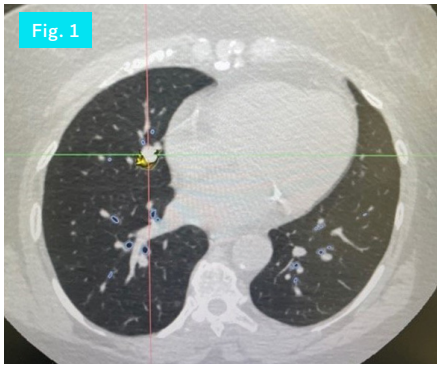
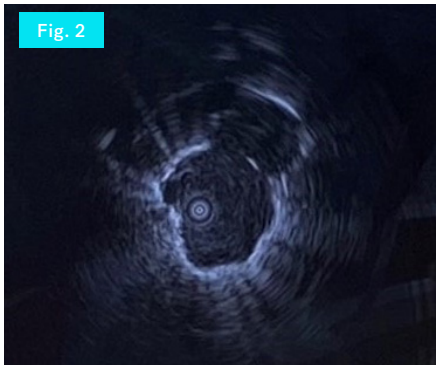
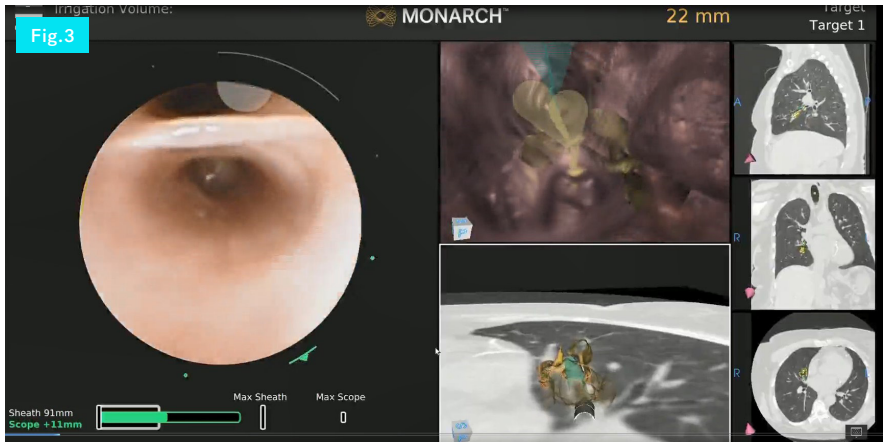
Diagnosis of 10 mm Right Middle Lobe Nodule through Lung Screening Program

Dr. Robert Kruklitis

CASE STUDY







NODULE CHARACTERISTICS

Lobar Location
Right Middle Lobe

Nodule Size
10 mm

Procedure Details
Navigation Time: 3:00 minutes

Total Procedure Time:
40:00 minutes

REBUS: Concentric

Final Diagnosis: Carcinoid

Fig. 1 MONARCH® planning software interface showing small lung nodule

Fig. 2 REBUS Concentric pattern

Fig. 3 MONARCH® navigation screen showing airway bifurcation

BACKGROUND

A 74-year-old male with a smoking history of 59 pack-years was enrolled into the hospital lung cancer screening program through his primary care provider. The patient was asymptomatic, and imaging revealed a small 10 mm lung nodule located in the right middle lobe. (**Fig. 1**) Follow up included a PET scan which was suspicious for malignancy. The patient was referred to pulmonary for a Robotic-Assisted Bronchoscopy with the MONARCH® Platform.

PROCEDURE

The MONARCH® Planning software revealed a 10 mm small nodule located in the right middle lobe. A definitive bronchus sign was identified leading to the nodule.

Within three minutes of navigation the MONARCH® Platform was able to get within 17 mm of the center of the lesion. Once proper positioning of the robotic scope was achieved, fluoroscopy was used to confirm location. Radial EBUS (**Fig. 2**) was then deployed into the working channel and a concentric pattern was observed while maintaining continuous visualization of the airway. (**Fig. 3**) Multiple biopsies were performed under direct observation with the MONARCH® scope. (**Fig. 4**) Final pathology results revealed Carcinoid.

> *MONARCH® Platform gave me the added stability and control to access a difficult to reach area of the lung.*

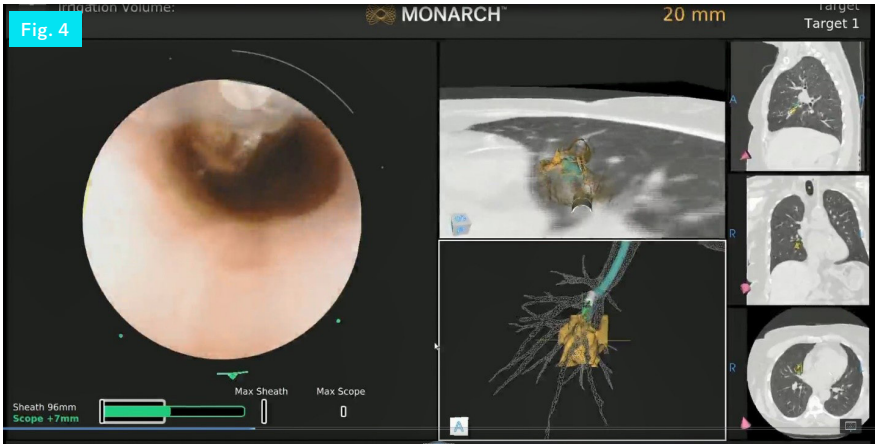


Fig. 4 MONARCH® navigation screen showing deployment of biopsy tools

CONCLUSION

Utilization of the MONARCH® Platform for this small lung lesion was successful due to the ability to access the periphery of the lung. Stability and control of the robotic scope allowed for sampling in a difficult area and continuous vision provided additional information on tool manipulation that was used to attain tissue. This primary lung cancer was found in an asymptomatic patient through the hospital lung screening program which ultimately led to a sooner transition to therapeutic intervention. The patient has been referred to radiation oncology and thoracic surgery for recommendations on best course of care.

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Dr. Robert Kruklitis is a pulmonologist in Allentown, Pennsylvania and is affiliated with Lehigh Valley hospital. He received his medical degree from Georgetown University School of Medicine and has over 24 years of experience in his field.

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