Trastuzumab Does Not Negatively Impact Cardiac Function for Women with Breast Cancer in Long-term Follow-Up

PITTSBURGH, PA — Long-term follow-up results of the NRG Oncology trial NSABP B-31 have shown that the addition of trastuzumab to adjuvant chemotherapy does not negatively affect cardiac function in women with node-positive, human epidermal growth factor receptor 2 (HER2)-positive, early-stage breast cancer who survive without cancer recurrence. Both patients who received trastuzumab in addition to chemotherapy and patients who received chemotherapy only maintained good cardiac function. Results of this follow-up analysis were published online in the Journal of Clinical Oncology.

“Breast cancer patients who received anthracycline and taxane-based chemotherapy with or without trastuzumab maintained excellent cardiac function a median of 8.8 years after treatment was started. In addition, patient reports of greater cardiac symptoms indicated more cardiac problems in the small group who had difficulties. Overall, for the relatively young women who entered this trial, the risks of cardiac late effects were minimal,” commented Patricia A. Ganz, MD, of the University of California, Los Angeles, lead author of the article. Co-author Edward Romond, MD of the University of Kentucky, Lexington, added, “Our study improved the 10 year survival for women with this type of aggressive breast cancer to 84% and now our long term follow-up of how these women are doing provides positive and encouraging data specifically about their cardiac function and health. We owe a great debt of thanks to the women who participated in this clinical trial.”

Prior to this study, limited information was available regarding the long-term follow-up of cardiac function and health-related quality of life in patients who remained disease-free following the completion of adjuvant chemotherapy. Previous studies suggested that early cardiac toxicity was a risk associated with adjuvant treatment when combined with trastuzumab. However, at median follow-up of almost 9 years, patients who were treated with anthracycline and taxane-based chemotherapy with added trastuzumab on NRG Oncology/NSABP B-31 did not experience long-term worsening of cardiac functioning or health-related quality of life.

Researchers assessed cardiac function through the measurement of left ventricular ejection fraction by multiple-gated acquisition (MUGA) scan and health-related quality of life using the Duke Activity Status Index (DASI) and the Medical Outcomes Study questionnaire. Current medications and comorbid conditions were also considered. Only 4.5% of patients from the control group and 3.4% from the trastuzumab group had a >10% decline in left ventricular ejection fraction from the baseline to a value <50%. Lower DASI scores were linked with age and use of certain medications yet lower scores did not correlate with the addition of trastuzumab. Moving forward, the DASI could prove beneficial for monitoring patient-reported changes with regard to cardiac functioning.

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protocol B-31: A randomized trial comparing the safety and efficacy of doxorubicin and cyclophosphamide followed by paclitaxel to that of doxorubicin and cyclophosphamide followed by paclitaxel and trastuzumab in node-positive breast cancer patients who have tumors that overexpress HER2. *Journal of Clinical Oncology* 2017. [Epub online: 10-24-17]. [https://doi.org/10.1200/JCO.2017.74.1165](https://doi.org/10.1200/JCO.2017.74.1165)

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NRG Oncology conducts practice-changing, multi-institutional clinical and translational research to improve the lives of patients with cancer. Founded in 2012, NRG Oncology is a Pennsylvania-based nonprofit corporation that integrates the research of the National Surgical Adjuvant Breast and Bowel Project (NSABP), the Radiation Therapy Oncology Group (RTOG), and the Gynecologic Oncology Group (GOG). The research network seeks to carry out clinical trials with emphases on gender-specific malignancies, including gynecologic, breast, and prostate cancers, and on localized or locally advanced cancers of all types. NRG Oncology’s extensive research organization comprises multidisciplinary investigators, including medical oncologists, radiation oncologists, surgeons, physicists, pathologists, and statisticians, and encompasses more than 1,300 research sites located world-wide with predominance in the United States and Canada. NRG Oncology is supported primarily through grants from the National Cancer Institute (NCI) and is one of five research groups in the NCI’s National Clinical Trials Network.