



Response to Meurs, Menke-Pluijmers, Seisling, and Westenend

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We appreciate the correspondence from Meurs et al. about our study and value their interest in expanding the discussion of sentinel lymph node biopsy (SLNB) for older women with ductal carcinoma in situ (DCIS). They raised several interesting questions about the study design and interpretation of our findings.

First, Meurs and colleagues appeared to overinterpret our conclusions. We disagree with their assertion that SLNB is a staging for DCIS. SLNB is a staging procedure for invasive cancer. Furthermore, acknowledging that SLNB can be considered for patients who undergo mastectomy, we conclude that our findings do not support the routine performance of SLNB for older patients with DCIS amenable to breast conservation (1). The clinical guidelines from National Comprehensive Cancer Network (NCCN) and American Society of Clinical Oncology (ASCO) are not vague (2,3), and our conclusions are indeed aligned with them. Our findings that SLNB leads to side effects but does not improve outcomes are particularly important (1,4) given the increasing trend of SLNB among patients with DCIS who underwent breast-conserving surgery (BCS) (5). For example, the percentage of the older patients with DCIS receiving BCS who underwent SLNB in the United States increased from 7.2% in 1998 to 39.4% in 2011 (5), which is concerning.

Second, we concur that our cohort was limited to patients who had a final diagnosis of DCIS. Patients who were initially diagnosed with DCIS but were later upstaged to invasive cancer were not included in our sample. Thus, it is important to delineate how this study design may have affected the results: the group that did not undergo SLNB in our study might consist of a larger number of patients who harbor unidentified positive nodes compared with the SLNB group. In other words, the SLNB group excluded women with node positive disease detected on SLNB, whereas the non-SLNB group included these patients (because they did not have the SLNB that might have detected the positive nodes). If we found statistically significantly worse

outcomes (recurrence and breast cancer mortality) among the group of patients who did not undergo SLNB, we would have concluded that SLNB should not be omitted for this patient population. On the other hand, and in fact, we found no difference in outcomes between older patients with DCIS undergoing BCS who did and did not undergo SLNB; our findings therefore support that the SLNB procedure is unnecessary for this group.

Finally, although patients with biopsy-proven DCIS may actually have invasive cancer, little is known about the risk of underestimation among older patients who are amenable to BCS. We agree that research identifying patients with a biopsy diagnosis of DCIS who harbor invasive breast cancer is needed. However, older patients with biopsy-proven DCIS have a low risk of being upstaged to invasive breast cancer (6) as well as a low likelihood of benefiting from SLNB. The authors argued that finding a lymph node that contains cancer (and thus treating invasive cancer rather than DCIS) affects the ultimate outcome in our target population, yet our data suggest similar outcomes without SLNB. Furthermore, SLNB use was associated with higher risks of complications, including lymphedema, pain, and infection (4). At this point, given the lack of evidence that routine SLNB use improves clinical outcomes in older patients who undergo BCS, clinician investigators should derive and validate evidence to support this procedure or move away from its routine use.

Data availability

Not applicable.

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