

The Role of Transbronchial Cryobiopsy in the Diagnosis of Interstitial Lung Disease

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INTRODUCTION

- ❖ Interstitial lung disease (ILD) describes a group of diseases characterized by scarring and stiffening of the lung tissue. They are a heterogeneous group and have distinct yet overlapping patterns demonstrated on high resolution CT scans (HRCT) and histology.
- ❖ These patterns are interpreted considering the clinical contexts and also have clinical implications regarding the trajectory of the disease, including course, management and prognosis¹. Unfortunately, in many cases, making a diagnosis by HRCT alone is challenging, and this leads to difficulty and uncertainty with management.
- ❖ Surgical lung biopsy (SLB) is the gold standard for pathology and would be needed for such patients. However, SLB comes with a significant risk of morbidity and mortality², and traditional transbronchial forceps biopsies have a relatively low sensitivity³.
- ❖ Transbronchial cryobiopsy (TBC) has recently emerged as a safer and potential alternative to SLB and has quickly gained recognition. The procedure entails using a cryoprobe under fluoroscopy which helps to freeze an area of the lung (peripherally) followed by extraction of the frozen tissue.

CASE

- ❖ A 62-year-old woman with significant smoking history presented after a routine screening CT scan concerning for non-specific ILD but with dyspnea despite preserved lung function on PFT.
- ❖ She had negative serologies and autoimmune workup. She underwent bronchoscopy with transbronchial cryobiopsy.
- ❖ The pattern that could be seen had features most suggestive of smoking-related interstitial fibrosis (SRIF) and, to a lesser degree, nonspecific interstitial pneumonia (NSIP).

IMAGES AND PATHOLOGY



Figure 1: Coronal view HRCT



Figure 2: Axial view HRCT

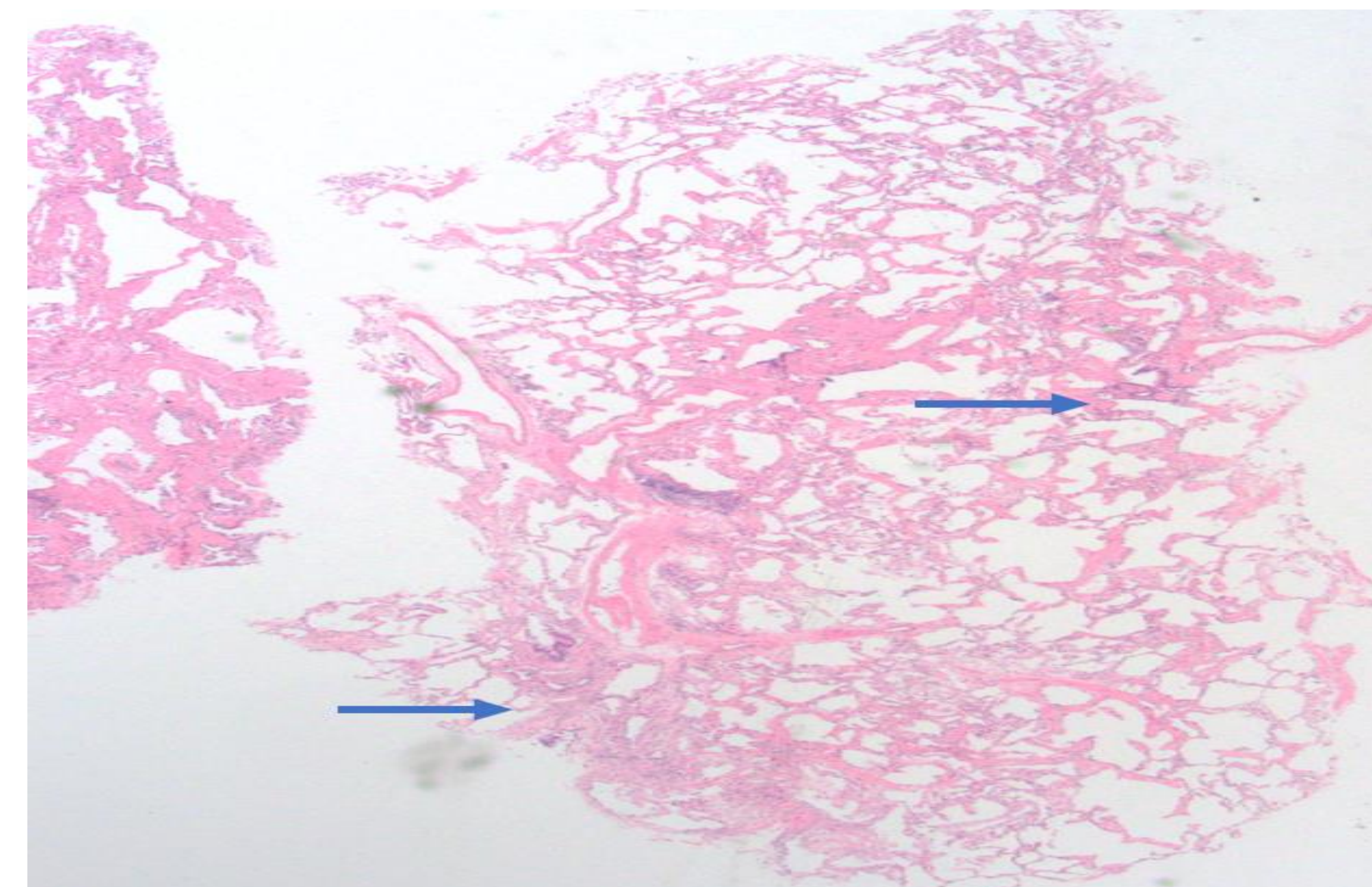


Figure 3: Pathology with findings of SRIF and NSIP

DISCUSSION

- ❖ Overall, the features of her pathology were compatible with SRIF as well as NSIP.
- ❖ This was the first case of transbronchial cryobiopsy in West Michigan. Transbronchial cryobiopsies have larger tissue samples than the traditional transbronchial forceps biopsy and this leads to a higher diagnostic yield.
- ❖ Many studies have compared the diagnostic yields of TBC and SLB with relatively decent correlations, while other studies have shown poor correlation between TBC and SLB.
- ❖ The American Thoracic Society has no recommendations for or against transbronchial cryobiopsy due to conflicting results and a lack of standardization of the procedure.
- ❖ Transbronchial cryobiopsy would likely be useful in certain patient populations that are at high risk of mortality from SLB and can thus be included in the diagnostic algorithm for the diagnosis of interstitial lung disease.

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