Commentary: Do we have the right combatants? Should it be minimally invasive surgery versus therapy that removes no lymph nodes?

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In this issue of the *Journal*, Kneuert and associates¹ have reported a 2-institution study comparing lymph node upstaging by means of different surgical platforms: thoracotomy, video-assisted thoracoscopic surgery (VATS), and robotic surgery. The study is well done, and the data and statistics are also well done; however, the question asked cannot be answered by this study, nor will it be by any study soon. The reason is simple—the degree of lymph node removal during thoracic cancer surgery comes down to the thoracic surgeon's mind-set more so than the platform he or she chooses for surgery. Robotics probably makes it easier, but this is hard to prove. Surgeons are voting with their feet. Robotics has quickly surpassed VATS in hospitals that offer both, but most across the world still cannot afford robotics—yet.

The study itself has flaws. Those who prefer VATS will quickly expose them. Those inclined towards robotics will argue this study shows that a robotic platform allows easier lymph node dissection, especially in the subcarinal station in the left side of the chest. Time, as well as this study, will show that robotics offers a real advantage in the hands of most thoracic surgeons; however, this may not be the most pressing clinical question. What may matter more on this issue are the questions of how many patients have their disease upstaged after maximal clinical lymph node staging and of what the value to patients is. Maximal clinical staging means that all patients get the most advanced computed tomographic scanning and integrated positron emission testing with computed tomography, and selected patients get endoscopic bronchial ultrasound or mediastinoscopy. Unfortunately, these 3 staging initiatives were not routinely performed or applied in a standardized manner in the study of Kneuert and associates.¹ As minimally

Lymph node dissection showing complete removal of 2R and 4R lymph node stations.

Central Message

It is incumbent on us to remove 5 N2 and at least 2 N1 lymph node stations in all patients while implementing minimally invasive surgical techniques in 99% of our patients with little to no morbidity.

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invasive surgical thoracic techniques improve and more patients across the world are able to get it routinely, the true incidence of upstaging needs to be shown, as well as its true value.

We will improve our ability to know which patients are more likely to have pN1 or pN2 disease that was staged clinically as N0. No doubt, we will also better identify the predilection for nodal station according to lobar location. Might these data lead us to pick a robotic rather than a VATS platform if we believe the former really does lead to better lymph node dissection than the latter? Maybe. Better staging leads to more appropriate therapy, such as adjuvant therapy, and this improves survival. Therefore, with robotic bronchoscopic therapy coming soon and stereotactic body radiosurgery and radio frequency ablation already here, should not the question be whether minimally invasive surgery provides advantages relative to therapeutic techniques that fail to remove or sample any of the lymph nodes? These questions are not fully answered until surgeons consistently perform high-quality surgery, every single surgeon on every single day. It is incumbent on us to remove 5 N2 lymph node stations and at least 2 N1 lymph node stations in every patient, achieve negative margins, implement the smallest

anatomic (not wedge, except in the case of a pure ground glass opacity) resection that is appropriate, use minimally invasive surgical techniques for 99% of our patients, and provide little to no morbidity with a 2-day hospital stay. Until we all do this consistently, we fail to actualize the true benefit of surgery. For all these reasons, I appreciate the well-done study by Kneuert and colleagues¹ and congratulate them on this important article. I wonder, however, are the correct combatants in the ring? The better

question may be this: What is the benefit that we offer as surgeons (other than more complete molecular tumor analysis) relative to therapy that does not removal or sample any mediastinal or hilar lymph nodes?

Reference

1. Kneuert PJ, Cheufou DH, D'Souza DM, Mardanzai K, Abdel-Rasoul M, Theegarten D, et al. Propensity-score adjusted comparison of pathologic nodal upstaging by robotic, video-assisted thoracoscopic, and open lobectomy for non-small cell lung cancer. *J Thorac Cardiovasc Surg.* 2019;158:1457-66.e2.