A Study on the Receptor Status in Carcinoma Breast

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Abstract- Methods: 80 patients were included in this study, who were diagnosed with carcinoma breast and underwent surgery followed by receptor status analysis. This is a retrospective study wherein the receptor status of these patients were analysed to assess the incidence and type of receptor involved. Receptors studied include ER, PR and Her 2neu.

Result: from the above study it was concluded that, the percentage of patients with ER+/PR+ were 41.3%, ER+/PR-were 1.3% , ER-/PR+ were 1.3%, ER-/PR- were 53.8% and percentage of Her2neu positive were 8.8% while Her2neu negative were 91.3%. Percentage of patients with triple negative receptor status was 62.5%.

Conclusion: from this study it can be concluded that most patients presenting to our hospital have ER, PR and Her 2neu NEGATIVE STATUS which has a poor prognosis and high mortality.

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I. Introduction

Breast cancer is the most common cancer in women and is the leading cause of death for women aged 20 to 59 years.[1],[2] It accounts for 26% of all newly diagnosed cancers in females and is responsible for 15% of the cancer-related deaths in women.[2]

In the 1970s, the probability that a woman in the United States would develop breast cancer was estimated at 1 in 13; in 1980 it was 1 in 11; and in 2004 it was 1 in 8. Cancer registries in Connecticut and upper New York State document that the age-adjusted incidence of new breast cancer cases had increased since the mid-1940s. [3]

The median age of presentation was 49 years of age. Infiltrating ductal carcinoma was the commonest histopathological variant (81.40%) followed by medullary carcinoma (10.36%) and mucinous carcinoma (2.74%). Triple negative were found to be the commonest group comprising 39.4% of all the cases followed by ER and PR both positive.[4] ER/PR negative patients are associated with higher mortality.

The aim of this study is to assess the receptor status of patients with carcinoma breast who presented to father Mullermedical college in the last 1yr as I the recent past there is shift in receptor status to triple negative, which is associated with poor prognosis.

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II. Materials and Methods

In this study, 80 patients were included, who underwent surgery for carcinoma breast. The specimen was subjected to histopathological examination to confirm the diagnosis and later was analysed for the receptor status. The receptor studied were ER, PR and Her 2 neu. They were analysed based on the frequency of incidence.

III. Results

The receptor status was tabulated based on frequency and percentage of each receptor in relation to the total study population. They were divided into 5 categories as shown below.

Table 1 : ER +ve and PR +ve

	Frequency	Percent
NO	47	58.8
YES	33	41.3
Total	80	100.0

Table 2 : ER +veand PR –ve

	Frequency	Percent
NO	79	98.8
YES	1	1.3
Total	80	100.0

Table 3 : ER –ve and PR +ve

	Frequency	Percent
NO	79	98.8
YES	1	1.3
Total	80	100.0

Table 4 : ER –ve and PR –ve

	Frequency	Percent
NO	37	46.3
YES	43	53.8
Total	80	100.0

Table 5 : Her 2 neu

	Frequency	Percent
NIL	73	91.3
YES	7	8.8
Total	80	100.0

Among the 80 patients studied, the percentage of patients with ER+/PR+ were 41.3%, ER+/PR- were 1.3% , ER-/PR+ were 1.3%, ER-/PR- were 53.8% and

percentage of Her2neu positive were 8.8% while Her2neu negative were 91.3%. Percentage of patients with triple negative receptor status was 62.5%.

IV. Discussion

In our study, 80 patients were included who underwent surgery for carcinoma breast followed by receptor status analysis. Knowing the receptor status is of paramount importance as the treatment and prognosis of the patient depends on that. In India, there is and increased incidence of triple negative receptor status which has poor prognosis. Hence this study was undertaken in patients admitted in Father Muller medical college in the last 1yr with carcinoma breast.

According to this study, ER and PR negative was the commonest with 53.8%. Her 2neu negative patients were also high which was about 91.3%.second most common was ER and PR positive which was about 41.3%. triple negative receptor i.e ER and PR negative with Her 2neu negative was found to be high which was about 62.5%.

Guinee VF stated that breast cancer is the most common cause of death in women aged 20-59yrs.[1]

Jamel A et al observed that breast cancer accounts for 26% of all newly diagnosed cancers in females and is responsible for 15% of the cancer-related deaths in women.[2]

F.Charles Brunicardi et al gave a probable statistics about the rise in incidence of breast cancer over the last three decades.[3]

In another study it was observed that the median age of presentation was 49yrs. They also calculated the commonest type of carcinoma breast and the incidence of hormone receptor status.[4]

A study in southeastern turkey concluded that the commonest receptor which is positive is PR followed by ER and HER2.[5] this finding was contrary to the finding in our study.

In a study by Akthar MI, 87% of the patients were triple negative, who had locally advanced tumor.[6]

According to Lisa K Dunnwald, when compared to women with ER+/PR+ tumors, women with ER+/PR-, ER-/PR+, or ER-/PR- tumors experienced higher risks of mortality.[7]

Caldarella A stated in her study that, Out of 1487 patients 70.3% were luminal A subtype (ER/PR + HER2-), 15.6% luminal B (ER/PR + HER2+), 8.1% triple negative (ER/PR-HER2-), 6.0% HER2+ (ER/PR-HER2+). The 3 year survival rates were 93.3%, 89.5%, 86.3%, 82.7% respectively.[8]

V. Conclusion

From this study it can be concluded that, ER and PR negativity and her 2neu positivity are high among the population in Mangalore. The incidence of triple negativity, which is associated with high mortality is also high among the patients presented in Father Muller Medical College in the last 1yr. this finding correlate well with the findings in other parts of India where there is shift in receptor status toward triple negativity. Such patients require aggressive management of the disease for better survival.

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