

ABSTRACT

TITLE : Comparative study of neoadjuvant chemotherapy in hormone receptor positive and negative locally advanced breast carcinoma

BACKGROUND AND AIMS

Locally advanced breast carcinoma is a diverse and heterogeneous group of breast cancer common in developing countries. Though, thought initially as incurable, is now being cured by the use of neoadjuvant chemotherapy and surgery. The study aimed in evaluating the clinical and pathological response of locally advanced breast carcinoma to neoadjuvant chemotherapy with respect to its hormone receptor status and also the feasibility of surgery in inoperable locally advanced breast carcinoma.

SETTING & DESIGN

A prospective comparative study conducted in General Surgery department in Tirunelveli Medical College from January 2016 to March 2017.

MATERIALS AND METHODS

50 locally advanced breast carcinoma patients were selected as study subjects and divided into two groups, based on their hormone receptor status as hormone receptor positive (ER+,PR+) and hormone receptor negative.(ER-,PR-). All these patients were given 3 cycles of neoadjuvant chemotherapy- FAC regimen: Cyclophosphamide – 500 mg/m², 5-Fluorouracil- 500 mg/m², Adriamycin- 50 mg/m², followed which the response to chemotherapy was measured. The patients who were operable after neoadjuvant chemotherapy were subjected to surgery (Modified radical mastectomy) and the mastectomy specimens were sent for histo-pathological analysis and the pathological response was studied.

Patients with neoplasms of breast other than locally advanced breast carcinoma, tumours with Her-2 neu receptor positivity, inflammatory carcinoma of breast were excluded from the study.

STATISTICAL ANALYSIS

All continuous variables were analysed using student's t test and categorical variables by chi -square test.

RESULTS

Mean age of the study population was 47 years and mean tumour size was 8 cms. 50 patients were enrolled, out of which 37 patients (74%) were hormone receptor positive and 13 patients (26%) were hormone receptor negative. Complete clinical response was observed in 13 patients(26%), partial response in 32 patients (64%) and stable disease in 5 patients (10%). Out of these, 18.9% of complete clinical response occurred in hormone receptor positive patients whereas it was 46.1% in hormone receptor negative patients. Partial clinical response being 70.2% and 46.1% in hormone receptor positive and negative patients respectively. Overall the response rate was good in hormone receptor negative patients (92.3%). All the hormone receptor negative patients were operable after 3 cycles of chemotherapy. All the 7 patients who were inoperable were hormone receptor positive.

Similarly, complete pathological response was seen in 9 patients (21%), partial response in 25 patients (58%) and residual disease in 9 patients (21%). 38.4% of hormone receptor negative patients achieved complete pathological response on comparing with hormone receptor positive group (13.3%). Partial pathological response and residual disease in hormone negative patients were 46.1% and 15.3% respectively. Pathological response rate was also higher in hormone receptor negative patients (84.6%).

CONCLUSION

Neoadjuvant chemotherapy helps in downstaging of locally advanced breast carcinoma and renders inoperable tumours operable. Response to chemotherapy varies with hormone receptor status. Clinical and pathological response to chemotherapy is higher in hormone receptor negative patients.

KEYWORDS

Locally advanced breast carcinoma, neoadjuvant chemotherapy, hormone receptor status.