

Editorial

Breast Sentinel Lymph Node- What's next?

Vicente Peg*

Vall d'Hebron University Hospital, Barcelona, Spain

EDITORIAL

Axillary staging has been considered as one of the main prognostic factors in breast cancer patients [1,2]. Thus, from the first surgical approaches to this disease, complete axillary lymph node dissection (cALND) was performed in every patient because of its benefits in survival.

The concept of the sentinel lymph node (SLN) was a big change in the surgical management of breast cancer. The possibility of identifying a first station of drainage, which inform about the negativity of the rest of axillary nodes, made possible the reduction of unnecessary lymphadenectomies and the consequent decline of the side effects associated with it such as lymphedema. However, despite the decrease of cALND, there still remained a non-negligible number of patients where the SLN was the only positive node and surgery, therefore, did not seem to offer any benefit. In this sense many nomograms began to be developed to try to identify those patients [3].

Recently published results of the ACOSOG Z0011 trial have meant another radical change [4]. It has demonstrated that there was no difference in overall survival and disease free survival or locoregional recurrence rates between a subset of patients planned for breast conservation therapy including whole breast irradiation with one or two positive SLNs.

The question that arises then seems obvious: what is the meaning of SLN at this point? Why should we still analyze it if it doesn't seem to change the surgical procedure or the prognosis in a subset of breast cancer patients? And, on the other hand, how would we apply the TNM classification, the "N" in particular, if we do not know the real axillary status since 27% of the patients with positive SLNs had more affected lymph nodes in the Z0011 trial? Shall we better to talk only of N0 and N1 patients, as we do for metastases?

However, even if the study Z0011 was supposed to be "practice changing", there is still a certain reticence in the scientific community in implementing its conclusions. It is widely known that there are some controversies that can be found in this study, on the basis that there where many patients underrepresented. In fact recent publications about changes in the surgical practice after the publication of the Z0011 show that there is still a percentage of patients (around 25%) when, even if they meet the inclusion criteria of the Z0011 trial, axillary clearance is still performed [5,6]. Among the reasons to follow

*Corresponding author

Vicente Peg, Vall d'Hebron University Hospital, Barcelona, Spain, E-mail: hospitalvpc@gmail.com

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this practice is the use of nomograms that try to ensure that there will not be more positive nodes beyond the SLN.

At this point, what will be the role of SLN? While we wait for new prognostic factors definitive implantation (as the application of gene signatures), axillary status is still an important risk factor. However, all the information we got after analysing multiple nodes must now focus on 1 or 2 in those patients where cALND is not performed.

New technologies are now available for the analysis of SLN. We have recently published that the molecular analysis of tumor load in the SLN predicts the risk of involvement of further nodes, even better than the number of affected nodes [7,8]. Following this road, could this information help us to better classify patients and treat them accordingly? What is the question that we want SLN to answer? Is it no longer a factor to decide treatment but prognostic factors than can replace the information provided but cALND? If it is not so, what is the future of SLN?

Next years will probably answer this question and will show us if, as already happened with cALND that was performed in every case, SLN will left its place to other prognostic factors in breast cancer and become a chapter in the history of the treatment of breast cancer.

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