CLINICAL STUDY OF EARLY BREAST CARCINOMA

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ABSTRACT

Carcinoma of the breast is one of the commonest cancers occurring in female and accounts for 1/3rd of all the malignant diseases occurring in them. It is mainly a disease of the developed countries and accounts for 1,00,000 deaths annually. Breast carcinoma is classified as Early breast cancer, Locally advanced breast cancer and Metastatic breast cancer. By definition early stage breast cancer constitutes breast tumors of clinical stages I, IIa and $T_2N_1M_0$. Early breast cancer is the one diagnosed by mammography. Women when approaches at this stage, they can go for breast conservation surgery. Not all women are candidates for this approach, and some require mastectomy as part of their treatment.

AIM

To observe the incidence of early breast carcinoma with particular reference to the time taken by the patients to seek medical advice after the symptoms have developed i.e. the average time taken by the patients to seek medical advice, their appropriate management and prognosis.

MATERIALS AND METHODS

This prospective study was conducted over a period of 2 years from Oct-2012 to Oct-2014 in 30 female patients aged between 25-65 years who were presented with lump in breast of size ≤5cms with or without pain, with or without lymph nodes to the outpatient department. All the patients were thoroughly asked about history, examined clinically, investigated, staged and managed by surgery either Breast Conservation Surgery or Modified Radical Mastectomy. Postoperative complications were recorded and followed up regularly.

RESULTS

The incidence of early breast cancer in this study was 0.98% with peak age incidence between 40-60 years and duration of symptoms <6 months in 18 patients. Breast Conservation Surgery + axillary dissection + Radiotherapy was done in 23%. Prognosis was good in these patients with no local recurrence and death.

CONCLUSION

The prognosis of early stage breast carcinoma patients in this study was good. To have long term tumor free and good results the patients should report early.

KEYWORDS

Early Breast Carcinoma, FNAC, BI-RADS Grading, Breast Conservation surgery, Modified Radical Mastectomy, Axillary Dissection, Radiotherapy, Chemotherapy, Hormonal Therapy.

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INTRODUCTION: Carcinoma of the breast is one of the commonest cancers occurring in females and accounts for 1/3 of all the malignant diseases occurring in them. 5% of all women at some time suffer from the disease. It is mainly a disease of the developed countries and accounts for 10,000 deaths annually.[1]

The breast is the second commonest site involved by cancer in Indian women, 1st being the Cervical cancer.

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Patients with relatively small tumors, i.e. <5cms in diameter confined to single breast and mobile ipsilateral lymph nodes are potentially curable.

Advances in radio and chemotherapy have modified the management of early breast carcinoma resulting in better prognosis.

Majority of the patients coming to our hospital are from rural background with inhibitions to seek medical advice due to shyness, illiteracy and lack of proper awareness to appreciate the gravity of the disease.

Awareness of the disease should be carried out through health education, media and encouraged to get a periodic medical checkup as the prognosis of early breast carcinoma patients is good.

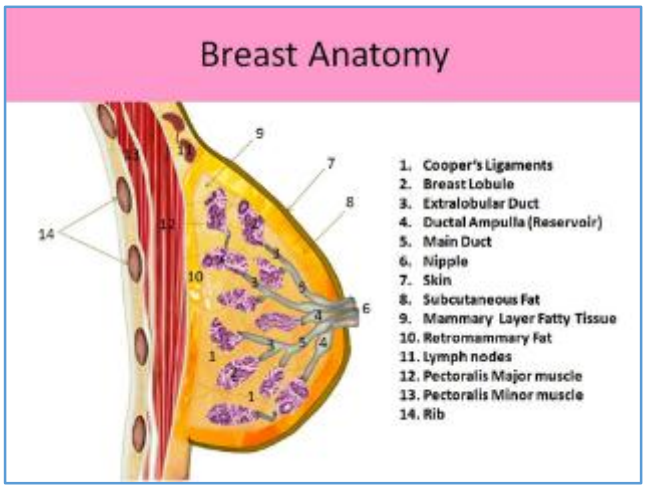

Fig. 1: Anatomy of Breast

Early Stage Breast Cancer

DEFINITION: Early stage breast cancer includes tumors of clinical stages I, IIa and $T_2N_1M_0$.

DIAGNOSIS: "Any lump in the breast of a women in the cancer age should be regarded as malignant unless proved otherwise"

Triple Assessment: Combination of clinical examination, Radiological imaging and cytological or histological analysis.

1. **FNAC:** very useful in diagnosing the carcinoma breast, but negative results are difficult to interpret because it may be due to sampling errors and so requires further diagnostic methods. FNAC of opposite breast, lymphnodes, opposite axillary nodes are also required.

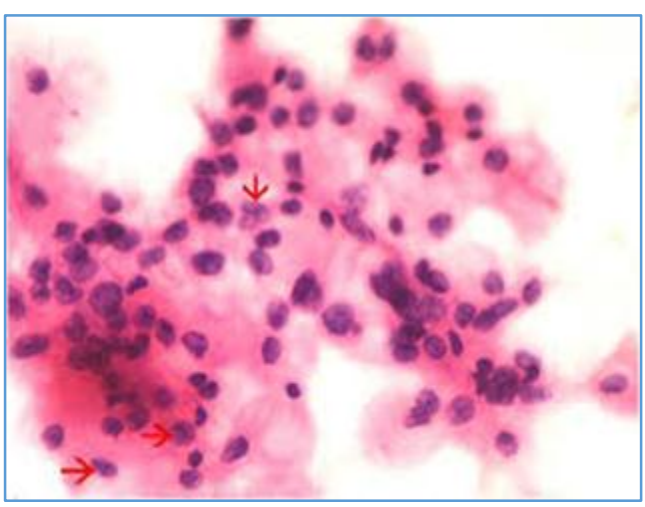

Fig. 2: FNAC showing Early Breast Cancer

2. **Mammography:** Shows;
   - Size and location of the tumor.
   - Microcalcifications signify malignancy.
   - Soft tissue shadow is irregular.
   - Spiculations.

Now-a-days it is used as a screening procedure: Performed in asymptomatic women with the goal of detecting breast cancer that is not yet clinically evident. This approach assumes that breast cancers identified through screening will be smaller, have a better prognosis and require less aggressive treatment than cancers identified by palpation. These potential benefits of screening and the number of false positive studies prompt additional work up, biopsies and patient anxiety.[2,3]

The Breast Imaging Reporting and Data System (BI-RADS) is used to categorise the degree of suspicion of malignancy for a mammographic abnormality.

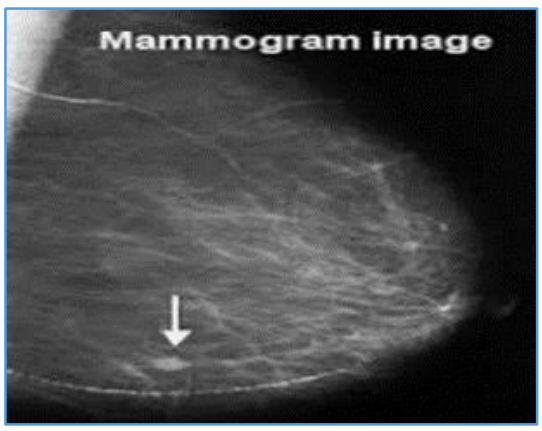

Fig. 3: Mammography showing Early Breast Cancer

Category	Definition
0	Incomplete assessment; need additional imaging evaluation
1	Negative, routine mammogram in 1 year recommended
2	Benign finding, routine mammogram in 1 year recommended
3	Probably benign finding, short term follow up suggested
4	Suspicious abnormality, biopsy should be considered
5	Highly suggestive of malignancy, appropriate action should be taken

The Breast imaging reporting and Data System (BI-RADS) Final Assessment Category

3. **USG both breasts and axillae:** To rule out B/L tumors, to assess axillary nodes.
4. **USG Abdomen:** To rule out metastasis.
5. **Chest X-ray:** To rule out metastasis.
6. **X-ray spine and long bones:** To rule out metastasis.

MANAGEMENT:

Aims of Treatment:

- To achieve possible cure.
- Control of local disease.
- Breast Conservation, i.e. breast form and function.
- Prevention of distant metastasis.
- To prevent local recurrence.

Modalities of Treatment:

1. Breast conserving surgery.
   (A) Wide local excision[4] (lumpectomy) + Radiotherapy.
   (B) QUART therapy.
2. Skin Sparing Mastectomy.

3. Patey's Modified Radical mastectomy.[4]
4. Adjuvant systemic therapy (radiotherapy, chemotherapy and endocrine therapy).
5. Hormonal therapy.[5]
6. Sentinel lymph node biopsy when required.
7. Regular followup with radioisotope bone scan and CEA tumor marker.

AIM: To observe the incidence of early breast carcinoma with particular reference to the time taken by the patients to seek medical advice after the symptoms have developed i.e. the average time taken by the patients to seek medical advice, their appropriate management and prognosis.

MATERIALS AND METHODS: This prospective study was conducted in 30 female patients who were presented with-Lump in breast with or without pain to the outpatient department. Patients included in the study were taken from different units of General Surgery department in our Hospital, October 2012 to October 2014, for maintenance of uniformity.

Inclusion Criteria: All the female patients between the ages of 25 to 65 years.

Breast tumor size less than or equal to 5cms in one breast.

With or without mobile ipsilateral axillary lymphnodes.

Only primary tumors are taken.

Investigations Done:

1. Mammography.
2. FNAC.
3. Ultrasound breast.
4. X-ray chest, PA view.
5. Ultrasound abdomen.
6. Complete blood picture.
7. Random blood sugar.
8. Blood grouping and typing.
8. LFT.
9. Blood urea.
10. Serum creatinine.
11. HIV, HBsAg.
12. Urine far albumin and sugar.
13. Serum electrolytes.
14. 2D Echo.

All the patients were appropriately staged and managed by surgery either BCS or Modified Radical Mastectomy. Post op complications were recorded and patients followed up regularly.

OBSERVATIONS: Total cases studies are 30 studied in detail in this survey;

1. The following statistical survey is based on cases admitted in General Surgery Wards, in our hospital, Secunderabad during the period of October 2012 - October 2014. During this period no cases of reported death and all of other regular follow up.
2. Total number of breast disease among female cases admitted -158.
3. Total female early stage breast cancer among female cases admitted – 30.

Population	No. of Cases	No. of EBC	Percentage
Total admission	8000	30	0.375%
Total females	3060	30	0.98%
Total female malignant conditions	850	30	3.52%
Total female Breast disease	158	30	18.98%
Total female early breast cancers	30	30	100%

Incidence of early breast carcinoma between Oct 2012 – Oct 2014 in our Hospital, Secunderabad

In this study the incidence of early breast carcinoma in female patients was 0.98%, the incidence in total female breast diseases was 18.98%.

Age Incidence: The peak age incidence of early stage breast cancer was in the age group of 40-60 years. The youngest patient in the study was 27 years old. 19 out of 30 cases were in the age group of 40-60 years constituting 63.33%.

Age Group	No. of Patients	Percentage
20-30	2	6.66
31-40	6	20
41-50	10	33.3
51-60	9	30
>60	3	10

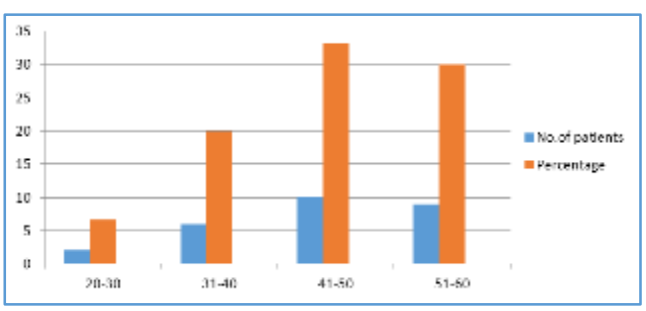

Fig. 4

Duration of Symptoms: Duration of symptoms widely varied from 1 month to 1 year with majority of patients-I 8 presented from <6 months, 8 patients 6-9 months and rest of the patients presented >9 months.

Duration	No. of Patients	Percentage
<6 months	18	60
6-9 months	8	27
>9 months	4	13

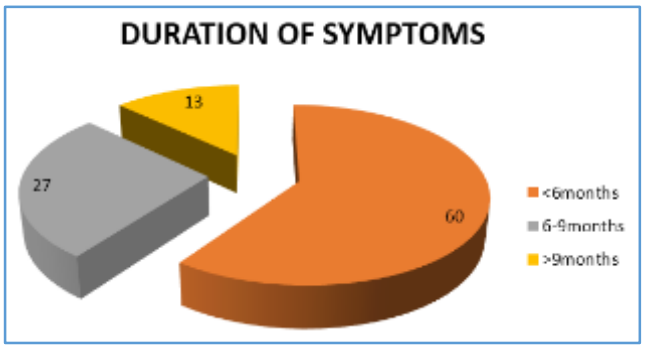

Fig. 5

Parity and Incidence: Majority of patients suffering from early breast carcinoma were multiparous constituting about 80% oftota1, least common in nulliparous of about 3% and uniparous about 17%.

Parity	No. of Cases	Percentage
Nulliparous	1	3
Uniparous	5	17
Multiparous	24	80

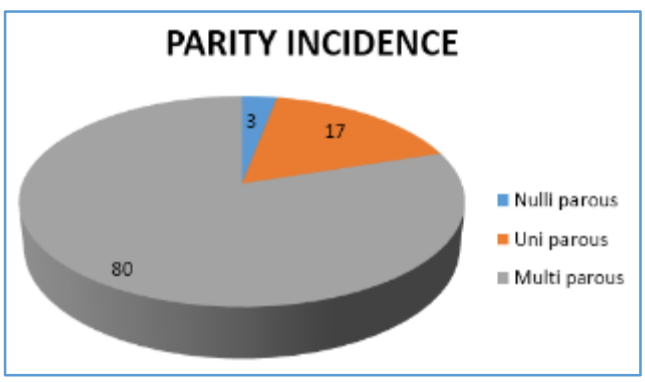

Fig. 6

Most of the patients presented with stage II.

Stage	No. of Patients	Percentage
In situ	0	0
I	2	7
II	28	93
Stage of the Tumor		

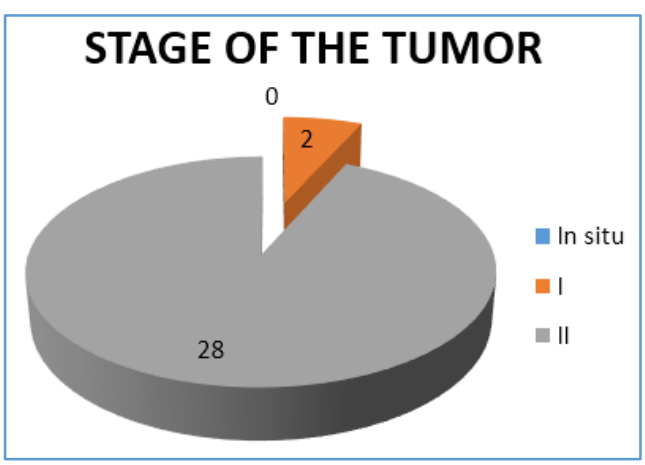

Fig. 7

Lymphnodal Metastasis: 24 out of 30 patients presented with N_1 lymph nodal metastasis constituting 80% of cases and remaining without lymphnodal metastasis.

Lymph Node Status	No. of Cases	Percentage
N_0	6	20
N_1	24	80

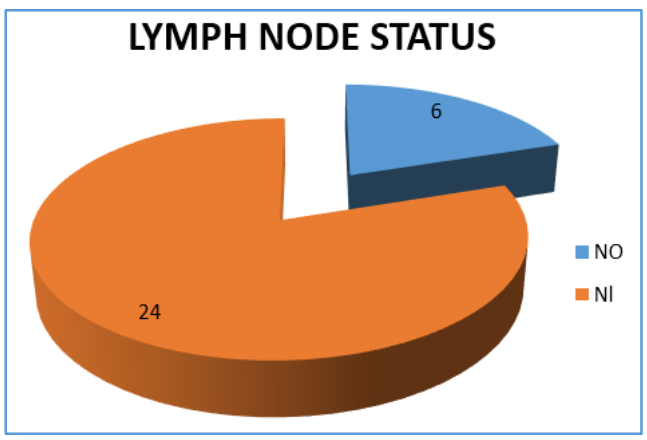

Fig. 8

Type of Surgery: Type of surgical treatment adopted for the patient was depending upon the Stage of the disease post-operative treatment in the form of radiotherapy, chemotherapy and hormonal therapy was given to the patients accordingly.

Type	No. of Cases	Percentage
Breast conservation surgery (wide local excision)	7	23
Modified radical mastectomy	23	77

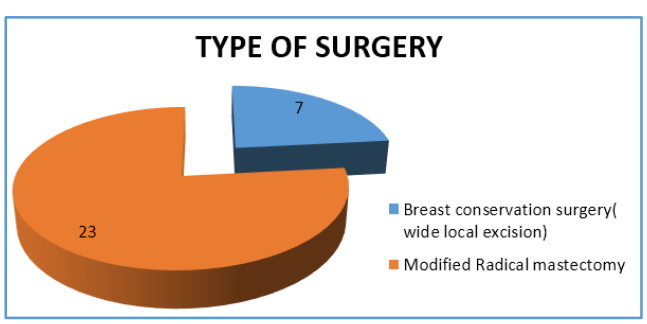

Fig. 9

Breast conserving surgery (wide local excision) was performed in 23% of patients and modified radical mastectomy was performed in 77% of cases in this study. AII are alive without local recurrence after these procedures. Breast Conserving Surgery (BCS) has become the standard treatment for early breast cancer. In various reports the rate of performing BCS in early breast cancer varies from 10-45%.[6,7]

In the study in Our Hospital BCS performing rate was 23% and in the study in Indian Journal of Surgery was

26.4%. Breast conservation surgery was first performed in 1980s but the local recurrence rates were rather high.[8,9] (30-40%). However, the standard use of radiotherapy after BCS has decreased the local recurrence rates to <10%.[10-14]

In this study in our hospital, total 30 patients were operated, 23 with MRM and radiotherapy and 7 patients with breast conserving surgery + axillary dissection + radiotherapy. The follow-up period was 1 year in maximum, and reported no deaths when compared to national and international studies.

Fig. 10: Showing Breast Conservation Surgery

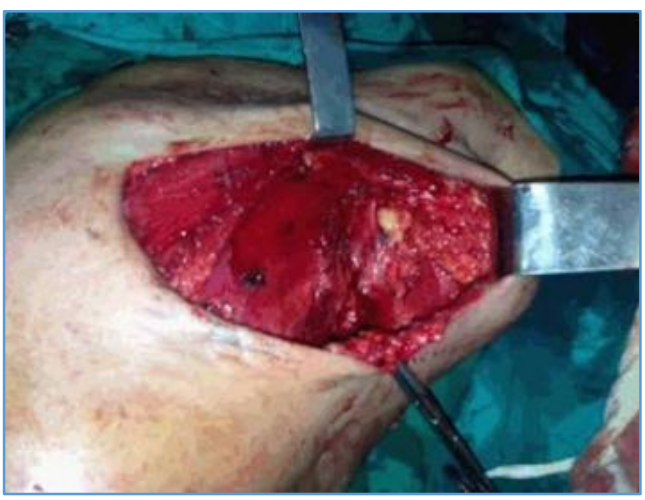

Fig. 11: Showing modified Radical Mastectomy

Prognosis: The prognosis of the patients with early breast carcinoma (stage I and II), who were operated with breast conserving surgery plus axillary dissection plus post-op radiotherapy +/- chemotherapy +/- Tamoxifen therapy accordingly in this study in Our Hospital Secunderabad, was good.

Some stage I and II patients were operated with modified radical mastectomy + radiotherapy +/- chemotherapy +/- Tamoxifen therapy accordingly in this study in Our Hospital Secunderabad, the prognosis was good. No recurrence and deaths were reported.

Income Group	No. of Patients Observed	Total No. of Patients	Percentage
Low	14	30	46.66
Middle	10	30	33.33
High	6	30	20
Incidence of Socioeconomic Status			

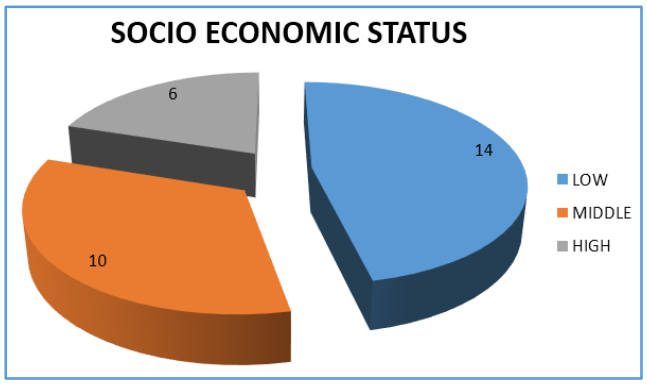

Fig. 12

Early breast carcinoma is common in low income group constituting 46.66% and low in high income groups constituting 20% (according to this study).

Quadrants	Observed Cases	Total Cases	Percentage
Upper & outer	19	30	63-33
Upper & inner	7	30	23.33
Lower & outer	2	30	6.66
Lower & inner	1	30	3.33
NAC	1	30	3.33
Quadrants Involved			

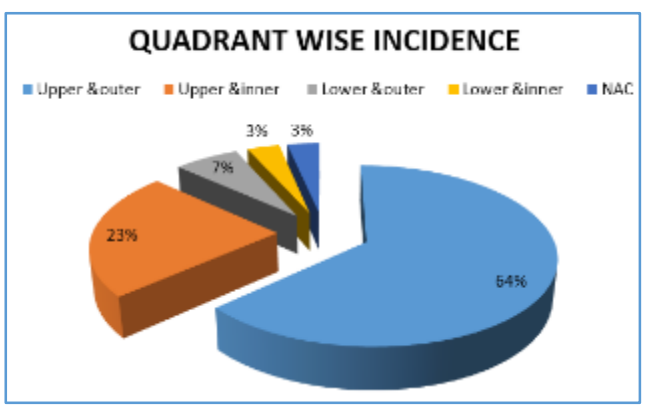

Fig. 13

The high incidence of early breast carcinoma Quadrant wise was in upper and outer quadrant which constitutes 63.33% and the least was Nipple Areolar Complex (NAC) and lower inner quadrant with a percentage of 3.33 each.

Type of Treatment	No. of Cases Treated	Total Cases	Percentage
CT	25	30	83%
RT	30	30	100%
ET	19	30	63.33
Post-operative Therapy			

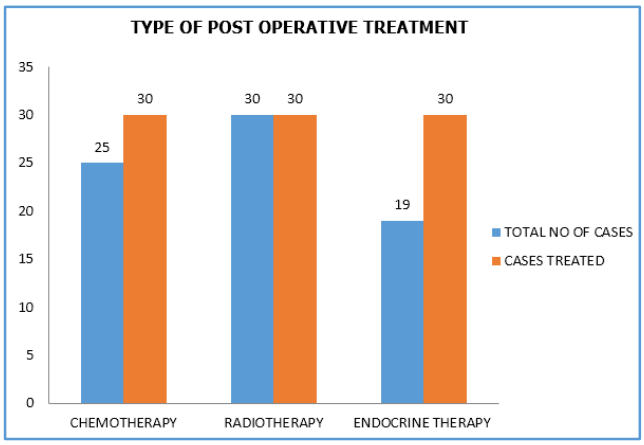

Fig. 14

After breast conservative surgery with axillary dissection or modified radical mastectomy which were operated, all the patients were given post-operative radiotherapy (100%); chemotherapy was given to 25 patients (83%) and endocrine therapy was given to 19 patients (63.33%).

HPE Report	No. of Cases	Percentage
Invasive DCC	27	90%
Invasive LCC	3	10%
Total	**30**	**100%**
Incidence of Histopathological Variety		

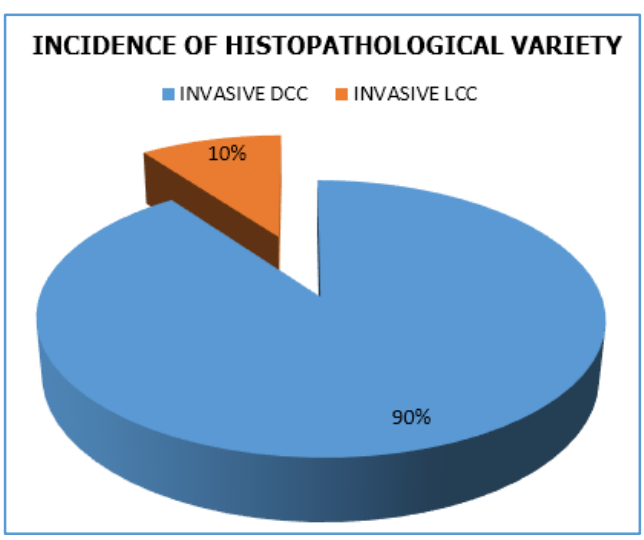

Fig. 15

DCC- Ductal cell carcinoma LCC- Lobular cell carcinoma.
Pathological types of cancer among the 30 cases studied.
Duct cell carcinoma: 27.
Lobular cell carcinoma: 3.

The invasive ductal cell carcinoma constitutes 90% in this study, whereas invasive lobular cell carcinoma constitutes 10%.

Complications	No. of Cases	Percentage
Present	1	3%
Absent	29	97%
Total	30	100%
Post-op Complications		

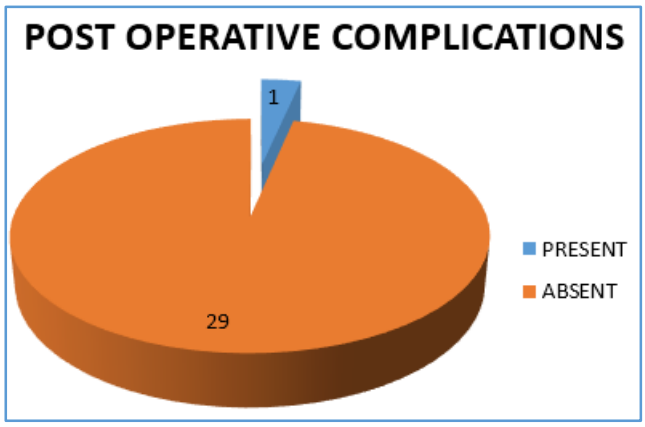

Fig. 16

Lymphedema is the complication in 1 patient.

CONCLUSION: This study was chosen with an idea of conducting a review of the available literature and clinical material as carcinoma of female breast accounts for 1/5th of all cancer deaths in women. It is second commonest malignancy in them, the first being carcinoma of cervix.

During October 2012- October 2014 in our Hospital, 30 patients were admitted with early carcinoma breast which accounts 0.98% of 3060 female patients admitted in general surgical ward of our Hospital.

In the present study of early breast carcinoma breast account for the clinical stages are stage I and II (T2NIMO) involving single breast.

The highest age incidence was between 40-60 years. The average time taken by patients to seek medical advice was about 5-7 months.

This shows the inhibition on part of patients to seek medical advice which can be attributed partly to shyness and partly to lack of education and awareness to appreciate the gravity of disease. This may be due to illiteracy and in adequacy of health education.

The commonest presentation was palpable or impalpable lump in breast with or without pain.

As majority of tumors belong to stage I and II, breast conserving surgery, i.e. wide local excision and modified radical mastectomy followed by radiotherapy, chemotherapy and hormonal therapy accordingly.

Though the above figures do not give us the exact incidence of disease in this part, they give us the relative impotence what our figure speak. This stresses the importance of screening and early diagnosis for better prognosis. For the screening of early breast carcinoma mammography plays an important role in detection along with mammography x-ray chest, liver function tests, blood count are sufficient to screen the patients with early breast carcinoma.

In this study 7 out of 30 cases were managed with breast conserving surgery (wide local excision) and 23 cases with modified radical mastectomy. Postoperative treatment was given in the form of radiotherapy, chemotherapy and hormonal therapy accordingly.

It should be remembered that "Any lump in breast of a woman of cancer developing age should be regarded as malignant unless proved otherwise."

The public should be educated through all the health educating media, regarding the seriousness of disease, the early symptoms of disease.

They must be encouraged to get a regular and periodical medical checkup. A generous increase in facilities for treatment by both surgery and radiation go a long way in achieving better result.

The Prognosis of early stage breast carcinoma patients in this study was good: Hence, in order to have long-term tumor free and good results the patients should report early.

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