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Authors' Reply

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Specimen Guidelines

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We appreciate Medford's comments on our endobronchial ultrasound-transbronchial needle aspiration (EBUS-TBNA) guidelines as well as his efforts to provide further evidence to the field [1]. We agree that a well-designed randomized controlled trial evaluating the effect of needle size on the diagnostic yield of EBUS-TBNA is needed. While a greater needle gauge could potentially render more cells, histologic samples, and tumor DNA, a smaller needle may cause fewer microtraumas, providing samples with less blood and a greater quality. The retrospective nature of Medford's study on needle gauge and the lack of surgical control, particularly for patients with benign findings, unfortunately weakened the results. In order to accurately answer the question of needle size, a sufficiently powered randomized controlled multicenter trial would be welcomed. In such a study, the same nodes should preferably be sampled with the different needles in randomized order,

and a panel of cytology specialists should blindly assess the samples. Since EBUS-TBNA is very often used to diagnose patients with advanced-stage disease, the diagnostic yield should not be the only endpoint of such a study. Sample quality/quantity (e.g. absolute number of tumor cells, quantity of DNA from neoplastic cells, or neoplastic to nonneoplastic cell ratio) in terms of suitability for tumor genotyping would be another key endpoint.

Regarding the use of ultrasound features (such as grey zone textural analysis) to aid with the diagnosis of EBUS-TBNA when pathology is equivocal, we respectfully disagree with Medford. In an era of individualized therapy for lung cancer where specific histology and molecular markers dictate treatment, tissue is more than ever the issue. It is unlikely that any ultrasound feature may help us define equivocal pathology samples. Having said so, ultrasound features may be useful in other ways, such as helping the bronchoscopists determine which nodes to sample in stations with multiple lymph nodes or suggesting malignancy in smaller lymph nodes that would otherwise not be sampled.

We are delighted to see that our guideline [2] also serves to highlight areas where higher-quality research is still needed.

References

- 1 Medford ARL: Needle gauge and grey zone analysis in endobronchial ultrasound-transbronchial needle aspiration: the need for more randomised evidence. *Respiration* 2015;89:438.
- 2 van der Heijden EHFM, Casal RF, Trisolini R, Steinfert DP, Hwangbo B, Nakajima T, Guldhammer-Skov B, Rossi G, Ferretti M, Herth FJF, Yung R, Krasnik M: Guideline for the acquisition and preparation of conventional and endobronchial ultrasound-guided transbronchial needle aspiration specimens for the diagnosis and molecular testing of patients with known or suspected lung cancer. *Respiration* 2014;88:500–517.