It is important to evaluate lymph nodes, but why count how many you got?

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Central Message

Many patients undergoing sublobar resection do not undergo lymph node evaluation, providing further evidence of gaps in the quality of lung cancer care.

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Patients potentially eligible for participation in the Lung Cancer Study Group trial underwent lymph node sampling with frozen-section analysis before randomization.¹ Those with negative nodes were then randomly assigned to undergo lobar versus sublobar resection, whereas patients with positive nodes were ineligible for study. Implicit in this process is the notion that accurate nodal staging is critical for surgical decision making and that patients with nodal disease should not undergo sublobar resection.

The key finding from the study of Yendamuri and colleagues² in this issue of the *Journal* is that many patients undergoing sublobar resection did not receive any lymph node evaluation—and thus many patients may have had their disease inaccurately staged, precluding optimal surgical decision making. Similar findings were recently reported by a California cancer registry study.³ These observations provide further evidence of significant gaps in the quality of lung cancer care.⁴ Potential remedies include interventions to minimize lymph node nonexamination rates,⁵ incorporation of more process measures into performance feedback reports provided by the Society of Thoracic Surgeons,⁶ selective referral to board-certified thoracic surgeons,⁷ and linking reimbursement to performance.

Yendamuri and colleagues² also report that a higher lymph node count was associated with better survival. The nature of this relationship, however, remains unclear. The American College of Surgery Oncology Group Z0030 trial randomly assigned patients with surgically staged T1N0-1 lung cancer to undergo mediastinal lymph node dissection versus mediastinal lymph node sampling.⁸ Although it was not framed as such, this trial essentially tested whether “more versus fewer” lymph nodes matters. The greater number of lymph nodes in the dissection arm had no effect on long-term survival—the median number of lymph nodes removed in the dissection arm was 18, with 99% of patients having at least 6 lymph nodes

removed (exact counts were not reported for the sampling arm). Given this higher level of evidence, it seems that the most likely reason for a relationship between lymph node counts and survival in an observational study is bias arising from unmeasured confounders (patient and provider characteristics) and missing data—both of which problems are rampant in large database studies.

The American College of Surgeons has endorsed removal of at least 10 lymph nodes as a quality metric in a well-intended effort to improve care.⁹ Thoracic surgeons have noted logistic challenges relating to valid measurement.¹⁰ Lymph node counts depend on patient biology, surgeon and pathologist behavior, and naming and counting practices (eg, fragment vs whole node).¹¹ Regardless of whether the concern is logistic or scientific, the idea that removing more lymph nodes improves survival is not particularly compelling.

Future research should aim to help surgeons with a difficult decision that can arise from adhering to optimal nodal staging practices—specifically, what do to with a positive node on frozen section when the reason for the sublobar resection is that the patient is a high-risk lobectomy candidate. Should the surgeon abandon the operation, do a high-risk lobectomy in a patient with a worse cancer prognosis, or perform a likely futile sublobar resection? Helping patients and surgeons make these tough decisions in an era of expanded surgical options for lung cancer would be an important contribution to our field.

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