Survival Outcomes in Patients with Clinical Complete Response Following Neoadjuvant Chemotherapy: Is Omitting Surgery an Option?

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BACKGROUND

• Neoadjuvant chemotherapy (NCT) can reduce the extent of surgery both for the breast and for the axilla.
• In the last decade, it is widely used not only for locally advanced breast cancer, but also for some early-stage breast cancer patients with biologically aggressive subtypes, such as triple-negative and HER2+ disease, who would normally need adjuvant chemotherapy.
• Developments of new drugs and treatment combinations have increased the rates of response, and increased pathologic complete response (pCR) rates have led to the hypothesis that surgery to the primary site may not be necessary for a subset of patients.

OBJECTIVE

• As there are limited data on patients with clinical complete response (cCR) after NCT who did not undergo surgery, we sought to evaluate the survival outcomes of these patients using the National Cancer Data Base (NCDB).

METHODS

Patient Cohort

• Using the NCDB, we identified 93,417 women ≥18 years of age who were diagnosed with invasive breast cancer and received NCT between 2010 and 2015.
• In order to determine the effect of NCT on survival, we extracted two different cohorts: a non-surgical and surgical cohort (Figure 1).

RESULTS

Table 1: Clinical-pathologic features of non-surgical and surgical cohorts, NCDB, 2010-2015.

CONCLUSIONS

• Omission of surgery for select group of patients with cCR after NCT may be the next step in advancement in breast cancer care.
• This retrospective cohort study demonstrated that active surveillance or de-escalating therapy to the primary tumor site and administering radiotherapy to the involved breast could be an option to consider in patients who achieved cCR after NCT as part of a clinical trial.
• The results from ongoing trials along with new drug combination therapies and improved imaging and biopsy techniques may help physicians identify patients who may not need surgery to the breast following NCT.

Figure 1. Patient selection flow diagram

Non-Surgical COHORT

Excluded: • Patients underwent surgery • ≥1 cancer over the lifetime • Cases with metastases • In situ carcinomas • Only nonneoadjuvant hormonal therapy • Cases with missing or discordant data about systemic therapy, follow-up, vital status

No adjuvant therapy administered (N=91,417)

Surgical COHORT

Excluded: • ≥1 cancer over the lifetime • Cases with metastases • In situ carcinomas • Only nonneoadjuvant hormonal therapy • Cases with missing or discordant data about systemic therapy, follow-up, vital status

Patients receiving NCR (N=3938)

Patients receiving NCT (N=505)

Figure 2. Kaplan-Meier survival plots for NCT patients with cCR followed surgery vs those who did not.

Figure 3. Kaplan-Meier survival plots for NCT patients who had surgical resection vs those who did not.

REFERENCE


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METHODS

Statistical Analysis

• To assess differences in categorical and continuous variables, Pearson’s Chi-squared, independent samples t-test and one-way ANOVA test were performed.
• Variables that are related with cCR with p-values <0.10 in the univariable analysis were entered into a multivariable binary logistic regression model.
• Kaplan-Meier survival curves were used to illustrate overall survival (OS) differences for the entire non-surgical and subgroups.
• Log-rank tests with p-values <0.05 were considered statistically significant.