



De-Escalation of Axillary Surgery for Older Patients with Breast Cancer: Supporting Data Continue to Accumulate

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Breast cancer is the most common non-cutaneous malignancy in women, with an average age at breast cancer diagnosis of 62 years.¹ Furthermore, in a recent study of 1.2 million patients in the National Cancer Database (NCDB) diagnosed with breast cancer, 17.5% of women were aged 75 years or older. The older patients were more likely to be diagnosed with more favorable tumor phenotypes and less likely to receive aggressive therapies, compared with the youngest cohort.² However, older patients also had worse survival outcomes,² which may be attributed in part to competing comorbidities. As such, numerous studies have sought to explore the role of de-escalation of local-regional therapies in this unique population,^{3–6} which also has implications for decreased cost.⁷

Similar to others aiming to optimize care for older patients with breast cancer, Castelo et al. sought to evaluate the impact of de-escalating axillary staging (AS). In this recently published retrospective study of 17,370 women aged 65–95 years diagnosed with early-stage breast cancer in Ontario (2010–2016), the authors reported the impact of omitting AS on survival.⁸ One of the strengths of this study was the statistical approach employed to address confounding, which included a propensity score for AS based on age at diagnosis, year of diagnosis, socioeconomic status, tumor size, estrogen receptor (ER)/progesterone receptor (PR) status, tumor grade, Charlson comorbidity score, breast surgery type, histology, and history of cancer.

After propensity score weighting and adjustment, AS omission was associated with worse overall survival (OS), but no difference in breast cancer-specific survival (BCSS) was observed.

These findings are consistent with other recent work in the field. Chagpar et al. similarly demonstrated that AS omission was associated with worse survival in 157,584 older women in the NCDB, after adjustment for patient and disease characteristics.⁹ However, using data from 115,059 patients in the Surveillance, Epidemiology, and End Results (SEER) Program, this group also demonstrated a lower BCSS in patients where AS was omitted.⁹ This difference in BCSS was not replicated in the present study by Castelo et al. who found no difference in BCSS between patients with and without AS. This contrast in outcomes may be partially attributed to the different statistical methods used in each study, and the approach by Castelo et al. to minimize confounding by using the propensity score is likely the more rigorous evaluation.

The Choosing Wisely Guidelines from the Society of Surgical Oncology recommend against routine AS in clinically node-negative women ≥ 70 years of age with early-stage hormone receptor-positive, HER2-negative invasive breast cancer.¹⁰ In a subgroup analysis of patients meeting these criteria, Castelo et al. demonstrated findings similar to their overall outcomes, meaning that while OS was worse with AS omission in patients meeting the Choosing Wisely criteria, even after adjustment, BCSS was not significantly different between those who did and did not receive AS. Since publication of the Choosing Wisely Guidelines in 2016, they have been somewhat controversial, with surgeons citing the influence of AS on multidisciplinary management as a large factor in its continued use.^{11,12} Regardless, the findings by Castelo et al. support the recommendation in the Choosing Wisely

Guidelines to limit the use of AS in older women with select disease characteristics based on the similar BCSS outcomes.

Notably, however, Castelo et al. also reported the influence of AS in the adjuvant management of breast cancer in older patients. More specifically, they found that patients without AS were less likely to receive adjuvant chemotherapy, endocrine therapy, and breast/chest wall radiotherapy, even after propensity score weighting. This finding remained significant across all subgroup analyses and is consistent with previous reports that older patients who undergo AS and are found to have positive lymph nodes are more likely to receive adjuvant treatment.^{12,13} However, Castelo et al. also found that patients without AS were more likely to receive axillary radiotherapy, which is a unique finding that has not been previously well studied. For patients who did not undergo AS, they were more likely to have larger tumors, which differs from previous studies where patients without AS were more likely to have more favorable disease characteristics.¹² Therefore, this finding of larger tumors in patients without AS may partially account for the higher rate of axillary radiation observed with AS omission in this study.

In today's era of personalized medicine, we must continually re-evaluate which surgical approaches are influencing treatment decisions and which ones are improving outcomes. Axillary surgery has changed significantly over the past few decades for all breast cancer patients based on several randomized controlled trials, going from axillary dissections for all patients, to sentinel lymph node biopsies for select patients, and now to sentinel lymph node biopsies for many patients.^{14,15} As such, the only option for continued de-escalation is omission, which is an active area of ongoing research.¹⁶⁻¹⁹ Although a sentinel lymph node biopsy is not associated with significant morbidity, there are some risks to consider, including pain, seroma formation, and lymphedema.²⁰ In addition, some consider axillary surgery in older patients to be low-value care.²¹ Taken together with the recent findings by Castelo et al., surgeons should continue to omit AS in select older patients with breast cancer.

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