Recent advances in sentinel node biopsy in breast surgery

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Sentinel lymph node (SLN) biopsy has become the standard of care for early breast cancers throughout the world. It provides the breast cancer patients with the safety and benefit of a highly accurate and less-morbid axillary staging, thereby avoiding the uncomfortable side effects of unnecessary axillary dissection. Recently, SLN biopsy was successfully performed in patients undergoing neoadjuvant chemotherapy. However, the methods used for SLN biopsy, and for the evaluation of cancer metastasis in SLN are not still fully established. Ordinarily, a positive SLN (macrometastasis and micrometastasis) indicates further axillary lymph node dissection; however, recent reports have shown that this may not be true for all cases. Also, the prognostic significance of macrometastasis, micrometastasis and isolated tumor cells (ITC) in SLN are still unclear.

In the first review, Dr. Motomura has presented an overview of the past, present, and future of SLN biopsy for breast cancers. The clinical significance of micrometastasis in sentinel nodes, the prevention of axillary lymph node dissection in patients with positive sentinel nodes,

neoadjuvant chemotherapy and sentinel node biopsy, as well as future perspectives are discussed in this review. In the second review by Dr. Tsuda, the histopathological aspects of sentinel lymph nodes have been presented. He described the classification of macrometastasis, micrometastasis, and ITC, as well as the practice of intraoperative pathological diagnosis of SLN metastasis. In addition, the clinical implications of micrometastasis and ITCs in SLNs are discussed. In the third review, Dr. Tamaki described a recently developed new method for the detection of cancer metastasis in SLN; the one step nucleic acid amplification (OSNA) method. Based on several original articles, the reliability of the OSNA method has been compared with the histopathological method, and clinical use of OSNA method in SLN biopsy was presented.

I advise the readers to read and compare the present issues and the past issues, entitled “Recent trends concerning sentinel lymph node biopsy for breast cancer and new methods for detection of metastasis” in *Breast Cancer*, Vol. 14, No. 4, 2007.

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