

Is sentinel lymph node mapping helpful when deciding on whether to perform a sublobar resection?

Sublobar rezeksiyon yapılmasına karar verirken sentinel lenf nodu örneklemesi yardımcı olur mu?

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Dear Editor,

We read with interest the article by Tülay et al.^[1] that principally focused on investigating the feasibility, sensitivity, and accuracy rates associated with intraoperative sentinel lymph node (SLN) mapping for patients with early stage non-small-cell lung carcinoma (NSCLC). They found that the identification rate of SLN had an 81.81% accuracy rate and a sensitivity rate of 100%. Additionally, there was a false-negative ratio of 0%. Furthermore, they suggested that SLN identification enables the surgeon to perform a better lymphadenectomy and that it can also be used for further pathological evaluations to discover occult metastases (OM). We congratulate the authors on their well-designed presentation and their good results.

We would also like to discuss the usefulness of intraoperative SLN mapping when deciding on whether to perform a segmentectomy on patients with small-sized NSCLC (<2 cm) rather than mediastinal lymph node dissection (MLD) or further evaluation of mediastinal LNs via immunohistochemical staining. The authors reported that three SLNs were

metastatic in nature and that these were detected with hematoxylin-eosin (H-E) staining. However, immunohistochemical staining seemed to have no advantages according to the authors' findings, whether the SLN was metastatic or not. On the other hand, Rusch et al.^[2] recommended that this type of staining should be routinely used to histologically evaluate negative LNs because of the 22.4% positive rate of OM associated with them and the significant differences in both disease-free and overall survival in N₀ patients who had OM in LNs versus those who did not.^[2]

Lymph node skipping often occurs because of the specific architecture of the pulmonary, hilar, and mediastinal LNs, making it possible to not have involvement of the N₁ LN stations.^[3] The last randomized clinical trial of the American College of Surgical Oncology Group (ACOSOG) showed no differences in complication rates, long-term survival, or recurrence rates when comparing MLD versus mediastinal LN sampling.^[4] However, MLD has more accurate mediastinal staging and can provide improvement in the relapse-free survival rate for patients with N₁ or N₂ involvement.

Greater usage of high definition computed tomography (HDCT) has led to an increased ability to determine the type of lung cancer when the tumors are smaller than 2 cm, and being able to make this distinction is crucial for those patients who should be treated with a lobectomy or limited resection for small-sized lung cancer. Until now, the best surgical treatment option was presented according to findings of the Lung Cancer Study Group. In this study the results were threefold increase in local recurrence (17.2% vs 6.4%) in patients who underwent sublobar resection when compared with patients who underwent lobectomy.^[5] However, this study had important limitations regarding its patient selection criteria and it is currently far away for correct decision making. Therefore, to obtain clarity, we should wait for the results of an ongoing multi-institutional phase III trial in which the survival and recurrence rates of patients who underwent sublobar resection and lobectomies are being compared. However, the selection of candidates for segmentectomies



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should not be done only according to imaging modalities. Hence, some authors have tried to make this decision intraoperatively. When determining the correct patients for segmentectomy; A SLN-guided segmentectomy can be more helpful. Nomori et al.^[6] identified SLNs in 43 of 54 patients with stage IA NSCLC (83%). In addition, they found only three patients with SLN metastasis in frozen sections, and lobectomies were performed on two of these and a segmentectomy on the other. The other patients in their study underwent either a segmentectomy or MLD. Furthermore, the pathological staging in their study was reported as N₀ for the other 51 patients. The authors also recommended SLN identification should be used as the final indication regarding whether a segmentectomy was needed for patients with clinical stage IA NSCLC.

In writing this response, our goal was to stimulate further discussion related to the subject of SLN identification and sublobar resections, and we look forward to future studies that can lend more clarity to this issue.

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Author's Reply

To the Editor,

As indicated in our study, intraoperative sentinel lymph node (SLN) mapping has high sensitivity and accuracy rates and is also feasible for patients with clinical early stage (stage I-II) non-small cell lung carcinoma (NSCLC).^[1]

Sublobar resection showed an equivalent outcome to lobectomy regarding the therapeutic effects in small NSCLC. Sublobar resection should be considered as an alternative for stage I NSCLCs 2 cm or less.^[2] As you mentioned, the last randomized clinical trial of the American Collage of Surgical Oncology Group showed no difference in complication rates, long-term survival and recurrence rates compared to the patients who underwent mediastinal lymph node dissection and mediastinal lymph node sampling.^[3] However, MLD offers a more accurate mediastinal staging and it can provide improved relapsed-free survival rates in patients with N₁ or N₂ involvement.

The data obtained from SLN mapping depends on the mediastinal lymph node status. Sentinel lymph node mapping has no effect on resection type. In stage I NSCLC, both sublobar or lobar resection can be performed. Whether to perform sublobar or lobar resection depends on the surgeon's preference. As a result, SLN mapping can be used in sublobar resection.

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On behalf of all co-authors

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