



Controversies in the Use of Transbronchial Cryobiopsy in the Diagnosis of Diffuse Lung Disease: A Pro Con Debate

This session was a pro-con debate on use of transbronchial cryobiopsies in the diagnosis of diffuse parenchymal lung disease. Some of the pros of using cryobiopsy for the diagnosis of interstitial lung disease include the fact that the histopathological yield on cryo is excellent, as demonstrated illustrated in the COLDICE study published earlier this year. Multi-disciplinary discussion with the use of cryobiopsy obtained pathology can increase diagnostic certainty, and the risk profile of cryobiopsy compared with surgical lung biopsy is actually very good. The major risks of cryobiopsy include bleeding and pneumothorax, but these rates are actually low when performed by an experienced operator.

The cons for use of cryobiopsy in the diagnosis of interstitial lung disease include primarily the fact that cryobiopsies need experienced bronchoscopists to perform and experienced pathologists to be able to read properly. Cryobiopsy is done in a specific setting with someone trained to do these types of procedures to minimize the risk of bleeding and pneumothorax. It takes a specific patient, usually with a little better lung function and a platelet count that's adequate, so bleeding is not at higher risk.

The size of cryobiopsies are not comparable to surgical lung biopsies, although they are much bigger than traditional transbronchial biopsies with forceps. In the COLDICE study, the size of transbronchial cryobiopsies we're about seven millimeters. Whereas the surgical lung biopsy size was on average 46 millimeters, much larger. Transbronchial cryobiopsy probably will become more useful in the future. However, the limitations and more widespread use now include the lack of experienced bronchoscopists and experienced pathologists in reading these specimens.

There was a very good pro-con debate about the benefits versus the risks of using cryobiopsy for diagnosis in patients with interstitial lung disease. And this is obviously a topic that's quite new to the field. The most recent studies have just come out really in the past couple of years. So Dr. Paoletti spoke on the con side, I spoke on the pro side. And in essence I think that we really came to the same consensus, if you will, at the end of the debate. Which is that there really is growing evidence that there may be a role for cryobiopsy in the diagnosis of interstitial lung disease.

The major benefit is potentially being less... Having less morbidity associated with it. That is less risk of a pneumothorax, less risk of severe hospital-requiring illness like an exacerbation or death. But the trade off is that there's a slightly lower yield on the biopsies, probably about 10% lower yield. So maybe about 76% compared to about 83%, 84%. However, there's really good evidence from the COLDICE study that the cryobiopsies actually are really sufficient and potentially equally valuable when it comes to a multi-disciplinary diagnosis in interstitial lung disease.

And ultimately that's really what we're looking for is the diagnosis. And so in the context of clinical information and CT findings, the data that comes from cryobiopsy is typically adequate and sufficient to make a good multidisciplinary diagnosis. So I think that we will see more about this. There's obviously a



lot that needs to be done in terms of optimizing the safety. The biggest safety risks with cryobiopsy obviously is bleeding. And again, this is a technique that's really not equally performed at every center. It's best done at a center that has a huge amount of experience with doing the procedure, is comfortable with the use of a bronchial blocker to limit bleeding. But I do think that it's something we're going to see a lot more of and hear a lot more in terms of the research over the next couple of years.

I think that at the moment, Europe is really way ahead of the United States in terms of their adoption of cryobiopsy. In the US it's still largely done at only a few centers that have expertise. And I think that there probably is a need for a little bit more research before this becomes widely used, but certainly for individual patients that are at centers that have a lot of experience with cryobiopsy and have expert pathologists were able to interpret the results of cryobiopsy this may be an alternative. At the moment it is not included in the diagnostic algorithm from the American Thoracic Society, European Respiratory Society, ALAT and JRS for diagnosis of idiopathic pulmonary fibrosis. So I would say that this is something that we will see becoming more common, but probably is not ready for use in most places for most patients. Only in selected patients who are at selected sites that have a lot of experience with this.