When Will We Finally Adopt Endoscopic Ultrasound?

To the Editor:

I read with interest the article in a recent issue of CHEST (August 2014) by Liberman et al., who performed a prospective lung cancer staging trial in which patients underwent both an endobronchial ultrasound (EBUS) and endoscopic ultrasound (EUS) investigation followed by surgical staging. The combination of an endobronchial and esophageal approach was superior in detecting (sensitivity, 91%) and excluding (negative predictive value, 96%) mediastinal nodal metastases vs either technique alone. The findings of the study are in line with the conclusion of a recent meta-analysis and also support the current guideline recommendation that mediastinal nodal tissue staging should start with endosonography. However, there is discussion whether an EBUS investigation should be followed by EUS routinely or only in selected cases. Therefore, it would be of interest to know in which specific situations EUS provided an added value and whether this benefit could be predicted based on prior CT-PET imaging. Regarding mediastinal nodal sampling, I was surprised that lymph node station 5 was aspirated 88 times. These nodes are located laterally to the ligamentum arteriosum and are notoriously difficult to sample—unlike the neighboring station 4L—because of the interposition of the pulmonary artery and aorta.

In the present study, a separate EUS scope—and also a different endoscopist?—was used to perform an esophageal nodal investigation. Although a regular EUS scope should be regarded as the standard and has the advantage of providing easy access to the left adrenal gland, there is sufficient evidence available demonstrating that an esophageal investigation with an EBUS scope (EUS-B) provides similar outcomes. In my opinion, single-scope complete (EBUS + EUS-B) nodal staging performed by just one endoscopist should be the endoscopy standard, as it is practical, time efficient, cost-effective, and far easier to implement in comparison with the use of different scopes and endoscopists. Chest physicians can be trained to perform EUS-fine needle aspiration for lung cancer staging. I suggest that EBUS operators should also be trained to perform mediastinal nodal sampling by the esophageal route.

With this small additional effort—with the mental barrier of pulmonologists and surgeons to enter the esophagus with the EBUS scope as the main obstacle—we can make a significant difference for patients.

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References

Response

To the Editor:

I would like to thank Dr Annema for his kind comments regarding our article. Endoscopic ultrasound (EUS) provided added value in all cases where lymph nodes (LNs) were biopsied out of the range of endobronchial ultrasound (EBUS) (stations 5, 6, 8, 9, adrenal gland, and liver). This accounts for 151 of the total 643 LNs (23%) biopsied using endosonography in our study. Furthermore, in certain circumstances, even though an LN is potentially accessible by EBUS, it is sometimes
technically easier, with a resultant improved yield, when approached by EUS (eg, 2R, 2L, 4L). The dramatic improvement in sensitivity and accuracy when comparing EBUS alone (sensitivity, 0.72; accuracy, 0.91) with the combined EBUS-EUS procedure (sensitivity, 0.91; accuracy, 0.97) is the most compelling argument for the necessity for combining EBUS with EUS in the staging of potentially operable lung cancer.

We do recognize that EUS biopsy of station 5 is technically challenging (compared with station 4L) because of the requirement of carefully passing the needle out past the ligamentum arteriosum between the left main pulmonary artery and the aorta. However, we do make it a point to attempt biopsy of this station in all patients with left upper lobe tumors.

We used a dedicated EUS scope in this study because we believe that it gives better resolution and, in our experience, superior results when biopsying subcentimetric LNs, which was typically the case in this study because all the patients had potentially resectable disease. When aspirating enlarged LNs, the EBUS scope within the esophagus may provide adequate results; however, this was not the case in this study. All patients in this study underwent staging in a single setting by a single team, which comprised a thoracic surgical staff and thoracic surgery trainees. Similar to Dr Annema's practice, the same operator performed the EBUS and EUS procedure, and we agree that a single operator can perform complete endosonographic mediastinal LN staging in lung cancer. The question will be in terms of appropriate training and credentialing of these endosonographers.

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References