



ASO Author Reflections: Right Sizing Axillary Surgery in Patients treated with Neoadjuvant Endocrine Therapy

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PAST

Neoadjuvant endocrine therapy (NET) for breast cancer historically has been used in <5% of breast cancer patients but recently has gained traction. NET has been used not only to downsize the index breast tumor to permit breast conservation, but as an *in vivo* test of response to endocrine therapy and to guide the need for chemotherapy, and, most recently, as a bridge to definitive surgery during the COVID-19 pandemic when surgical procedures were reprioritized.^{1–3} While axillary surgery has been safely de-escalated in selected patients with node-positive disease treated with surgery as the first course of treatment or with a favorable response to neoadjuvant chemotherapy, there is no data to guide management of the axilla in patients with low-volume axillary disease treated with NET. Thus, somewhat paradoxically, patients treated with NET may actually undergo more aggressive axillary therapy than breast cancer patients treated with either neoadjuvant chemotherapy or with surgery as the first course of treatment.

PRESENT

In the present study of patients with estrogen receptor-positive breast cancer treated with NET, we observed selective de-escalation of axillary surgery. This occurred for patients with who presented with both clinically node-negative and clinically node-positive disease and who were

found to have limited axillary nodal disease (1 to 2 positive nodes) at surgery after NET.⁴ Across both groups, omission of axillary dissection or axillary radiation or both was not associated with axillary nodal relapse. This indicates that thoughtful extrapolation to the NET setting of reduced axillary treatment is appropriate.

FUTURE

The use of NET should not result in escalation of axillary management. A more nuanced approach to regional therapy for axillary nodal disease in patients with estrogen-receptor positive breast cancer treated with NET is required. Axillary ultrasound and clinical examination to assess nodal disease burden at presentation can stratify patients into those with no suspicious axillary nodes, 1 or 2 suspicious axillary nodes or multiple (>2) suspicious axillary nodes.⁵ For the former two groups, we propose that following NET, especially for those patients treated with breast conservation, that sentinel lymph node surgery be performed as a first step, and axillary dissection employed selectively for patients found to have more extensive nodal disease. This allows patients to benefit both from the ACOSOG Z0011 trial findings and from NET. Axillary lymph node dissection remains an appropriate axillary operation for patients with clear evidence of greater nodal disease burden. As additional data become available, guidelines for axillary management in patients treated with NET should be developed to aid in dissemination of this approach and to avoid overtreatment of the axilla.

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REFERENCES

1. Ellis MJ, Suman V, Leitch AM, et al. Abstract PD2-10: validation of a predictive model for potential response to neoadjuvant endocrine therapy (NET) in postmenopausal women with clinical stage II or III estrogen receptor positive (ER+) and HER2 negative (HER2-) breast cancer (BC): an ALTERNATE trial analysis (alliance A011106). *Cancer Res.* 2021;81(Suppl 4):PD2-10.
2. Society of Surgical Oncology. Resource for management options of breast cancer during COVID-19. 2020. <https://www.surgonc.org/wp-content/uploads/2020/03/Breast-Resource-during-COVID-19-3.30.20.pdf>. Accessed 25 June 2021.
3. Park KU, Gregory M, Bazan J, Lustberg M, Rosenberg S, Blinder V, et al. Neoadjuvant endocrine therapy use in early stage breast cancer during the COVID-19 pandemic. *Breast Cancer Res Treatment.* 2021. <https://doi.org/10.1007/s10549-021-06153-3>. Accessed 25 June 2021.
4. Murphy B, Hoskin TL, Degnim AC, Boughey JC, Hieken TJ. Surgical management of the axilla following neoadjuvant endocrine therapy. *Ann Surg Oncol.* 2021. <https://doi.org/10.1245/s10434-021-10385-4>.
5. Hieken TJ. The promise of axillary imaging in individualized surgical management of breast cancer patients: another step forward. *Ann Surg Oncol.* 2014;21:3369–71.

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