Successful Biopsy of Bilateral Upper Lobe Apical Lesions

Dr. Justin Thomas

CASE STUDY



Fig 1. Biopsy of LUL ground glass lesion under direct visualization

BACKGROUND

81-year-old male, ex-smoker (28 pack-years), with a history of coronary artery disease s/p coronary artery stenting and chronic lymphocytic leukemia (CLL) on treatment with ibrutinib, as well as a recent diagnosis of melanoma, referred for evaluation of bilateral upper lobe pulmonary nodules by thoracic surgeon. The right upper lobe nodule was mixed ground glass and solid, with the ground glass component measuring 4.1cm and solid component measuring 1.6cm. Left upper lobe ground glass nodule measured 1.7cm. Patient was very active, going to the gym regularly without pulmonary symptoms. Of note, the patient had a history of left lung spontaneous pneumothorax.

PROCEDURE

Air bronchus sign was present on both lesions. Radial endobronchial ultrasound (r-EBUS) and fluoroscopy were used for both nodules. After navigating to within 2cm of the lesions, no endobronchial lesion components were observed despite direct visualization of the airways. Both lesions were localized using r-EBUS. With the aid of fluoroscopy, r-EBUS probe depth was noted and multiple fine-needle aspiration (FNA) passes collected tissue for rapid on-site tissue evaluation. Rapid on-site evaluation revealed atypical cells at both locations. Additional FNA, forceps and cytology brush biopsies were performed. Bronchoalveolar lavage was also performed at both sites. Pathology confirmed malignancy based on evaluation of transbronchial forceps biopsies. Curvilinear EBUS was also performed to stage the mediastinum. Each lymph node sampled was consistent with CLL, but no metastatic focus of lung cancer was appreciated.



The MONARCH[®] Platform has provided me reassurance in sampling difficult to reach lesions, and has provided the confidence to sample bilateral lesions in one procedure.

NODULE CHARACTERISTICS

Lobar Location Bilateral upper lobe

Nodule Size RUL: 4.1cm (ground glass) including 1.6cm solid component

LUL: 1.7cm (ground glass)

Navigation Time RUL: 4 minutes LUL: 4 minutes

Curvilinear EBUS: 23 minutes Total procedure: 77 minutes









Fig 2. CT scan showing bilateral upper lobe ground glass lesions and RUL lesion solid component



Fig 4. r-EBUS image in RUL Fig 5. Biopsy of RUL lesion under direct visualization

CONCLUSIONS

The MONARCH® Platform allowed for quick and accurate localization of bilateral lesions in the apical upper lobes. The ease of use and accuracy of the MONARCH® Platform facilitated access and provided me with the confidence to biopsy bilateral lesions. This increased confidence was something I did not experience with legacy technology. This patient was scheduled for right upper lobectomy and will be reassessed in the future for a lung sparing resection of the left upper lobe lesion.



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Indications for Use: The MONARCH® Platform and its accessories are intended to provide bronchoscopic visualization of and access to patient airways for diagnostic and therapeutic procedures

Important Safety Statement: Complications from bronchoscopy are rare and most often minor, but if they occur, may include breathing difficulty, vocal cord spasm, hoarseness, slight fever, vomiting, dizziness, bronchial spasm, infection, low blood oxygen, bleeding from biopsied site, or an allergic reaction to medications. It is uncommon for patients to experience other more serious complications (for example, collapsed lung, respiratory failure, heart attack and/or cardiac arrhythmia).

