

# Successful Diagnosis & Tissue Acquisition of Difficult to Reach Paraaortic Lymph Node

Dr. Faisal A. Khan

CASE STUDY

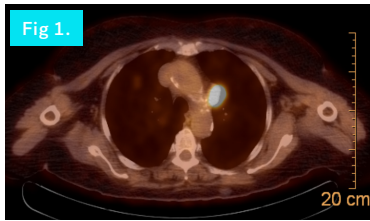


Fig 1.



Fig2.

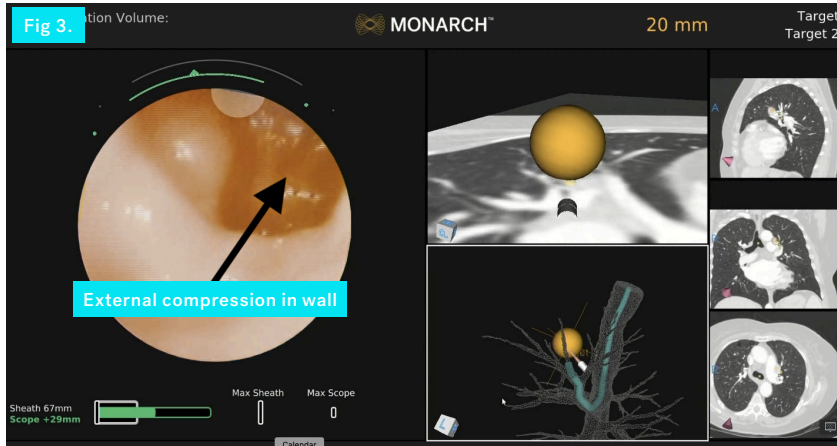


Fig 3.

Fig 1. PET avid para-aortic lymph node

Fig 2. Endobronchial image showing extrinsic compression

Fig 3. Axial CT image showing enlarged paraaortic lymph node

## BACKGROUND

A 70 year-old female with a history of stage II papillary cancer of the thyroid that previously underwent surgical resection in 2019 presents with new para-aortic isolated lymphadenopathy with significant uptake on PET/CT. (Fig. 1 & 2) Given the location of the lymph node, she was initially sent to thoracic surgery for a mediastinoscopy and a thoracotomy for diagnosis. After additional discussion with the thoracic oncology multi-disciplinary team, that patient was referred to interventional pulmonology for a less invasive approach with Robotic-Assisted Bronchoscopy.

## PRE-PROCEDURE PLAN

Evaluation of the CT showed a station 6 lymph node located between the aorta and visceral pleura of left upper lobe. Although no definitive bronchus sign was identified, there was an airway in close proximity of the node that was used for pre-procedure planning.

## MONARCH® PROCEDURE

Initial inspection was performed using a regular flexible bronchoscope which revealed a sharp upper lobe take off not traversable into the segmental bronchus. The bronchoscope was replaced with the MONARCH® Platform and once the area in question was accessed, extrinsic compression was visualized (Fig. 3) due to the enlarged node. Fused navigation along with precise control of the MONARCH® Scope, allowed for crucial circumferential alignment into the node. Radial EBUS was used to confirm proper angulation and to identify vascular structures within the area (Fig 4). A 21G flexible biopsy needle (Fig 5) was used while slight adjustments were made with the scope to maintain ideal positioning and allow the needle to make the final turn. Rapid onsite evaluation revealed positive for malignancy consistent with metastatic papillary thyroid cancer.

## NODULE CHARACTERISTICS

**Lobar Location**  
Station 6 para-aortic lymph node

**Nodule Size**  
1.8 x 2.7 cm

### Case Information

**REBUS:** Eccentric

**EBUS Staging:** Malignant

**Biopsy Tools Used:** TBNA needle

**Final Diagnosis:** Metastatic papillary thyroid cancer

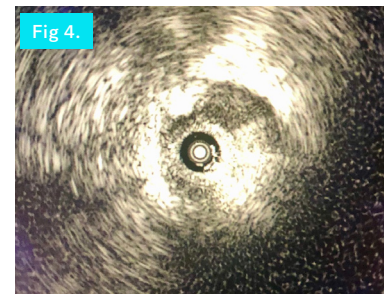


Fig 4. REBUS image of node in question along with underlying vasculature

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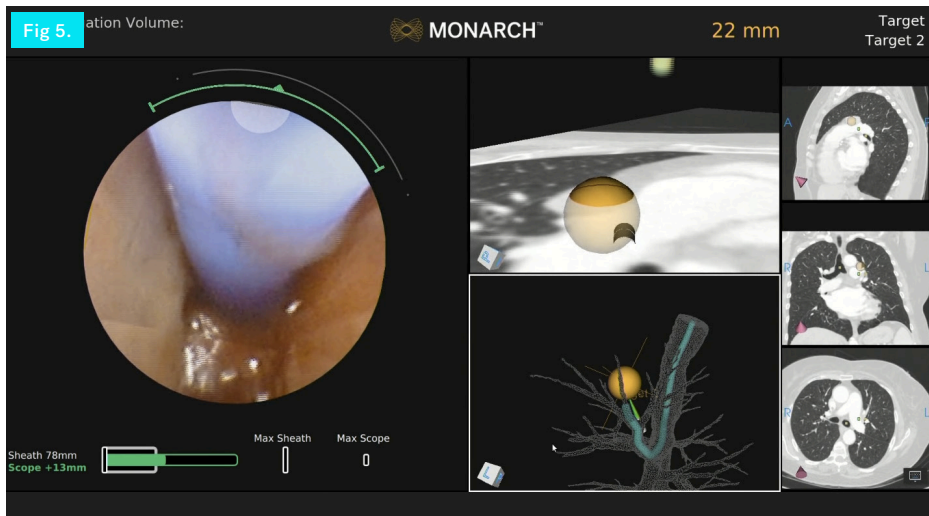


Fig 5. MONARCH® fused navigation with needle puncture location

## CONCLUSIONS

MONARCH's ability to maneuver around tight curves especially in the upper lobes and control the angulation of attack is what made considering a transbronchial approach to access para-aortic nodes possible. Fine adjustments at the distal end of the scope and visualization provided the tools necessary to target an area with challenging anatomy and facilitated in making a diagnosis with a less invasive technique.



### Dr. Faisal A. Khan

Dr. Khan is based in Indianapolis, IN and has over twenty years of medical experience. He is the Medical Director of Endoscopy, Interventional Pulmonology, Respiratory and Pulmonary Rehabilitation for Franciscan Health. He is board certified in pulmonary, critical care and internal medicine.

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).

