



CLINICOPATHOLOGICAL CORRELATION OF TRIPLE NEGATIVE AND HER 2 POSITIVE BREAST CANCERS

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ABSTRACT **INTRODUCTION:** Breast cancer is presently the most common cancer in women. [1] Breast cancer is a heterogeneous disease. It is classified according to its histologic pattern into various groups having differing prognosis. While treating the patient, the factors taken into account are histologic type, modified Bloom Richardson score, TNM stage, estrogen and progesterone receptors (ER and PR) status, and overexpression of human epidermal growth factor receptor 2 (Her2). Studying the clinicopathological characters of different types of breast tumors helps in understanding the course of the disease and to stratify the treatment protocols. and there are very few studies available correlating the clinicopathological features of triple negative and her 2 positive breast tumors in Indian patients. To compare the clinical features and post-surgery pathological parameters among women with “triple-negative” and her 2 positive breast cancer. **MATERIALS AND METHODS:** This was a retrospective study of patients who have attended FMMCH oncology department in the past 1 year and with diagnosis of carcinoma breast, belonging to either triple negative or HER 2 positive group. Clinical records of the cases will be retrieved and analyzed. The data will be collected from patients records who had attended services in Father Muller medical college, Oncology department, who have satisfied the inclusion criteria **RESULTS:** Luminal A carcinoma was the most common (97 cases 32.22%), followed by TNBC (45 cases, 14.5%) and HER2/neu positive carcinomas (92 cases 30.7%). **CONCLUSION:** TNBC were mostly high-grade. with poor prognosis.

KEYWORDS :

INTRODUCTION

Breast cancer is presently the most common cancer in women. [1] Breast cancer is a heterogeneous disease. It is classified according to its histologic pattern into various groups having differing prognosis. While treating the patient, the factors taken into account are histologic type, modified Bloom Richardson score, TNM stage, estrogen and progesterone receptors (ER and PR) status, and overexpression of human epidermal growth factor receptor 2 (Her2). The presence of ER and PR predicts that the cancer will respond to hormonal therapy and overexpression of Her2 predicts that the cancer will respond to anti HER 2 therapy. Triple negative breast cancers (TNBC) are defined as tumors that lack ER, PR expression, and Her2 overexpression. These tumors form a distinct group because they affect younger patients and are more aggressive when compared with non-TNBC. Patients of TNBC have low 5 years survival and high recurrence after adjuvant therapy. [2] TNBC account for 10-20% of all breast cancers worldwide and different molecular subtypes have been identified, the basal like subtype being the most common [3,4]. The basal like subtype is associated with an aggressive clinical behavior, present usually in younger women with early development of recurrence, distant metastasis and poor survival [5]. Amplification of the human epidermal growth factor receptor 2 (HER2) is observed in 15%–20% of all the patients with breast cancer [6,7]. This subtype is associated with a high recurrence rate and poor outcome [8]. Studying the clinicopathological characters of different types of breast tumors helps in understanding the course of the disease and to stratify the treatment protocols. and there are very few studies available correlating the clinicopathological features of triple negative and her 2 positive breast tumors in Indian patients. To compare the clinical features and post-surgery pathological parameters among women with “triple-negative” and her 2 positive breast cancer.

MATERIALS AND METHODS

This was a retrospective study of patients who have attended FMMCH oncology department in the past 1 year and with diagnosis of carcinoma breast, belonging to either triple negative or HER 2 positive group. Clinical records of the cases will be retrieved and analyzed. The data will be collected from patients records who had attended services in Father Muller medical college, Oncology department, who have satisfied the inclusion criteria

INCLUSION CRITERIA:

- 1) Breast cancer patients post upfront surgery with TNBC and HER 2 positive status.

EXCLUSION CRITERIA :

- 1) Patients with ER or PR positivity.
- 2) Patients who have received Neoadjuvant chemotherapy
- 3) Patients with metastatic cancer who are not planned for surgery.

RESULTS

Of the 301 patients, 69(22.9 %) patients were diagnosed as TNBC. The average age at presentation was 42 years. Most of the cases showed Nottingham Modification of Scarff Bloom-Richardson (NMBR) grade 3 (60%, 90 cases) and stage II (218 cases, 72.5 %). Lymph node metastasis was seen in 62.10% of 187 cases. (Infiltrating ductal carcinoma (not otherwise specified) type (91.2%) was the most common histological type. Among the other subtypes, Luminal A carcinoma was the most common (97 cases 32.22%), followed by TNBC (45 cases, 14.5%) and HER2/neu positive carcinomas (92 cases 30.7%).

DISCUSSION

In a Study done by Gaopande L et al, concluded that TNBC presents earlier, has a larger tumor size at presentation and showed lymphovascular invasion in a significantly high number of cases. Majority are grade II tumors and lymph node positivity at presentation is higher than in non-TNBC. There was no correlation between tumor size and lymph node positivity in the TNBC group. [8].

Similar Study done by Nabi MG et al on clinicopathological features of TNBC concluded that 34.4% patients of their study were TNBC and is associated with more aggressive clinicopathological features. TNBC occurred at younger age, presented with high histopathological grade and larger tumor size as compared to non-TNBC tumors. TNBC patients also had a high rate of axillary lymph node metastasis and lymphovascular involvement as compared to non-TNBC patients [9]

Study done by park et al. on characteristics and outcomes of different subtypes of breast cancers showed that the prevalence of luminal a, luminal b, her2-enriched, and tnbc accounted for 53.1%, 21.7%, 9.0%, and 16.2% of cases, respectively. Luminal A presented as well-differentiation and more co-expression of hormone receptors

comparing to Luminal b. HER2-enriched showed larger size and higher nodal metastasis. tnbc demonstrated younger age at diagnosis, larger size, undifferentiating, higher proliferation, and frequent visceral metastases.¹⁰

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