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ASO Author Reflections: Low-Volume Sentinel Node Disease after Neoadjuvant Chemotherapy Is Still an Indication for Axillary Dissection

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Past:

A large body of literature has established the correlation between volume of disease in the sentinel lymph node (SLN) and non-sentinel lymph node (NSLN) metastasis in patients undergoing primary surgery. These studies showed that only 10–20% of patients with low-volume disease (isolated tumor cells [ITCs] or micrometastases) in the SLN had positive NSLNs at completion axillary dissection.^{1,2} In contrast, patients with macrometastasis in the SLN had a >50% probability of positive NSLNs.³ SLN biopsy use after neoadjuvant chemotherapy (NAC) in patients with cN0 and cN1–2 disease has been increasing. In this setting, the relationship between volume of disease in the SLN and NSLN metastases is unknown. Intraoperative frozen section (FS) of the SLN identifies patients with nodal disease for immediate axillary dissection and is known to have a lower sensitivity for detecting micrometastases and ITCs than macrometastases.⁴ Whether a false-negative FS result after NAC is indicative of a low risk of residual axillary disease has also not been studied.

Present:

Our study is, to the best of our knowledge, the first to examine the association between volume of disease in the SLN after NAC and the probability of NSLN metastases.⁵ We have demonstrated that unlike what is seen in the primary surgery setting, low-volume disease in the SLN does not translate to a low probability of NSLN metastases. The likelihood of positive NSLNs was comparable among patients with SLN micrometastasis and macrometastasis, 64% vs. 62%, respectively. Our analyses further demonstrate that 46% of patients with a false negative FS result had a SLN micrometastasis. Of these, 86% had 1 positive NSLNs, suggesting that patients with a false negative FS result are not at a low risk of having residual axillary disease. These results are not surprising since post-NAC micrometastases may be due to a partial response in a macrometastases and not simply a low disease burden. We cannot comment on the significance of ITCs since we only had 6 cases.

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Future:

The clinical significance of residual axillary disease remains an area of investigation. Residual tumor cells in the lymph nodes following NAC may represent a selected population of chemotherapy resistant cells, and whether or not they can be safely managed without an axillary dissection is unclear. The Alliance A11202 trial randomizes patients who have a positive sentinel node (micrometastasis or macrometastasis) after NAC to axillary dissection and nodal radiation (excluding axillary nodes), or axillary and nodal radiation. These data will guide future management of positive axillary SLNs after NAC. Until these results are available, our study suggests that axillary dissection should remain the standard of care even when only a low volume of disease is present in the SLN.

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