Letters to the Editor

Report Standardization in Transbronchial Lung Cryobiopsy

To the Editor.—Transbronchial lung cryobiopsy (TLCB) is an increasingly accepted modality to obtain lung tissue samples, even in complex fibrotic interstitial lung diseases (ie, usual interstitial pneumonia [UIP] pattern, nonspecific interstitial pneumonia [NSIP] pattern) in which surgical lung biopsy (SLB) was the routine diagnostic approach.⁵ TLCB is a safe procedure with significantly lower morbidity and mortality rate, compared to SLB,¹⁻³ and with a diagnostic yield greater than 80% in interstitial lung diseases, particularly when multiple samples from different segments are taken. Samples collected by TLCB are usually more than 5 mm in diameter with no crush artifacts⁴ (Figure, A through D), and interobserver agreement between pathologists is quite good (k coefficient, 0.63–0.72).⁴

The pathology report is a fundamental step in order to qualify this technique.⁵ Pathologists should analyze TLCB samples by using the same criteria as those accepted for SLB samples but, in order to increase the clinical utility and the possibility to implement scientific studies, a standardized report could be useful. From our own experiences and literature review, we suggest a standardized pathologic report that includes a (1) list of staining techniques used, (2) diagnostic report for every sample, and (3) final report considering information present in all samples analyzed.

LIST OF STAINING TECHNIQUES USED

Staining techniques used might include hematoxylin-eosin, trichromic stains, elastic fiber stains, Alcian-PAS (periodic acid–Schiff), immunohistochemical stains, and molecular biology tests.

DIAGNOSTIC REPORT FOR EVERY SAMPLE

Report for every sample should include the following: site (segment from which the sample comes), size (2 maximum diameters in perpendicular directions assessed at the microscope), “central sampling” (mainly bronchial with cartilage plates identified or bronchiolar structures in greater than 40% of the surface of the sample), “peripheral sampling” (with or without visceral pleura, with alveoli present in at least 60% of the surface of the sample), and histologic pattern (respiratory bronchiolitis, desquamative interstitial pneumonia, NSIP, organizing pneumonia, UIP, capillaritis, among others). Pathologists should confirm their level of confidence (high or low). If a UIP pattern is recognized, it is important to specify if patchy fibrosis, fibroblast foci, and honeycomb changes are present or absent, as well as the corresponding level of confidence (high or low, according to the recently updated criteria).³⁻⁷ On the other hand, if UIP pattern is recognized, it should be specified if ancillary findings suggesting chronic hypersensitivity pneumonitis or collagen vascular disease, or asbestos (eg, chronic lymphoplasmacytic inflammation with or without lymphoid follicles, interstitial granulomas/giant cells, bronchiolitis, pleuritis, bridging fibrosis, asbestos fibers, eosinophilic infiltrate) are present or absent/minimal. A specific diagnosis should be reported (eg, Langerhans cell histiocytosis, lymphangioleiomyomatosis, pulmonary alveolar proteinosis); if no specific pattern is identified (either normal lung or unclassifiable fibrosis), a descriptive diagnosis could be made.

FINAL REPORT CONSIDERING INFORMATION PRESENT IN ALL SAMPLES ANALYZED

The final report could call UIP pattern (with the corresponding level of confidence, with or without ancillary findings suggesting chronic hypersensitivity pneumonitis or collagen vascular disease), other patterns (low or high confidence), specific diagnosis (eg, Langerhans cell histiocytosis, lymphangioleiomyomatosis, malignant epithelial tumors, lymphoproliferative diseases, infections), and no pattern or unclassified fibrosis/inflammation. In the final report, a comment could also be included, incorporating relevant clinical and radiologic information and discussing the most likely diagnosis.

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or the differential diagnostic possibilities. For example, for a patient with features of connective tissue disease–UIP, a comment might read, “The cryobiopsies show patchy fibrosis with fibroblast foci and honeycombing resembling a UIP pattern, but the degree of lymphoid hyperplasia and chronic pleuritis in this case would not be expected in the clinical syndrome idiopathic pulmonary fibrosis (IPF), and instead the features suggest that a systemic connective tissue disorder may be the cause of the fibrosis. Correlation with clinical and serologic studies is recommended.”

The worldwide increase of the use of TLCB among the pulmonology community requires a better standardization of diagnostic reports from pathologists facing this relatively novel sampling procedure. In this brief report, we suggest the main information that pathologists should include in the final report of TLCB, aimed at increasing the diagnostic value and permitting a more reliable comparison when matching results from different studies.

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