

## Is early dynamic lymphoscintigraphy for detection of sentinel lymph nodes always achievable in breast tumor?

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**Objective:** In this article, we will discuss the achievement of early dynamic lymphoscintigraphic protocol and compare detection of sentinel node between benign and malignant breast tumors, and whether pathologic factor is related or not. **Methods:** During a six-month period, consecutive fifty-nine patients were enrolled into our study. The average age of patients was  $47.6 \pm 9.8$  years and all of them were clinically suspected of having breast cancer. The average tumor was  $2.1 \pm 1.1$  cm in size. First, Tc-99m sulfur colloid was injected around corners of palpable mass or biopsy cavity by the hybrid injection method. Immediately thereafter, dynamic protocol of lymphoscintigraphy, with 10 sec per frame for 60 frames was performed by established simultaneous dual-head vertical angle imaging technique. And delayed two-hour image was also acquired. All patients underwent surgery sixteen to twenty hours later and had a final pathological diagnosis. **Results:** Among 59 patients, 14 of them were diagnosed with fibroadenoma and the other 45 cases with malignant conditions, infiltrating duct carcinoma mostly. The average age of the two groups was similar. From the summation image of dynamic study, identified axillary sentinel nodal activity was found as 80% in the group of benign breast tumor, but only 48% in the group of malignant breast tumor. In more than 88% of patients, sentinel lymph node was detectable on the delayed two-hour image between the two groups. **Conclusions:** Early dynamic protocol of pre-operative lymphoscintigraphy is helpful to clarify the relationship between the local lymphatic drainage basin and sentinel nodal uptake. However, this short period of protocol is not always achievable to detect sentinel node, especially in the group with breast malignant lesions.

**Key words:** early dynamic lymphoscintigraphy, sentinel lymph node, breast cancer