Reviewer's report

Title: Neoadjuvant chemotherapy in breast cancer significantly reduces number of yielded lymph nodes by axillary staging.

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Reviewer: Laurie Kirstein

Reviewer's report:

This study raises an interesting topic: is a lower lymph node yield related to neoadjuvant chemotherapy and why. The value and strength of this article lies in the explanation of the morphology of the lymph nodes and provides an interesting suggestion for a reason for this phenomenon. That should be the main focus of this paper.

Some of the clinical information and the suggestion of a correlation to lymph node yield, however, is confusing. For example, the NC group clearly had larger tumors and more advanced disease at presentation. It is logical that this group would have poorer outcome. Lymph node yield at surgery likely has nothing to do with it, and trying to tie these factors together weakens the paper.

The other issue lies in a basic argument that "fewer nodes portend poorer prognosis" that is set forth in the introduction. The data presented showed no difference in DFS or OS in the group of patients who had <10 nodes retrieved after NC compared to those with >10 nodes retrieved after NC. It might be better to remove this concept from the paper, and simply focus on the fact that fewer nodes are retrieved after NC.

Likewise, while there were fewer nodes retrieved in the NC group, the majority of patients in this group still had >10 nodes retrieved. Since 10 is the cutoff the authors use in this study as having clinical significance, it calls into question the reason for trying to link these factors.

Also, what is absent from this paper is the breakdown of lymph node yield in the NC group for patients with and without involved nodes at the time of surgery. Seeing the lymph node yield in NC patients with and without nodal involvement in table form would be informative. Is it nodal involvement and treatment effect that causes the lower yield, or the fibrosis? In addition, a breakdown of number of positive/total nodes retrieved per group should be included as well.

I believe this paper should be limited to morphological characteristics of the nodes to explain a lower yield, and omit some of the clinico-prognostic suggestions. It would make this a stronger and clearer paper.

Level of interest: An article whose findings are important to those with closely related research interests
Quality of written English: Acceptable

Statistical review: No, the manuscript does not need to be seen by a statistician.

Declaration of competing interests:
I declare I have no competing interests.