecting Data

Cases were selected from the OPD and from inpatients in the wards who presented with lump in the breast. Proforma with relevent history, clinical examination and investigations was prepared and patients were assessed.

4.1 Inclusion Criteria

- Patients with complaints of lump in the breast associated with or without pain or nodularity in the breast.
- Presence of lump in the breast and nipple discharge
- Non lactating breast abscess

4.2 Exclusion Criteria

- Acute lactating breast abscess
- Male patients with lump in breast.

V. Statistical Analysis And Observations

The present study of 100 cases of lump in breast were studied during the period of study from (October) 2009 to 2011 (October).

Table 1: Incidence of breast lumps in surgical admissions of SVRR Govt. General Hospital.

Year	Total no of surgical admission during the period	Breast swellings		Total no of carcinomas		Total no of benign cases	
		Total	percentage	No	%	No	%
2009-11	7940	100	1.26	25	0.315	75	0.945

During the period of study i.e., from 2009-2011 total number of surgical admissions were 7940. Of these 100 cases presented with complaints of breast lump. Therefore the incidence of breast lumps in surgical admissions of SVRR Govt. General Hospital is 1.26%. Of these the incidence of carcinoma breast is 0.315% and incidence of benign lumps is 0.945%

5.1 Age Incidence

The age of the patients varied from 11 years to 65 years. The average age of the patients was 32 years. The highest incidence was below 30 years of age in case of benign lumps constituting nearly 76% of total cases. But in case of carcinoma of the breast the highest incidence was in the age group of 31 to 50 years constituting almost 72% of total cases.

Table 2: Age Incidence

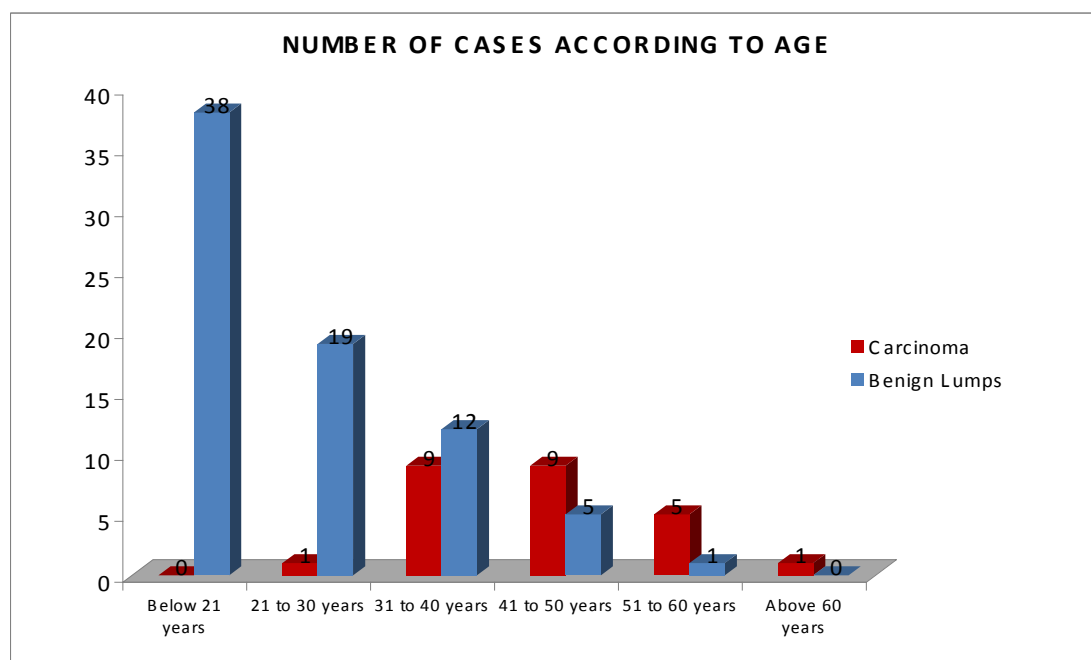
	Age of the patient	Carcinoma	Percentage	Benign	Percentage
1	Below 21 years	0	-	38	50.67
2	21 to 30 years	1	4	19	25.33
3	31 to 40 years	9	36	12	16
4	41 to 50 years	9	36	5	6.67
5	51 to 60 years	5	20	1	1.33
6	Above 60 years	1	4	0	0
	Total	25		75	

One case of carcinoma of breast was admitted below the age of 30 years. In case of benign lumps only one patient was aged above 51 years.

In a series quoted by Donegan and Spratt (USA) maximum number of cases occurred after the age of 41 years in case of carcinoma of the breast.

Table 3: Comparison of age incidence with other study

Age in years	Donegan and Spratt (%) (USA)	Present series
21-30	9	4
31-40	10	36
41-50	32	36
51-60	28	20
>61	26	4



In the present series 36% of cases occurred in the age group of 31 to 40 years where as in USA series the incidence of carcinoma breast was 10% in the same age group. In Donegan and Spratt series the incidence of Carcinoma breast was 26% in the age group of above 61 years, where as in the present series the incidence in same age group was 4% only. According to the present series, it appears that carcinoma breast occurs in younger people in India as compared to Americans.

Results of age relation to breast lumps are in concordance with other series.

Table 4: Comparative Study of Age In Relation To Benign Lesions Of Breast

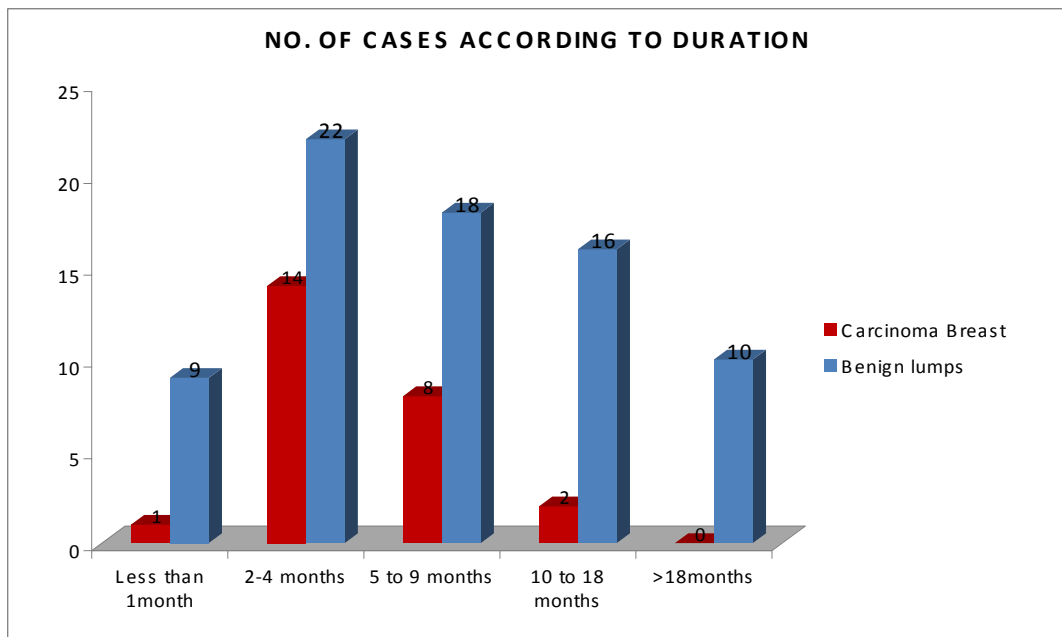
SL.No.	Age in years	Khanna et al (%) (Total cases =1031)	Present series (%)
1	<21y	28.84	50.67
2	21-30	39.80	25.33
3	31-40	18.24	16
4	41-50	10.00	6.67
5	51-60	1.70	1.33
6	>61	1.42	-

5.2 Duration Of Complaint

During the present study 75 cases of benign breast lumps and 25 cases of carcinoma breast were studied. Only 10 patients had lump in breast of less than 1 month duration. Majority of patients had lumps varying from 2months to 18months. 10 cases of benign lumps had the lump for a period of time exceeding 18 months

Table 5: Duration Of Complaint

Sl. No.	Duration	Carcinoma Breast	Benign lumps
1	Less than 1month	1	9
2	2-4 months	14	22
3	5 to 9 months	8	18
4	10 to 18 months	2	16
5	>18months	-	10
		25	75



5.3 Side Of The Breast Involved

Out of 25 cases of carcinoma breast studied 17 cases had tumour in the right breast (72%) where as 8 cases had tumor in the left breast (28%) Among the 75 cases of benign lumps 39 patients had lump in Rt breast (52%) and 28 patients had lump in left breast (37.3%) and 8 patients reported lumps in both breasts (10.7%)

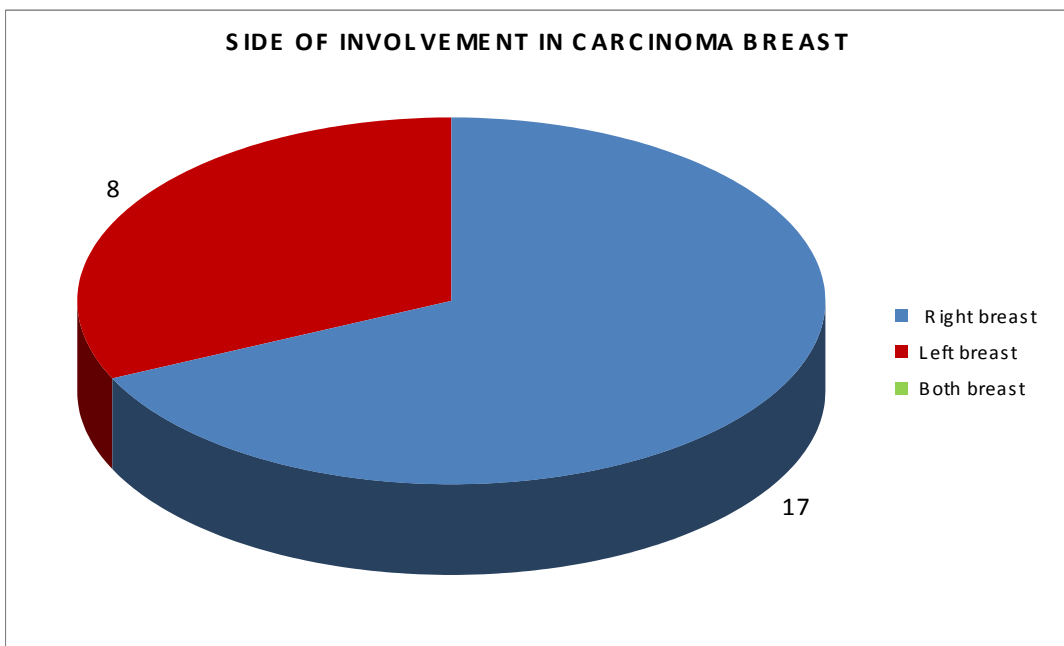
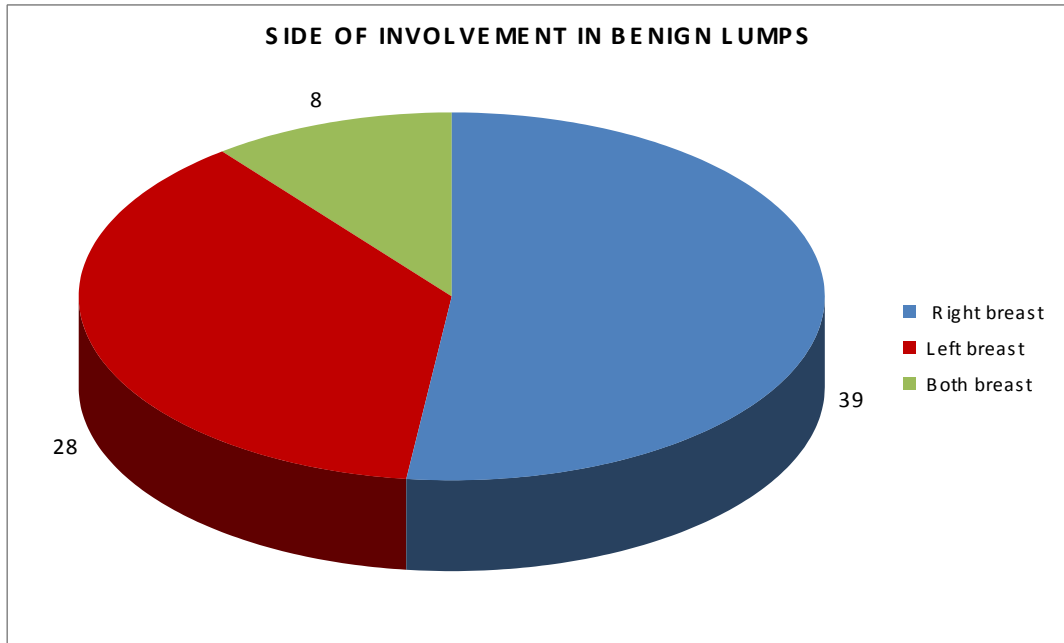
Table 6: Side of the Breast Involved

Breast involvement	Carcinoma cases	Percentage	Benign cases	Percentage
Right breast	17	72%	39	52%
Left breast	8	28%	28	37.3%
Both breast	-	-	8	10.7%
	25		75	

Table 7: A comparative study of side of the breast involved in carcinoma breast

	Presbyterien hospital N.Y. Total no. of cases (2973)	Present study (%)
Right breast	48.10%	72%
Left breast	51.53%	28%
Both breast	0.73%	Nil

In the presbyterien hospital, New York series the lesion was more common on left side as compared to Right side (51.53%) against 48.10%) but, in the present series The lesion is about two and half times more common on right side than on left side. This is in variance with commonly held belief that malignant tumors are more common in the left breast.



5.4 Quadrant Of Breast Involved

Out of the 25 cases of carcinoma of breast, 13 cases had lump in upper outer quadrant (52%) The lump in the upper, outer quadrant was the commonest site of lesion. At EFSCCH (Ellis fischel state cancer hospital) during the period of 1940 to 1965, 37% of cases had lump in upper outer quadrant. In present study no patient had lump occupying the whole of the breast, where as in EFSCCH 20% of the people had lumps occupying the whole breasts.

Table 8: Quadrant of Breast Involvement in Carcinoma

SL NO.	Quadrant of breast	At EFSCCH during 1940-65(%)	Present total	Series percentage
1	Upper and outer	37%	13	52%
2	Upper and Inner	12%	6	24%
3	Lower and Outer	5%	3	12%
4	Lower and Inner	8%	2	8%
5	Whole breast	20%	-	-
6	central	15%	1	4%

(EFSCCH= Elischell State Cancer Hospital)

Table 9: Comparative study of region of the breast involved in carcinoma of breast

Sl No.	Region involved	Lanceclaypon 1928(%)	Transeat 1947(%)	Harnet 1948(%)	Smithers 1952(%)	Donegan 1967(%)	Presat series(%)
1	Upper outer	30.6	46	43	47.7	48.0	52
2	Upper inner	12.3	20	13.3	14.8	16.0	24
3	Lower outer	8.9	12	9.6	8.8	11.0	12
4	Lower inner	4.3	5	4.4	6.0	6.0	8
5	Central	14.3	13	11.0	Nil	17.0	4
6	Whole breast	4.7	-	15.2	22.8	Nil	Nil

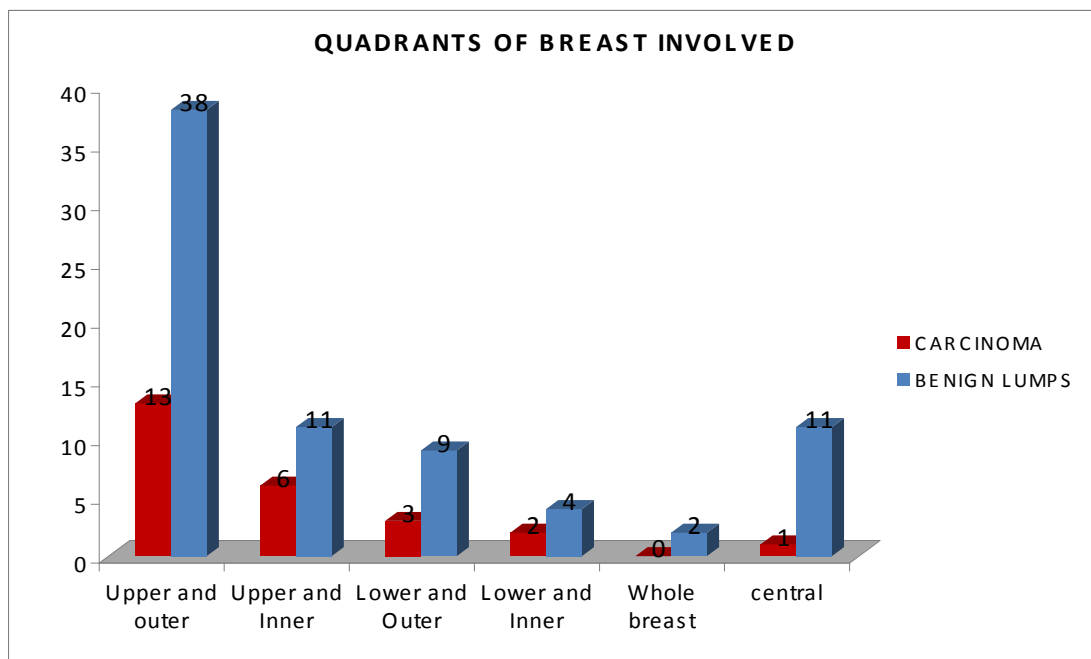


Table 10: Quadrants of Breast Involved In Benign Lumps

Sl.No.	Quadrant of breast	No of cases	Percentage of case
1	Upper and outer	38	50.67
2	Upper and Inner	11	14.66
3	Lower and Outer	9	12
4	Lower and Inner	4	5.34
5	Whole breast	2	2.67
6	Central	11	14.66

In benign lumps also upper outer quadrant is the most commonly involved segment (50%) in this study. The explanation given is that, as the maximum breast mass is situated in upper outer quadrant hence breast lesions are more commonly found in this quadrant.

The incidence of carcinoma breast is maximum in the upper outer quadrant both in present series and all the series quoted above.

5.5 Clinical Staging Of Carcinoma Breast

In all cases of carcinoma breast clinical staging was done. During the present period of study 13 cases of 25 cases presented with stage II tumor (52%). So on an average in our hospital almost 75% of cases attend with either stage I or II.

Table 11: Incidence of Clinical staging of Carcinoma breast at admission

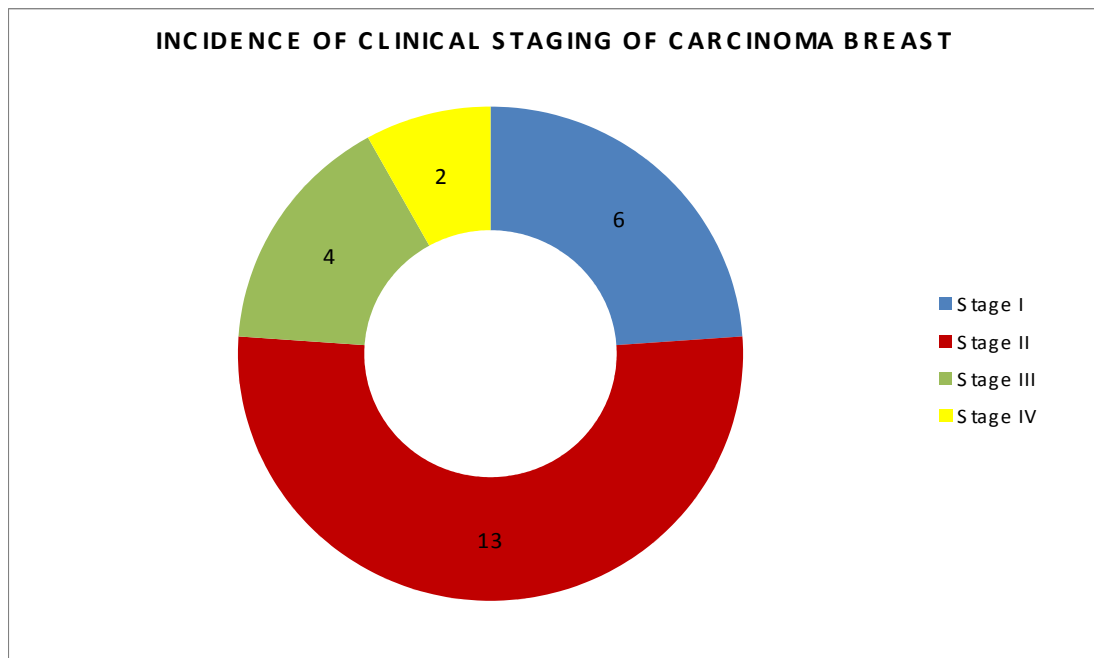
Stages	No of cases	Percentage
Stage I	6	24%
Stage II	13	52%
Stage III	4	16%
Stage IV	2	8%

Table 12: Comparative study of Clinical stage of Carcinoma breast at the time of admission

Sl no.	Clinical stage	Bhatnagar series (percentage)	Present series (percentage)
1	I	26.66	24

2	II	33.34	52
3	III	26.66	16
4	IV	13.34	8

The figures in the present study are comparable with statistics quoted by Bhatnagar et al from Ajmeer.



Out of the 25 cases of carcinoma of breast 23 patients underwent surgery. All the specimens were sent for Histopathological examination. 2 patients were not operated. Out of 23 cases, 21 cases operated had Infiltrating duct carcinoma (91.30%), 2 cases had medullary carcinoma of breast (8.70%). There was no incidence of paget's disease.

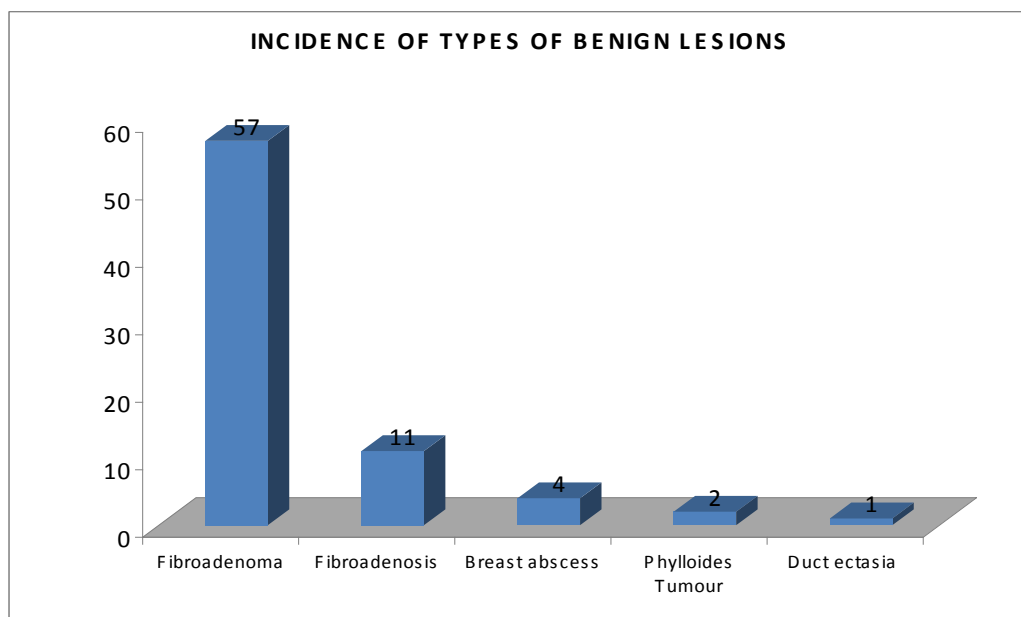
Table 13: Biopsy Reports in Carcinoma

Sl no.	Pathological diagnosis	Baily and love series	In the present study	
			Total	Percentage
1	Infiltrating duct carcinoma	63%	21	91.30
2	Medullary carcinoma	17%	2	8.70
3	Mucoid carcinoma	-	-	-
4	Pagets carcinoma	1%	-	-
5	Papillary carcinoma	-	-	-

Table 14: Comparative Study of Carcinoma breast according to histological pattern

Sl No.	Histological pattern	Bhatnagar et al (%)	Present series (%)
1	Infiltrating duct carcinoma	50	91.30
2	Medullary carcinoma	33.34	8.70
3	Lobular carcinoma	6.66	-
4	Mixed	6.66	-
5	Colloid carcinoma	3.34	-

In the present series most of the cases had infiltrating duct carcinomas where as in Bhatnagar series the incidence was only 50%. Incidence of medullary carcinoma is four times more common in Bhatnagar series than in our series no case of lobular carcinoma mixed carcinoma, colloid carcinoma is reported in present series.



Out of 75 cases of benign lumps in the breast studied 57 were fibroadenoma of breast (76%). Fibroadenosis constitute about 15%

Table 15: Incidence of types of Benign Lesions (Total no of cases 75)

Sl.no	Nature of lesion	No of cases	Percentage
1	Fibroadenoma	57	76%
2	Fibroadenosis	11	14.67%
3	Breast abscess	4	5.33%
4	Cystosarcoma phylloides	2	2.67%
5	Duct ectasia	1	1.33%

5.6. Treatment Modalities

In majority of the cases preoperative fine needle aspiration cytology was done. In benign breast lesions excisional biopsy was done. In cases of carcinoma of breast modified radical mastectomy was done in 19 cases and simple mastectomy was done in 4 cases. Two cases were not operated, of these one case has chest wall fixity present and the other case has ulcerative growth with fixity to chest wall.

Table 16: Type of Surgical Treatment in Carcinoma Breast

1	Radical mastectomy	0
2	Modified radical mastectomy	19
3	Simple mastectomy	4
4	Not operated	2

Table 17: Types of Treatment Modalities in Benign Lumps

1	Excision	61
2	Drugs	7
3	Incision and drainage	4
4	Quadrantectomy	2
5	Microdoctotomy	1

Among the 25 cases of carcinoma of breast 23 cases were treated surgically. In all cases of carcinoma breast Tamoxifen 20mg od was started postoperatively chemotherapy was advised in 3 cases and two cases were referred to higher centres for radiotherapy. Following surgery skin grafting was done in 2 cases. In rest of cases primary suturing of skin flaps was done.

5.7 Duration Of Hospital Stay

The duration of hospital stay varied from 3days to 45days. In case of benign lumps in the breast, patients were discharged on an average between 3rd and 9th day with an advice to attend the hospital to follow up and to collect biopsy report.

Table 18: Duration of Hospital Stay

Sl.No	Duration	Carcinoma	Benign lumps
1	<10days	4	68
2	11-15days	16	6
3	16 to 1month	3	1
4	>1month	-	-

Out of 100 cases 9 cases were not operated, 91 cases were subject to different modalities of surgical treatment. There was no mortality either among operated cases or in non operated cases.

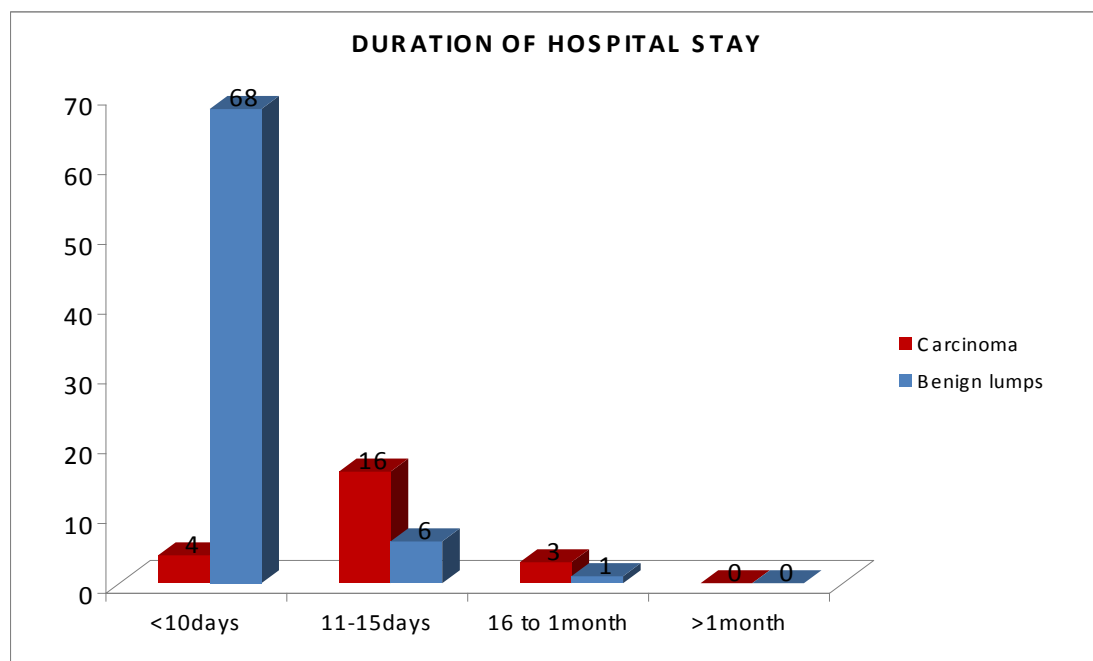
Table 19: Mortality

	Total no of cases	Mortality	Percentage
Non operated	9	Nil	Nil
Operated	91	Nil	Nil

Follow up:

Follow up was advised in all cases. In case of benign lumps in the breast patients were advised to attend the hospital for suture removal or for biopsy report collection. Later they were advised checkups at 3-6 monthly intervals. In case of cystosarcoma phyllodes patient was advised checkups at 3 monthly intervals. A separate letter was issued to the local doctor who referred the case, to follow up the case.

Patient was also taught about self examination of the breast. In 23 cases of carcinoma of breast operated, all were advised checkups at 3 monthly interval, however, the follow up was not satisfactory.



VI. Summary And Conclusion

The present study of lump in the breast was based on 100 cases admitted in SVRR Government General Hospital, Tirupati from October 2009 to October 2011. During this period out of the total inpatient surgical admission of 7940, 100 cases were admitted for lump in the breast. Out of 100 cases, 25 cases were admitted for carcinoma of breast and 75 cases were admitted for benign breast lumps. All patients were females.

The age of the patients varied from 11 years to 65 years. Average age of the patient was 32 years. Maximum incidence was below the age of 30 years, in case of benign lumps. In case of carcinoma of the breast the highest incidence was in the age group of 31 to 50 years. In the present study carcinoma of breast was noted more often in younger people as compared to Americans.[1]

Only 10 patients had lump in the breast of less than 1 month duration. Majority of patients had lumps of varying duration from 2months to 18 months.

In case of carcinoma of breast 17 patients had tumor in right breast, 8 patients had tumor in left breast. In case of carcinoma of breast more than half of the patients had lump in the upper outer quadrant of breast (52%). In case of benign lumps, 39 patients had lump in right breast, 28 patients had lump in left breast and 8

patients had lump in both breasts. Even in case of benign lumps, lump is more frequently present in upper outer quadrant (50.67%) of breast.[2]

Most of the patients admitted for carcinoma breast had stage II disease (13 cases). Out of the 25 patients, 23 were operated for carcinoma breast of these 21 cases had infiltrating duct carcinoma and 2 cases had medullary carcinoma. No cases of lobular carcinoma, mixed carcinoma, colloid carcinoma were noted in present study. Out of 75 case of benign breast lumps studied, fibroadenoma constitutes most common benign breast lump of about 59 cases.[2]

Out of 100 cases admitted for lump in breast 91 patients underwent surgery, 9 patients were not operated. In case of carcinoma of breast, surgery was the main stay of treatment. Modified radical mastectomy was done in 19 cases, 4 patients had simple mastectomy. In case of benign lumps – excision was done in about 61 cases. 7 cases of fibroadenosis were treated conservatively. For 4 cases of breast abscess, incision and drainage was done. In carcinoma breast, post operatively in all cases Tamoxifen 20mg od was started. Chemotherapy was advised in 3 cases and two cases were referred to higher centres for Radiotherapy. (as they were in operable).

The duration of hospital stay varied from less than 10 days to 1 month. In benign lumps hospital stay was less than 10 days in most cases and in carcinoma breast, hospital stay in most of cases was 11-15 days. There was no incidence of mortality in the present study. Follow up of the patients was not satisfactory.



Figure 1 Bilateral fibroadenomata

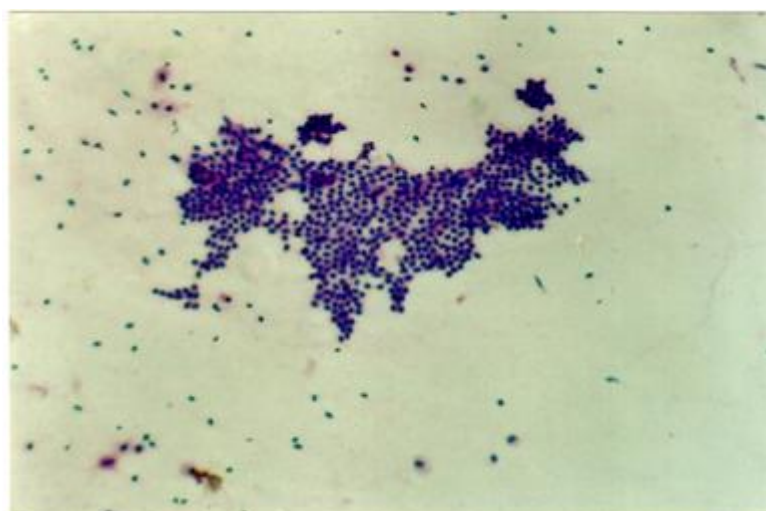


Figure 2 cytology; fibroadenoma showing uniform ductal epithelial cells with bare nuclei.

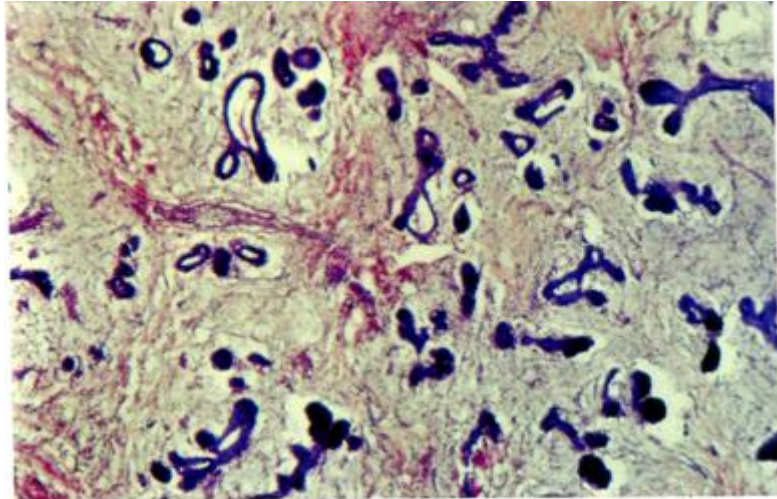


Figure 3 histology; fibroadenoma



Figure 4 phyllodes tumor



Figure 5 phyllodes tumor. intra operative

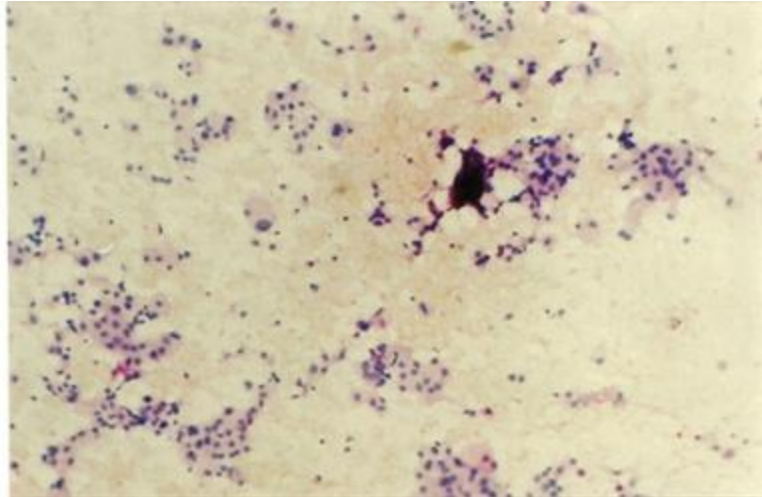


Figure 6. infiltrating duct cell carcinoma showing pleomorphic discohesive cells

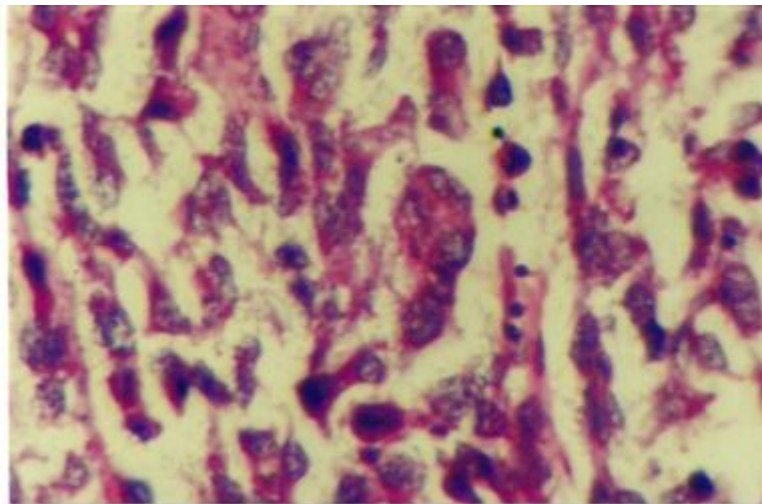


Figure 7. duct cell carcinoma showing tumor giant cell

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