

in addition to the SUVmax found on PET-CT,² the predictive values of the solid tumor size found on HRCT for pathologic high-grade malignancy and prognosis in patients with clinical stage IA lung adenocarcinoma are greater than those of whole tumor size, including solid and GGO components. We strongly recommend that solid tumor size be used to determine the T descriptor in the TNM classification of lung cancer and should be defined as the true tumor size in cases of lung adenocarcinoma with a GGO component visualized on HRCT.

The suggestion regarding a technique in PET-CT scan for lung lesions affected by physiologic motion is justified. The difference between the CT volume and the gated PET volume is significantly less than the difference between the CT volume and the ungated PET volume.⁵ Respiratory gating has the potential to enhance imaging of organs in motion, such as lungs, and although some additional time is needed for setup and acquisition, it can be incorporated practically and efficiently into clinical routine. Alternatively, breath-holding might be used during diagnostic PET-CT if true respiratory gating is not available.

Our belief, based on our data, is that the optimal surgical strategy for cT1N0M0 adenocarcinomas can be chosen using the solid tumor size found on HRCT and an SUVmax found on 18F-fluorodeoxyglucose PET-CT.

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NEW STANDARD IN LUNG CANCER STAGING? A WORD OF WARNING

To the Editor:

We read with interest the recent article by Yendamuri and Demmy¹ concerning the field of our long-standing scientific interest. We are glad that they share our fascination with the transcervical approach to the mediastinum; however, fascination with technique should not let us turn a blind eye to other, perhaps more important, aspects of surgery.

As the Yendamuri and Demmy¹ stated, transcervical extended mediastinal lymphadenectomy (TEMLA) is only used in a very few centers. We therefore draw the attention of the surgical community to some important issues missed by the Yendamuri and Demmy.¹

Discussing complications of TEMLA, Yendamuri and Demmy¹ only mentioned the recurrent laryngeal nerve palsy in 2.3% of patients. This statement may yield a false impression of safety. In fact, the rate of complications is high: in the original article on 83 patients,² it was 13.2% and apart

from recurrent nerve palsy included respiratory insufficiency, arrhythmia, pneumothorax, and deterioration in mental status. What is even more important, general fitness of 21% of patients deteriorated after TEMLA, to the degree of making them medically unfit for operation, although all were initially considered surgical candidates.²

The next article, analyzing results in 256 patients, showed a complication rate of 11.3% with a mortality as high as 1.2%. Again, more than 21% of the 176 node-negative patients became unfit for surgery because of deterioration of their general condition.³

In an updated series of 587 patients published 3 years later, the mortality was 0.9%.⁴

Complications of TEMLA may be severe. Apart from the recurrent nerve palsy mentioned by Yendamuri and Demmy,¹ they include perforation of the main bronchus, superior vena caval laceration, left phrenic nerve palsy, and injury to the innominate artery.

The least important drawback of the TEMLA is its operative time, which may be as long as 161 minutes.

The readers should be aware that these results were achieved in a very experienced center, by surgeons especially devoted to this technique. The complication rate in less experienced hands is likely to be even higher.

The first question to be answered is whether it is acceptable to use a staging procedure that is associated with mortality comparable to pulmonary lobectomy. The second, equally important, question is whether it is acceptable to use a staging procedure that makes 21% of patients unfit for curative-intent surgery. The obvious answer to both these questions is no.

A different consideration is the use of transcervical lymph node dissection as an element of curative-intent pulmonary resection. If extended mediastinal lymphadenectomy does influence survival, this approach would be interesting. At present, there are no published data in this regard. Also, data regarding

the long-term survival of patients undergoing pulmonary resection after TEMLA have never been published.

The transcervical approach to the mediastinum is fascinating indeed. Its applications warrant investigation in well-designed clinical trials and, if justified by these trials, implementation into routine practice. We should not, however, allow our fascination to blur our objectivity and clear vision of all aspects of the matter. Safety of our patients is certainly a priority.

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Reply to the Editor:

We appreciate the interest in our article demonstrated by Kuźdżał and colleagues. In response, we would like to draw their attention to several facts.

First, in our article we clearly stated that transcervical extended mediastinal lymphadenectomy (TEMLA) and video-assisted mediastinal lymphadenectomy (VAMLA) are more invasive than mediastinoscopy or endobronchial ultrasonography and therefore should only be considered in specific

situations. Such circumstances generally involve the suspicion of N2 or N3 involvement not detected by imaging, particularly when the detection of such disease would change surgical options. Therefore Kuźdżał and colleagues' call for safety is echoed by us as well.

Second, most TEMLA and VAMLA reports are from a few select centers. The safety of these procedures should be replicated by many other centers before the techniques are accepted by the surgical community at large. This point was made in our article multiple times.

Third, several statistics are quoted by Kuźdżał and colleagues that point out potential downsides of TEMLA. For example, the overall high rate of morbidity is quoted from their references, but the highest proportion of morbidity is a widened mediastinum, which is of doubtful functional significance.^{1,2} The 1.2% mortality from TEMLA that they mentioned also seems erroneous, as the reference cited clearly states that the mortality was not related to the procedure itself. Kuźdżał and colleagues also mention isolated instances of injury to mediastinal structures; however, this is a well-known complication of mediastinal surgery in general, and such instances have been reported with mediastinoscopy as well.³ Of the various complications noted in the communication of Kuźdżał and colleagues, perhaps the most concerning is the statement that 21% of patients become unfit for further surgery solely as a result of TEMLA; however, this seems to be their inference rather than a result declared in the articles they referenced. Contrary to this inference, the final citation included in their letter (a 2010 analysis of 587 TEMLA patients) reported a 6.8% complication rate, with 2.1% major enough to limit subsequent thoracotomy, and a 15% aggregate TEMLA-negative nonthoracotomy rate. This 15% (not 21%) contains some patients unfit for thoracotomy who underwent surgical staging for better treatment

planning (nonthoracotomy rates approach 10% in mediastinoscopy series). Intuitively, enhanced TEMLA and VAMLA dissections should be a bit more prone to complications than mediastinoscopy when performed as isolated procedures. When we integrate them with video-assisted thoracoscopic surgery or thoracotomy under the same anesthetic, however, we just observe a different surgical approach for the same mediastinal lymph node dissection and do not expect substantial additional morbidity. Finally it is important to note that TEMLA and VAMLA use most of the safe exposure techniques from well-validated procedures such as mediastinoscopy and transcervical thymectomy.

Therefore, although we agree that TEMLA and VAMLA deserve further study in multiple centers to assess generalizability of safety and lymph node yield, we do not see anything in the current literature that raises safety concerns to the extent interpreted by Kuźdżał and colleagues. If such data exist, they ought to be published. Certainly in our unpublished experience with more than 100 (mostly post-induction) patients, we have not seen any sign of prohibitive morbidity. It is uncertain whether new surgical approaches such as these will be evaluated by adequately powered randomized clinical trials. Until they are, our surgical community will have to judge their utility by thoughtfully interpreting retrospective studies.

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