in TBLC has been reported not only with respect to complications but also with respect to the quality and size of the biopsies. In a previous study, Almeida and colleagues assessed 100 TBLCs performed in patients with suspected diffuse lung disease (2). When they compared the first 50 TBLCs with the next 50 TBLCs, they found that the length and area of the biopsies were smaller and the diagnostic yield was lower in the first group, and all parameters improved when the bronchoscopists gained more experience. In their study, Almeida and colleagues reported a median length of 5.0 mm in the first 50 biopsies and 6.0 mm in the next 50 biopsies.

Romagnoli and colleagues reported a level of agreement between external blinded versus local pathology reports as fair to moderate, with κ values of 0.22–0.51. The κ values for individual pathologists are not presented, and as noted above for bronchoscopy, there may be a learning curve for pathologic evaluations of cryobiopsies. In support of this, previous studies (which included the same external pathologist as in the present study) reported κ values between 0.59 and 0.61 (5, 6).

With regard to the agreement between the pathologic diagnosis based on the two types of specimens and the final diagnosis at the second multidisciplinary assessment or the final treatment (Table 2 and Table E3 in the online supplement of Reference 1), there is no statistically significant difference by conventional standards between the two types of specimens in terms of performance when evaluated by a chi-square test or Fisher's exact test on simple 2×2 tables, even though there is trend in favor of SLB. This emphasizes the need for further research into this important subject before any conclusions can be made.

The TBLCs were compared with SLBs as the gold standard. However, the accuracy of SLB has never been proven, and previous studies (7) have clearly shown that SLBs can also provide discordant results when performed in different lobes; thus, the perception of SLB as the gold standard requires careful consideration.

The study by Romagnoli and colleagues certainly indicates that more research into the accuracy of TBLC is warranted, but their results cannot stand alone and should not discourage the continued use of TBLC in interstitial lung disease. ■

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Transbronchial Lung Cryobiopsy in Diffuse Interstitial Lung Diseases . . . Bent but Not Broken

To the Editor:

We read with interest the article by Romagnoli and colleagues wherein the authors demonstrate poor concordance between surgical lung biopsy (SLB) and transbronchial lung cryobiopsy (TBLC) (1). We congratulate the authors for their excellent study, given that this is the first study to perform SLB and TBLC in the same patient. There are, however, a few limitations of the study that need to be highlighted.

The authors clearly state that the study is limited by the small sample size, the use of histopathology findings in isolation to calculate concordance (without integrating clinical and imaging data), and the fact that even SLB had only 62% agreement with the final diagnosis. Despite the major limitations of the study, the authors seem to sound a death knell for TBLC, which is unjustified. If the study had had a larger sample size and a few more concordant patients in the TBLC arm, the results would have been different. The authors also consider subjects with a nondiagnostic TBLC to be discordant. In actual practice, such patients would be counseled to undergo SLB, as TBLC has not been claimed to completely replace SLB. Interestingly, the authors seem to be very hopeful about the utility of SLB even though it had a κ coefficient of only 0.51 (only slightly higher than that obtained for TBLC). It is important to understand that SLB has its own risk of sampling error (2, 3).

Also, the authors used a 2.4-mm cryoprobe on the basis that this provides larger tissues. However, the problem with the larger cryoprobe is that it provides more "central" than "peripheral" lung tissue, and this may be one important cause of a lower concordance of TBLC (4, 5).

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In clinical practice, TBLC is here to stay. In our experience, most patients prefer TBLC to SLB (or indeed any "surgical" procedure) despite the lower diagnostic accuracy of TBLC. In the clinic, and in the proper clinical and radiological context, TBLC is likely to provide far more diagnostic information to the clinician than what is being projected by this study.

TBLC may have been projected to be "down" by this study, but certainly it is not out. ■

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Which Biopsy to Diagnose Interstitial Lung Disease? A Call for Evidence and Unity

To the Editor:

We read with great interest the recent article by Romagnoli and coworkers (1). This first-of-its-kind, prospective, blinded study compared the diagnostic impact of two biopsy modalities, transbronchial lung cryobiopsy (TBLC) and surgical lung biopsy, and found that they provide poor diagnostic agreement ($\kappa = 0.22$). The reasons for the low concordance between TBLC and surgical lung biopsy are unknown; however, we speculate that the unique study design, the relative size of the biopsies, technical differences in sampling methods and locations, and the impact of freezing are potential contributors.

These findings are preliminary—the sample size was small and the diagnostic process atypical—but if confirmed, they could have major clinical implications. Although previous studies have evaluated the diagnostic certainty of TBLC in patients with interstitial lung disease (ILD) (2), Romagnoli and colleagues' study demonstrates that questions remain regarding its diagnostic accuracy (3). We agree that these findings underscore the risk of early, widespread adoption of TBLC in ILD without more robust evidence (4).

What are the next steps? First, we need funding agencies and international societies to support high-quality research on the diagnostic value and safety of TBLC. Second, we need collaboration among members of the international scientific community to work toward consensus and avoid the production of discordant recommendations that poorly serve patients and providers. Lastly, we believe it is important to continue to explore the diagnostic "gold standard" for patients with ILD, including the best

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