Whither, Not Wither
Endoscopic Ultrasound-Guided Fine-Needle Aspiration by an Interventional Pulmonologist Using an Echobronchoscope?

To the Editor:

We read with interest the article by Oki et al\(^1\) and the accompanying editorial by Mehta et al\(^2\) in CHEST (May 2015) on the randomized trial comparing the performance of transbronchial vs transesophageal needle aspiration using an ultrasound bronchoscope for the diagnosis of mediastinal lesions. The authors demonstrated equivalent findings via endoscopic ultrasound bronchoscope-guided fine-needle aspiration (EUS-B-FNA) compared with endobronchial ultrasound-guided transbronchial needle aspiration (EBUS-TBNA) from mediastinal lesions accessible by both techniques. Moreover, EUS-B-FNA was associated with significant benefits, including fewer doses of anesthetics and sedatives, shorter procedure times, and fewer oxygen desaturations during the procedure.\(^3\) However, the accompanying editorial by Mehta et al\(^2\) projects a very dismal outlook for EUS-B-FNA, with which we respectfully disagree.

As interventional pulmonologists, we are definitely more comfortable with EBUS-TBNA, and we would still prefer this technique to EUS-B-FNA in lesions accessible by both methods. This is because of poor visualization of the esophageal lumen with the endobronchial ultrasound (EBUS) bronchoscope, poorer ultrasound images with the EBUS bronchoscope as compared with the endoscopic ultrasound bronchoscope, and the narrower scanning range of the EBUS.\(^3\) However, we do not agree that EUS-B-FNA has no utility in the day-to-day practice of an interventional pulmonologist.\(^4\) Apart from being performed with a single bronchoscope and by a single operator, the combined technique has significant usefulness in several situations; for example, lymph nodes inaccessible by EBUS-TBNA, technical difficulties associated with EBUS-TBNA such as lymph nodes with fibrotic borders, intolerance of bronchoscopy due to cough or dyspnea, patients with raised intracranial tension, and medical conditions precluding bronchoscopy, such as coronary artery disease.\(^5\) In fact, in unselected patients with mediastinal lesions, the pooled additional yield of EUS-B-FNA compared with EBUS-TBNA was 7.6\%.\(^5\)

Further, Mehta et al\(^2\) cite a study that found adding EUS-B-FNA to EBUS-TBNA did not significantly increase the diagnostic accuracy; however, the sensitivity of EBUS-TBNA in this study was 92\%.\(^6\) Understandably, every technique has a range of performance characteristics, and a very high yield achieved in one center cannot always be replicated by other centers in the real-world scenario. In fact, the sensitivity of EBUS-TBNA in mediastinal staging of lung cancer has ranged from as low as 69\% to as high as 100\%.\(^7\) Thus, in several centers, because of technical difficulties encountered during EBUS-TBNA, adding EUS-B-FNA would be beneficial. In a recent meta-analysis\(^3\) analyzing the efficacy of EUS-B-FNA, we have shown that the pooled sensitivity of the combined technique (EUS-B-FNA plus EBUS-TBNA) was significantly higher than EBUS-TBNA alone (91\% vs 80\%; \(P = .004\)) in the mediastinal staging of lung cancer (four studies, 465 subjects). This implies that only 10 combined procedures need to be performed to achieve a diagnosis in one additional patient, compared with EBUS-TBNA alone. Also, it is a relatively safe technique; in the systematic review, we did not find any studies reporting serious complication of the EUS-B-FNA procedure.\(^3\)

Finally, we agree with Mehta et al\(^2\) that structured training is essential for endoscopic ultrasound, but this is true for any medical procedure. If an interventional pulmonologist can perform bedside percutaneous endoscopic gastrostomy tube placement with training, we are sure that he or she can perform EUS-B-FNA too.\(^8\) All surgeons have knives (EBUS), which should generally be restricted only to surgery (EBUS-TBNA), but they can occasionally cut vegetables (EUS-B-FNA) if need be.

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Response

To the Editor:

We appreciate the response by Dr Dhooria and colleagues to our editorial in CHEST.1 In our editorial, we cited several studies in which endobronchial ultrasound (EBUS) and endoscopic ultrasound (EUS) were combined and pointed out several flaws that call into question their ability to create a consensus regarding the standard use of a combined EBUS-EUS procedure to stage the mediastinum. Specifically we questioned the sensitivity of EBUS-guided transbronchial needle aspiration (EBUS-TBNA) reported in these studies, especially at lymph node stations that should be easy to access with EBUS-TBNA, such as 4L and 7.2 Furthermore, we also questioned the practicality of accessing remote lymph node stations, such as 8 and 9, that are rarely isolated nodal metastases.3,4

Dr Dhooria and colleagues cite a meta-analysis in which the pooled additional yield of EUS-guided fine-needle aspiration (EUS-FNA) over EBUS-TBNA is 7.6%.6 Unfortunately, many of the studies used in this meta-analysis suffer from these exact issues we called into question, which may have biased the outcome in favor of a combined EUS-FNA/EBUS-TBNA procedure. Although a funnel plot was used in this meta-analysis to detect any publication bias, this would not detect the effect of methodologic or procedural flaws within the studies used in the analysis. As such, we believe an additional 7.6% may be an overestimation and not a basis of justification to support combined EBUS-EUS procedures using an EBUS-TBNA scope.

Although we admit there may be instances in which adding EUS-FNA may be advantageous to a patient, we do not believe this is ready for routine practice, especially in the setting where the operator is a pulmonologist who may not have received formal training in this procedure. The views expressed by reputable authors in a major medical journal have a significant impact not only on our students but also on the welfare of our patients. No procedure, no matter how noninvasive, should be glorified without a due emphasis on training and needed experience. This is of even greater importance when the procedure resides outside one’s own domain. It may be very easy to perform a procedure, yet its safety and legal consequences should never be undermined. Would authors approve otolaryngologists performing a staging bronchoscopy or an urologist performing a colonoscopy? For that matter, would the authors support mediastinal staging being performed solely by a gastroenterologist?

One has to be larger than their abilities. In our humble opinion, a chef without proper training is no better than a cook.

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