INTRODUCTION
Breast carcinoma has a major impact on the health of women. Cancer of the breast is the most common cancer among women in many regions in India and has overtaken cancer cervix (1). Prognosis is related to a variety of clinical, pathological and molecular features which includes stage of the carcinoma, histologic type, grade and lymph node metastasis. Estrogen and progesterone receptors have, with increasing importance, influenced the management of this malignancy (2). With an established positive correlation between clinical staging and NPI score and between tumor grade and ER, PR status, the aim of this study is to assess the hormone receptor status in breast carcinomas and to compare them with other clinical and pathological parameters.

RESULTS:
Majority of cases were in postmenopausal women. Clinical stage 2 and histological grade 2 cases were more in number. There was significant correlation between clinical staging and NPI score and between tumor grade and ER, PR status. So, irrespective staging and other clinical parameters hormonal studies should be conducted in all cases to reduce mortality and recurrences.

SCORING SYSTEM
Scoring done by Quick Score System
Score for proportion staining
0 - No nuclear staining
1 - < 1% nuclear staining
2 - 1 - 10% nuclear staining
3 - 11 - 33% nuclear staining
4 - 34 - 66% nuclear staining
5 - 67 - 100% nuclear staining

Score for staining intensity
0 - No staining
1 - Weak staining
2 - Moderate staining
3 - Strong staining

Scores are summed to give a maximum score of 8.

NPI SCORE PROGNOSIS
NPI=0.2x tumor size (in cm)+ lymph node stage(1-3)+ histological grade (1-3) and graded as

<3.4 good prognosis
3.4 - 5.4 moderate prognosis
>5.4 poor prognosis

RESULTS:
The youngest patient was 28 years old and the oldest patient was 80 years old. Maximum number of cases were seen in 41-50 years age group. Mean age was 50.18 years. 80% of the cases were more than 40 years old. Maximum number of cases were seen in 41-50 years age group. Mean age was 50.18 years. 80% of the cases were more than 40 years old. Majority of cases were in postmenopausal. 65.2% of cases were of TNM stage 2. Of the 55 cases 41.1% had lymph node stage N1.
34.2% had lymph node stage N2 and 24.7% had lymph node stage N3. Maximum number of cases are Bloom and Richardson grade 2.

**TABLE 1: HISTOLOGICAL GRADEWISE DISTRIBUTION OF BREAST CARCINOMAS**

<table>
<thead>
<tr>
<th>S.NO.</th>
<th>GRADE</th>
<th>CASES</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>NUMBER</td>
<td>%</td>
</tr>
<tr>
<td>1</td>
<td>1</td>
<td>7</td>
</tr>
<tr>
<td>2</td>
<td>2</td>
<td>53</td>
</tr>
<tr>
<td>3</td>
<td>3</td>
<td>13</td>
</tr>
</tbody>
</table>

Majority of cases (63%) were having moderate prognosis as per NPI score.

**TABLE 2: CORRELATION OF CLINICAL STAGING WITH NPI SCORE**

<table>
<thead>
<tr>
<th>STAGE</th>
<th>GOOD PROGNOSIS</th>
<th>MODERATE PROGNOSIS</th>
<th>POOR PROGNOSIS</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>4</td>
<td>NIL</td>
</tr>
<tr>
<td>2</td>
<td>2</td>
<td>38</td>
<td>9</td>
</tr>
<tr>
<td>3</td>
<td>1</td>
<td>4</td>
<td>13</td>
</tr>
<tr>
<td>4</td>
<td>NIL</td>
<td>NIL</td>
<td>NIL</td>
</tr>
</tbody>
</table>

Table 2 shows correlation between clinical staging and NPI score. There is statistically significant correlation between the two variables with a p value of 0.001. Majority of poor prognosis cases are of grade 3.

**DISCUSSION**

Incidence of breast carcinoma is increasing in India. Prognosis is related to a variety of clinical, pathological and molecular features which include stage of the carcinoma, histologic type, grade and lymph node metastasis. Estrogen and progesterone receptors, have with increasing importance, influenced the management of this malignancy.

**AGE DISTRIBUTION:**

The mean age of patients included in our study was 50.18 years. 80.9% of the cases were more than 40 years of age. Maximum number of cases were in the age group of 41-50 years.

This is less than the observation made by Rhodes DT et al, who found more than 75% of the cases were above 50 years and the mean age was 64 years (14).

But usually in Asian countries breast carcinoma occurs a decade earlier. Our results are in concordance with the study conducted by Lakmini K.B. Mudduwa in which mean age was 52.5 years and 85.7% of the patients were more than 40 years (11).

**MENSTRUAL STATUS:**

56.2% of the patients were postmenopausal women. This is in concordance with the study conducted by Louis W.C. Chow et al, in which 52% of the women were postmenopausal (15) and Col V Dutta et al, in which 59% of the cases were postmenopausal women (16).

**HORMONE RECEPTOR STATUS IN BREAST CARCINOMAS:**

The hormone receptor status of breast carcinoma can predict the response to adjuvant endocrine therapy.

In a study conducted by Priti Lal et al at New York with 3655 breast carcinomas, ER was positive in 71.6% and PR in 47.4% (13).

Mehedad Nadji et al found in Miami with 5993 breast cancers that ER was positive in 75% of the cases and PR in 55% of the cases (21).

Li C et al from Seattle conducted a study between 1992 to 1998 and found ER positivity in 77.5% and PR positivity in 67.7% (5).

These are some of the studies conducted in western population.

According to Lakmini K.B. Mudduwa the prevalence of hormone receptor positive breast cancer in Asian countries has found to be lower than western world where more than 50% tumors express hormone receptors (11). However the number of studies performed on this topic is much less in the Asian communities compared with the western world.

Ljiljana Hulpic et al conducted a study in Croatia with 242 cases and found ER positivity in 37.5% and PR positivity in 40.6% of the cases (4).

Azizun Nisa et al studied 150 cases in Karachi and found that ER and PR was positive in 32.7% and 25.3% of the cases respectively (20).

In a study conducted by Desai SB et al in India of 798 cases ER was
positive in 32.6% of the tumors and PR was positive in 46.1% of the cases(6).

Col V Dutta et al conducted a study in Army Hospital and Research centre in New Delhi and found that out of 75 cases, 24% were ER positive and 30% were PR positive(16).

In this study 40% of the cases were either ER or PR positive and 60% of the cases are negative for both the receptors. ER is positive in 30.9% of the cases and PR is positive in 25.5% of the cases.

These results are not in concordance with the studies conducted in western population.

But the results of our study are in concordance with studies conducted in Asian population and one study of western population. The overall positivity rate for ER and PR is lower possibly because of the difference in techniques of evaluation(17), high tumour grades and majority being menopausal women in our study.

Nulliparity, late age at first birth, early age at menarche, higher body mass index and the use of hormone replacement therapy have all been associated with increased risk of developing an ER + tumour but with a decreased risk of developing an ER- tumour. Young patients have high levels of circulating oestrogens and a correspondingly low expression of steroid receptors, which is reflected in their tumours. There appears to be a variation in steroid receptor positivity in the Asian population(16).

CORRELATION OF HORMONE RECEPTOR POSITIVITY WITH OTHER PROGNOSTIC VARIABLES:

In this study there is a statistically significant association between ER, PR status and histological grade. Hormone receptor expression decreases with increasing tumor size but no statistically significant association between the two variables. No significant of ER, PR status with clinical staging, lymph node metastasis and NPI score noted.

Lakmini.K.B.Mudduwa has found a significant inverse relation ship with the grade and ER, PR expression in his study. His study also shows no significant association of hormone receptor status with tumor size and lymph node metastases(11).

Ana Lucia Amaran Eisenberg et al in Brazil also has established a significant correlation between ER, PR status and histological grade(8).

Col.V Dutta in India observed that the reactivity for steroid receptor decreases with increasing grade but no significant association with other variables like lymph node metastases, tumor size(16).

Ljiljana Hupic has found no statistically significant association between ER, PR status and NPI score in concordance with our study but in contrast to this study there is a significant association with lymph node metastases(4).

Kenneth McCarty and Rosemary.R.Millis et al have also obtained similar results of association between ER, PR status and histological grade but no association with other progostic variables (18,19).

This study shows results of association between ER, PR status and other prognostic variables comparable to most of the studies conducted especially in Asian population.

CONCLUSION

73 cases of mastectomy specimens were received and clinical staging, histological grading and NPI score were analysed for these cases. 55 cases were selected at random and ER, PR status was analysed using Quick score.

Greater than 80% of the cases were 40 years and above and majority were postmenopausal. Maximum number of cases were stage 2 and grade 2 with majority having no lymph node metastases.

ER was positive in 30.9% and PR in 25.5%, as the prevalence of hormone receptor positive breast cancers is less in the study population of Asian women compared with western world. There was a statistically significant association between hormone receptor expression and histological grade but not with other prognostic factors.

Presence of hormone receptors correlates well with response to hormone therapy. There is a significant decrease in mortality and tumor recurrences with hormone therapy. So, determination of ER, PR status is essential in all cases irrespective of clinical staging and lymph node metastasis.

REFERENCES

11. Lakhmimini.K.B.Mudduwa. Quick score of hormone receptor status of breast carcinoma: Correlation with other clinicopathological prognostic parameters. Indian Jour of Pathology and Microbiology, 2009; 52(2)p:159-63.