



## Sentinel Node Biopsy (SNB) in 2014

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American Society for Clinical Oncology (ASCO) published in its May 2014 issue, recommendations about the sentinel node biopsy (SNB) practice.<sup>1</sup> The importance of this society for the physicians and surgeons practicing in the field of breast cancer and the well-known experts contributed to develop these recommendations has made them a milestone in our practice, even though they are not applicable to all of our patients.

These recommendations are based on three prospective randomized trials: NSABP B32, ACOSOG Z0011 and IBCSG 23-01 in which the patients were supposed to receive a breast conservative therapy (BCT) followed by radiation therapy and a medical treatment, chemo and/ or hormonal therapy.<sup>2-4</sup>

These trials had several points to be discussed; the main one being the absence of information on the tangential fields of radiation therapy directed towards the axillary fossa. The second point is variation in follow-up durations in mentioned trials. While, NSABP follow-up is more than 10 years, the two others have a much shorter follow-up (4-5 years). Additionally, there are some methodological concerns e.g. inclusion rate inferior to the initially expected leading to the early termination of the trial and enrolling patients who underwent mastectomies in the Italian trial. The last but not the least, there is a

concern about the follow-up at ten years in these early breast cancers since events can occur after ten years of follow up mainly in hormone receptor positive tumors.

If one recalls the published documents on the remaining axillary nodes; the remaining axillary nodes were positive in 35% of patients when SNB was reported to have macro-metastatic involvement and 15% in case of micro-metastatic or immunohistochemistry (IHC) positive. However, the risk of axillary recurrence was less than 2%, whether the patient was re-operated or not.<sup>1-5</sup> These findings lead most American surgeons to stop frozen section and their pathologists to analyze IHC slides of the SNB. In this way, the interest in nomograms which were supposed to predict the risk of involvement of the remaining axillary nodes would disappear.

The AMAROS trial comparing completion of axillary dissection with radiation of the axilla in SNB micro metastatic demonstrated no difference in the two groups. In this trial, the radiation fields were standardized. These results are in concordance with the trial performed at Curie institute comparing lumpectomy plus axillary dissection followed by radiation therapy on the breast with those who underwent lumpectomy alone followed by radiation therapy on the breast and the axilla. This trial demonstrated the absence of difference in overall survival and axillary recurrence with a 20-year follow-up.<sup>6</sup>

A recent work by Belkacemi *et al* demonstrated that the tangential fields were not covering the axilla homogeneously, due to variations in the anatomy of the axillary fossa and/or the pattern of lymphatic drainage of the breast.<sup>7</sup> Authors recommended

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putting a clip in the axilla to make sure that the tangential fields of radiotherapy will cover the operative field correctly.

The question of the validity of the information given by the axillary surgical approach in the era of personalized medicine and targeted therapies compared to the molecular classification is then under question. Should we continue to perform axillary dissections, classical or SNB?

Surgeons have been trained to remove the tumor and the nodes in order to let the patient free of macroscopic disease. The idea of Berg levels have disappeared in front of the functional imaging and the radiation therapy under CT Scans.<sup>8</sup> We know that the idea of the SNB is a great improvement and removing one or two lymph nodes from the anterolateral thoracic group of axillary nodes dramatically decrease side effects of our surgery. In fact, removing a group of nodes in the axilla has a real impact on survival by itself or the information given on by the absence of positive nodes is a proof of a localized disease and allows avoiding chemotherapy.

Of course at the time when surgery was the ultimate treatment of breast cancer, axillary dissection was mandatory. Now, it is demonstrated that radiation therapy can lead to a similar disease-free survival with more than 15 years of follow-up.<sup>9</sup> Medical treatment is mainly decided on biological factors and should be more and more oriented by molecular signatures. The main interest of SNB was the serial sections evaluation of the node in the axilla to estimate the amount of tumoral cells which would be identical in number to the cells discovered by the analysis of circulating tumor cells (CTC). No comparison will be possible in the future between these two ways of dissemination of tumoral cells.

In fact I am not a depressed surgeon! This information is demonstrating that surgery is evolving. Time has come to reconsider our position in the multidisciplinary approach to breast cancer management. Strategy is becoming as important as a given treatment. Close evaluation of benefits and risks of the different treatments have to be performed in order to define the best “targeted treatment”. It means that a targeted therapy can avoid useless or toxic therapies mainly in older patients. Keeping in mind that the quality of life in most cases is as important as an additional line of chemotherapy or an increase in the duration of treatment and should be considered as an extremely essential part of oncology.

Understanding the different treatments recommended by our colleagues, medical oncologist and/or radiation therapist, during the

multidisciplinary approach to our patients will allow us, as surgeons, to offer the right operation at the right moment for the benefits of patients and to the medical community.

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