NRG Oncology researchers reported at the San Antonio Breast Cancer Symposium on December 8 that estrogen deprivation for women with HER2-positive breast cancer with goserelin and an aromatase inhibitor (AI) while administering neoadjuvant chemotherapy did not completely overcome treatment resistance.

NSABP B-52 "A phase III trial evaluating pCR in patients with HR+, HER2-positive breast cancer treated with neoadjuvant docetaxel, carboplatin, trastuzumab, and pertuzumab (TCHP) +/- estrogen deprivation: NRG Oncology/NSABP B-52" compared adding estrogen deprivation therapy plus neoadjuvant therapy to neoadjuvant therapy alone in women with locally advanced, hormone receptor-positive, HER2-positive invasive breast cancer.

A total 315 patients with locally advanced, hormone-receptor-positive, HER2-receptor-positive invasive breast cancer were randomly assigned to one of two arms in the study. Women in both arms received neoadjuvant therapy consisting of docetaxel, carboplatin, trastuzumab, and pertuzumab (TCHP) every 3 weeks for 6 cycles. Premenopausal women in arm 2 then also underwent ovarian function suppression using goserelin plus an AI. Postmenopausal women in arm 2 received an AI. AI choice was at the discretion of the investigator. Patients also received adjuvant radiation therapy and endocrine therapy, as clinically indicated.

Results of this study, funded by Genentech and the National Cancer Institute, showed that the addition of estrogen deprivation to neoadjuvant chemotherapy was not antagonistic and did not increase toxicity. This approach improved pCR rates numerically, although the improvement was not statistically significant.

"Because this combination did not increase toxicity and showed numerical benefit in pCR rates for some patients, this may be a reasonable approach for some, since all patients will receive endocrine therapy after neoadjuvant therapy. Correlative science studies including evaluation of residual cancer burden (RCB) and long-term outcomes will help define the role of estrogen deprivation in the treatment of HER2+ early breast cancer," says Mothaffar Rimawi, MD, principal investigator for the NRG-NSABP B-52 study and Medical Director, Smith Breast Center at the Dan L. Duncan Cancer Center at Baylor College of Medicine. “Given the toxicity of standard chemotherapy observed on this trial, findings from NSABP B-52 argue for a tailored de-escalation approach where toxic treatments are omitted or replaced with less toxic ones without compromising outcomes.”