

# Clinical Experience with the New EchoTip ProCore® EBUS Needles



Dr. David McCormack  
Professor of Medicine  
Division of Respiriology  
London Health Sciences Centre  
London, Ontario, Canada

The use of endobronchial ultrasound (EBUS) has become much more common recently as physicians have realized the ability of this technique to easily access mediastinal and hilar lymph nodes. EBUS has now become the procedure of choice in most centres for the mediastinal staging of lung cancer.

Typically, EBUS is performed with a 21 or 22 gauge needle, which provides samples for cytological analysis. The new Cook Medical EchoTip ProCore needles have now been developed for use in EBUS. These needles have the potential to provide more cellular specimens and even core samples for histologic diagnosis. In the fall of 2012, we completed a series of EBUS procedures on 20 patients using 22 gauge and 25 gauge EchoTip ProCore needles in patients presenting with mediastinal lymphadenopathy. We found these needles very easy to use and our pathologists were extremely pleased with the cellularity of the biopsy specimens.

Below is a summary of three cases in which we used the EchoTip ProCore needles.

## Case 1

This healthy 86-year-old patient was referred for investigation of a right lower lobe lung mass. Percutaneous biopsy demonstrated adenocarcinoma. Stereotactic radiotherapy was considered; however, a PET scan demonstrated an FDG-avid right hilar node (Figure 1). EBUS was performed and, using a 22 gauge EchoTip ProCore needle, the 11R lymph node was biopsied, which demonstrated excellent cellularity and abundant adenocarcinoma cells (Figure 2). The presence of malignant hilar lymphadenopathy precluded treatment with stereotactic radiotherapy.

## Case 2

This 72-year-old patient was seen for evaluation of his mediastinal lymphadenopathy (Figure 3). EBUS was performed and, using a 25 gauge EchoTip ProCore needle, the station 4R mediastinal lymph node was biopsied. The samples demonstrated high cellularity (Figure 4), and a diagnosis of small cell carcinoma was confirmed.

## Case 3

This 32-year-old patient was seen for evaluation of hilar and mediastinal lymphadenopathy (Figure 5). There was a clinical suspicion of sarcoidosis and an EBUS procedure was performed. The station 7 mediastinal node was biopsied using a 22 gauge EchoTip ProCore needle. The biopsy demonstrated the presence of granulomata (Figures 6 and 7) consistent with the diagnosis of sarcoidosis.

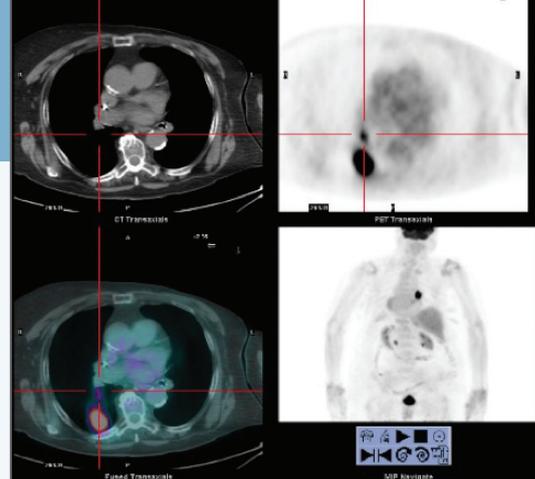


Figure 1

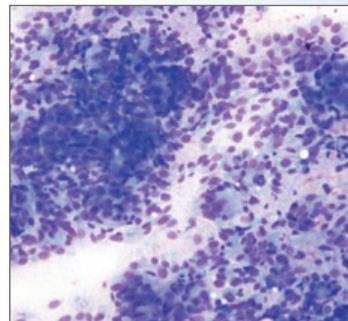


Figure 2



Figure 3

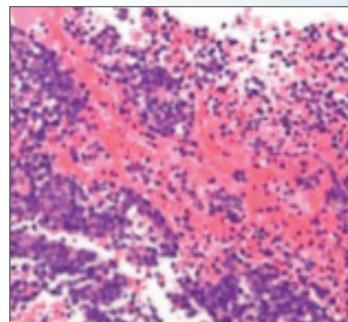


Figure 4

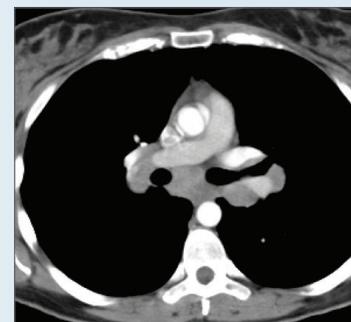


Figure 5

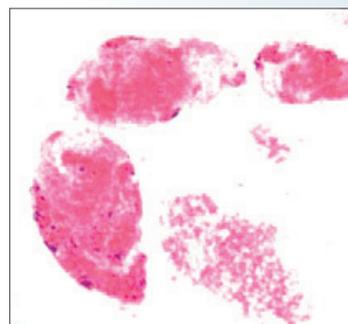


Figure 6

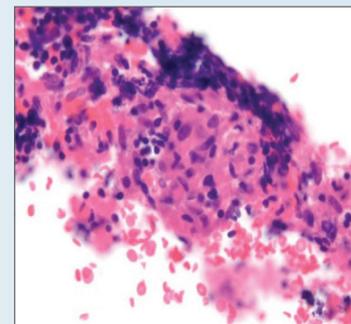


Figure 7

## Summary

There are a variety of clinical situations when very cellular biopsy specimens are advantageous. For example, recently there has been an increased interest in tailoring the treatment of lung cancer according to specific cell surface markers (such as EGFR and ELK) identified by immunohistochemical analysis of specimens. A large number of cells are required for this testing and the excellent cellularity of the EchoTip ProCore needle specimens will likely be an advantage in this regard.

Further, in contrast to standard cytology specimens, obtaining core biopsy specimens will likely be very helpful when evaluation of histological specimens is required, such as in the diagnosis of sarcoidosis or lymphoma. ■

Images Courtesy of Dr. David McCormack, Department of Medicine and Dr. Mariamma Joseph, Department of Pathology, London Health Sciences Centre, Western University, London, Ontario, Canada.