

Informing Decision Making in Older Women with Early-Stage Triple-Negative Breast Cancer: Adjuvant Chemotherapy or Not?

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Description

While decision making and treatment recommendations regarding adjuvant or neoadjuvant chemotherapy for young, healthy women with early-stage Triple-Negative Breast Cancer (TNBC) can be supported by established national guidelines and data from randomized controlled trials (RCTs), the same decision making when encountered in older women can often be significantly more complicated and nuanced. Evidence of a survival benefit is less robust in older women who were underrepresented in RCTs that examined these questions, and the ability of the patient population to tolerate the treatment may be diminished by their older age and the co-morbidities that may accompany a geriatric population. In our recently published study [1], we utilized the National Cancer Data Base (NCDB) to explore the effect of adding chemotherapy to local therapies in women >70 years old with early-stage TNBC. This short commentary both summarizes that publication and discusses the contribution it may make to treatment decision making in older women with early-stage TNBC. In our study which examined 16,062 older women diagnosed between 2004 and 2014 with stage I to stage III TNBC, the estimated 5-year OS for patients recommended and receiving chemotherapy was 68.5% (95% CI: 66.4% – 70.6%), for patients recommended but not given chemotherapy 61.1% (95% CI: 59.0% – 63.2%), and for patients not recommended chemotherapy and not given chemotherapy 53.7% (95% CI: 51.8% – 55.8%) (Pooled log rank $p < 0.0001$). In an effort to attempt to minimize bias in this retrospective study, a propensity score matching analysis was performed and included 1,884 patients who received chemotherapy and 1,884 patients who were recommended but did not receive chemotherapy. The matching was based on age, comorbidity score, tumor grade, tumor size, nodal status and receipt or omission of radiation therapy. The estimated 5-year OS was 66.8% (95% CI=65.7%-67.9%) in the chemotherapy group compared to 61.8% (95% CI=60.8%-62.9%) in the patients recommended

but did not receive chemotherapy (HR=0.85, 95% CI=0.74-0.96, $P = .012$). The difference remained significant on multivariate analysis (HR=0.69, 95% CI 0.60-0.80, $P < 0.001$). The benefit of chemotherapy persisted in a subset analysis of lymph node status of the propensity-matched cohort, with estimated 5-year OS among women with node-negative disease receiving chemotherapy of 74.4% (95% CI=72.6%-76.2%) compared to 70.7% (95% CI=68.9%-72.4%) in the group where chemotherapy was recommended but not received (HR=0.80, 95% CI=0.66-0.97, $P = 0.007$). Estimated 5-year OS among women with positive lymph nodes treated with chemotherapy was 42.4% (95% CI 39.9-44.9%) compared to 35.1% (95% CI 32.6%-37.6%; HR=0.76, 95% CI=0.64-0.91, $P = 0.006$) in those who were recommended chemotherapy but who did not receive it. Importantly, a parallel study using similar methodology was performed and published using the Swedish National Breast Cancer Register, with similar findings, and readers are also referred to this supporting research [2]. This is not a prospective RCT, the gold standard for confirming survival benefit from adjuvant chemotherapy, but no such trial is likely to be undertaken in this age group anytime soon. Population-based observational studies (or in our case a facility-based observational study) to compare efficacy have been embraced, or at least accepted, by many organizations but have also been questioned regarding their ability to adequately eliminate bias to allow reliable and accurate conclusions [3]. We state that “limitations must be taken into account, and the findings presented in this study must be interpreted with appropriate caution.” So often in medicine decisions must still be made without the benefit of a RCT to address the question, and in such cases comparative efficacy research can provide useful information. The results of our study finding a statistically significant benefit to chemotherapy in women >70 years old with TNBC can help clinicians and patients facing the difficult decision about the addition of chemotherapy to a treatment plan for older women with early-stage disease. This data should be included in the shared decision making for each patient in the discussion of the risk and benefit to chemotherapy as part of their treatment plan.

References

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