



Oncology

A CLINICAL STUDY OF ESTROGEN AND PROGESTERONE RECEPTORS STATUS AND CLINICAL STAGE OF CARCINOMA BREAST PATIENTS IN UPPER ASSAM (A PROSPECTIVE STUDY)

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ABSTRACT

Introduction: Carcinoma breast is the most common cancer in women worldwide. But mortality is decreasing due to early detection by active screening program and better understanding of receptors status and treatment following results of receptors status. But in India patients usually presents in later stage due to lack of awareness and active screening program. So BCS is not possible and MRM is the treatment of choice along with neoadjuvant chemotherapy which cause more morbidity.

Method and material: study was conducted in Assam medical college and hospital from June 2017 to January 2018 and patients followed by a variable period of 3 to 6 months. Cases were diagnosed and treated according to stage of their carcinoma.

Results: mean age of presentation is 43.11 yrs. Most common stage at presentation stage 3a(38.24%) and stage 2b(35.29%). ER receptors positivity is 50%. HER-2/neu positivity is 47%. Triple positive 23.53% and triple negative 11.76%.

Conclusion: Receptors status should be done in all cases then hormonal / targeted therapy should be started which improves survival. In India average age for presentation is a decade earlier than western countries so we should start an active screening program which should start at 35 yrs of age.

KEYWORDS : Carcinoma, ER, PR,HER-2/neu, stage,hormonal therapy.

INTRODUCTION

Carcinoma breast is the most common cancer in women worldwide. Despite having such large number of patients mortality associated with breast carcinoma is constantly decreasing worldwide. The reason behind is early detection by active screening program and improved understanding of molecular biology of tumour which helps in improved treatment. But in India survival has not improved much as compared to western countries due to lack of any screening programme and awareness. Breast carcinoma has mainly 3 types of receptors which are useful in treatment and prognosis. These are ER, PR, HER-2/neu receptors. If hormonal receptors are positive then add endocrine therapy and if HER-2/neu receptor positive then monoclonal antibody is given.

METHODS AND MATERIALS

This prospective observational study included 34 patients of breast carcinoma who were admitted in Assam Medical College from June 2017 to January 2018. The diagnosis was based on a thorough history and clinical examination and investigations.

Inclusion criteria: All patients above 12 years of age were admitted to surgical ward with proven or possible case of carcinoma breast who underwent complete treatment in Assam Medical College and Hospital.

Exclusion criteria:

1. Patients underwent surgery but on histopathological examination diagnosed as benign breast disease.
2. Previously treated patients came with recurrence.
3. Male breast carcinoma.
4. Patients who left the study before completion of treatment.

In this study each case was evaluated with a preformed proforma which included a detailed history and examination. Written consent was taken from each patient after explaining them the procedure in their own language. Patients were then classified according to the clinical TNM staging. FNAC/Core needle biopsy of the lump under study was taken along with this FNAC of the lymph nodes also retrieved if they were found to be positive. Ultrasound of the abdomen, routine blood investigation, X-Ray chest were also done for all the patients. Patients were treated according to clinical stage and specimen labeled and were sent for histopathological examination and immunohistochemistry.

Treatment of stage I and stage II (Early breast carcinoma)- Breast Conservating surgery + Radiotherapy ± Chemotherapy or modified radical mastectomy + chemotherapy.

Stage III (Locally advanced breast carcinoma) – Neoadjuvant Chemotherapy + Modified radical mastectomy ± Radiotherapy.

Stage IV – Palliative Chemotherapy.

In all the patients hormonal/ monoclonal antibody therapy given according to their receptor status.

OBSERVATIONS AND RESULTS

Mean age of presentation of patients was 43.11 years. Youngest patient was 20 years of age and oldest patient was 72 years of age. Most common age group in this study was 41 to 50 years of age. Most of the patients (91.17%) presented with symptoms of duration ranging from 2 to 6 months. Left upper outer quadrant was the most common site of lump in our study. Most of the women (61.76%) were premenopausal. Most patients had 2 or 3 children.

Stage at presentation

Table 1: showing clinical stage at presentation.

Stage	Number of patients	Percentage
0	0	0%
1A	0	0%
1B	0	0%
2A	4	11.76%
2B	12	35.29%
3A	13	38.24%
3B	3	8.82%
3C	0	0%
4	2	5.88%
Total	34	100%

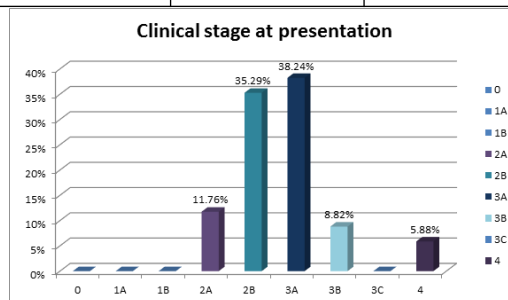
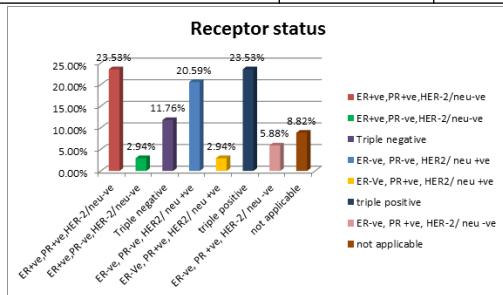


Figure 1: showing clinical stage at presentation.

As we can see from above table and bar diagram that most of the patients in this series presented with stage III which is locally advanced breast carcinoma.

Receptor Status**Table 2: showing receptor status.**

Receptor status	Number of cases	Percentage
ER+ve, PR+ve, HER-2/neu-ve	8	23.53%
ER+ve, PR-ve, HER-2/neu-ve	1	2.94%
Triple negative	4	11.76%
ER-ve, PR-ve, HER-2/neu+ve	7	20.59%
ER-ve, PR+ve, HER-2/neu+ve	1	2.94%
Triple positive	8	23.53%
ER-ve, PR+ve, HER-2/neu-ve	2	5.88%
Not applicable	3	8.82%
Total	34	100%

**Figure 2: showing receptor status.**

As we can see from above table and bar diagram that most of the patients in this study were ER+ve(50%).

HER-2/neu positivity was 47%. Triple negative were 11.76% in this series.

DISCUSSION

In this prospective observational study done in A.M.C.H, we took a total number of 34 patients who were observed for a variable period of 3 to 6 months.

Mean age of presentation in western countries is 50 to 70 years but in India it is lower as compared to the western countries. Different studies like **D.S Sandhu et al(2010)**¹ stated the mean age of presentation as 47.39years. while our study shows mean age as 43.11 years.

Most of the patients (91.17%) in upper Assam present after a delay of 2 to 6 months in our study which is consistent with other studies done in other part of india like study done by **D.S Sandhu et al(2010)** which showed duration of symptoms more than 3months in 65.1% of patients where as study done by **Amgiavasanth A.M et al² (2016)** showed that duration of symptoms more than 1months in 39.5% of patients. It is due to lack of awareness about carcinoma breast and absence of active screening programme in India but is present in all western countries.

Most common site of lump in our study was left upper outer quadrant (55.88%) this was consistent with studies done by likes of **Weiss H.A et al (1996)**³-53% and **D.S Sandhu et al(2010)** – 51.6% respectively. Reason for this unknown and needs further investigations.

In other studies as done by **Raina V et al (2005)**⁴ showed that more patients were postmenopausal (58.6%), similar observation was seen in studies done b **D.S Sandhu et al (2010)** -55.76%, **Vedashree M.K et al⁵(2016)** has 56.2 % patients as postmenopausal. While in our study premenopausal population was more (61.76%) the reason being early age of presentation in upper Assam region.

In western countries most of the patient present as early breast carcinoma which was consistent with the study done by **Yip C et al⁶ (2006)** - 70% whereas in India studies done showed that most of the patients present with locally advanced breast carcinoma which is consistent with present study – 47.06% and other studies such as **Raina V et al (2005)** - 47.6%, **D.S Sandhu et al (2010)** - 41.2%, **Suresh Clement H et al⁷(2007)**- 44.6%. As most patients here present with locally advanced breast carcinoma so breast conservative surgery is not possible hence most of the patient have undergone neoadjuvant chemotherapy and modified radicle mastectomy, which carries higher morbidity and mortality than BCS. It also has psychosocial and economical impact on patient's life.

Estrogen receptor positivity in our study is 50% which is consistent

with **Raina V et al (2005)** – 53.7%, **Yip C et al (2006)** – 55.7%, **Amitt Mittal et al (2017)** – 50%.HER-2/ neu positivity in our study 47.06% whereas in study done by **Vedashree M.K et al (2016)** – 30.9%. In patient with ER positive status tamoxifen is started in premenopausal patients whereas Aromatase inhibitor is administered postmenopausal patients.in HER-2 positivity Trastuzumab , a monoclonal antibody is administered. PR positivity along with ER positivity together show greater benefit with hormonal therapy. Above treatment improves the survivalof the patient.

CONCLUSION

In India age of presentation is a decade earlier than western countries and patient usually present with locally advanced breast carcinoma. So there is a need to start an active screening programme, which should be started around 35 years of age to detect early breast carcinoma. Immunohistochemistry should be done in all patients to start hormonal / targeted therapy which improves survival.

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