MONARCH™

BRONCHOSCOPY CASE STUDY

DR. JUSTIN THOMAS – EISENHOWER MEDICAL CENTER

Biopsy of Bilateral Upper Lobe Apical Lesions

Fig. 1

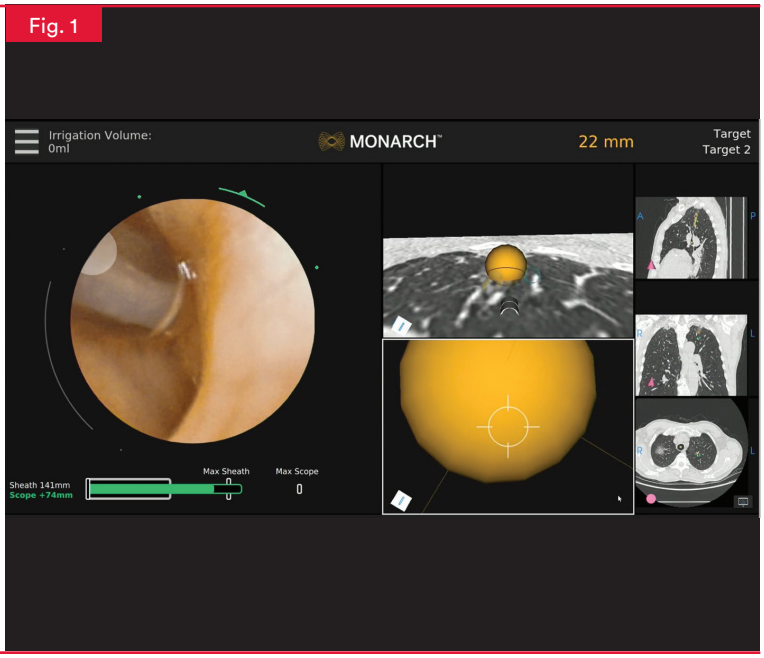
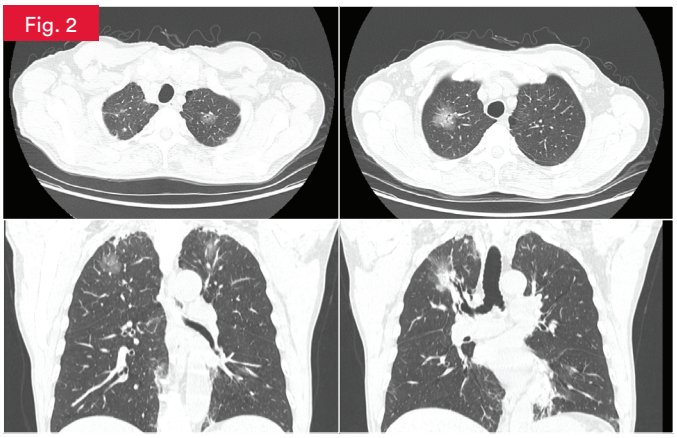


Fig. 2



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 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 4.1 cm and solid component measuring 1.6 cm. Left upper lobe ground glass nodule measured 1.7 cm. 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 was used for both nodules. After navigating to within 2 cm 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.

Nodule Characteristics

Lobar Location
Bilateral upper lobe

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

LUL: 1.7 cm (ground glass)

Case Information

Navigation Time (min.)
RUL: 4:00

LUL: 4:00

Curvilinear EBUS: 23:00

Total Procedure: 77:00

Fig.1. Biopsy of LUL ground glass lesion under direct visualization
Fig.2. CT scan showing bilateral upper lobe ground glass lesions and RUL lesion solid component

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Fig. 3

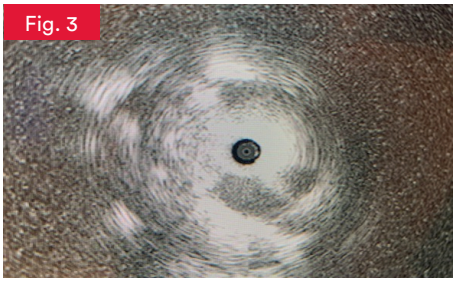

Fig. 4

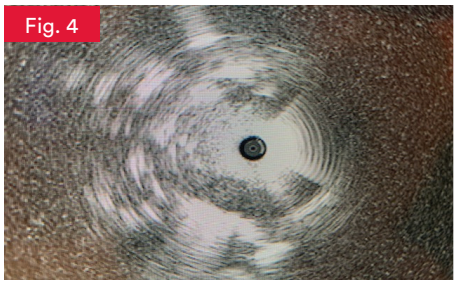

Fig. 5

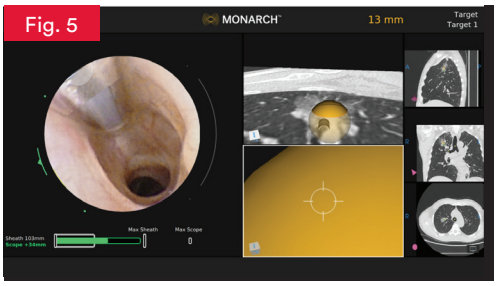

Fig.3. r-EBUS image in LUL
Fig.4. r-EBUS image in RUL
Fig.5. Biopsy of RUL lesion under direct visualization

Conclusion

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.

> *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.*
>
> – Dr. Justin Thomas

About Justin Thomas, MD

Dr. Thomas is the Medical Director of Pulmonary, Critical Care and Sleep Medicine and Director of Bronchology and Interventional Pulmonology at Eisenhower Medical Center

Bronchoscopy 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.

Bronchoscopy 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).

This document reflects the techniques, approaches and opinions of the individual physician. This Ethicon sponsored document is not intended to be used as a training guide. Other physicians may employ different techniques. The steps demonstrated may not be the complete steps of the procedure. Individual physician preference and experience, as well as patient needs may dictate variation in procedure steps. Before using any medical device, review all relevant package inserts with particular attention to the indications, contraindications, warnings and precautions, and steps for use of the device(s).