



Utilizing robotic assisted bronchoscopy and endobronchial ultrasound to successfully biopsy a para-aortic lymph node



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INTRODUCTION

- The diagnosis of indeterminate aortopulmonary (AP) window lymph nodes is challenging due to the position of the aorta and the left pulmonary artery. We describe a combined approach using both a shape-sensing robotic-assisted bronchoscopy (SSRAB) and an endobronchial ultrasound (EBUS) scope to biopsy a paraaortic lymph node (LN) without traversing the aorta.

CASE DESCRIPTION

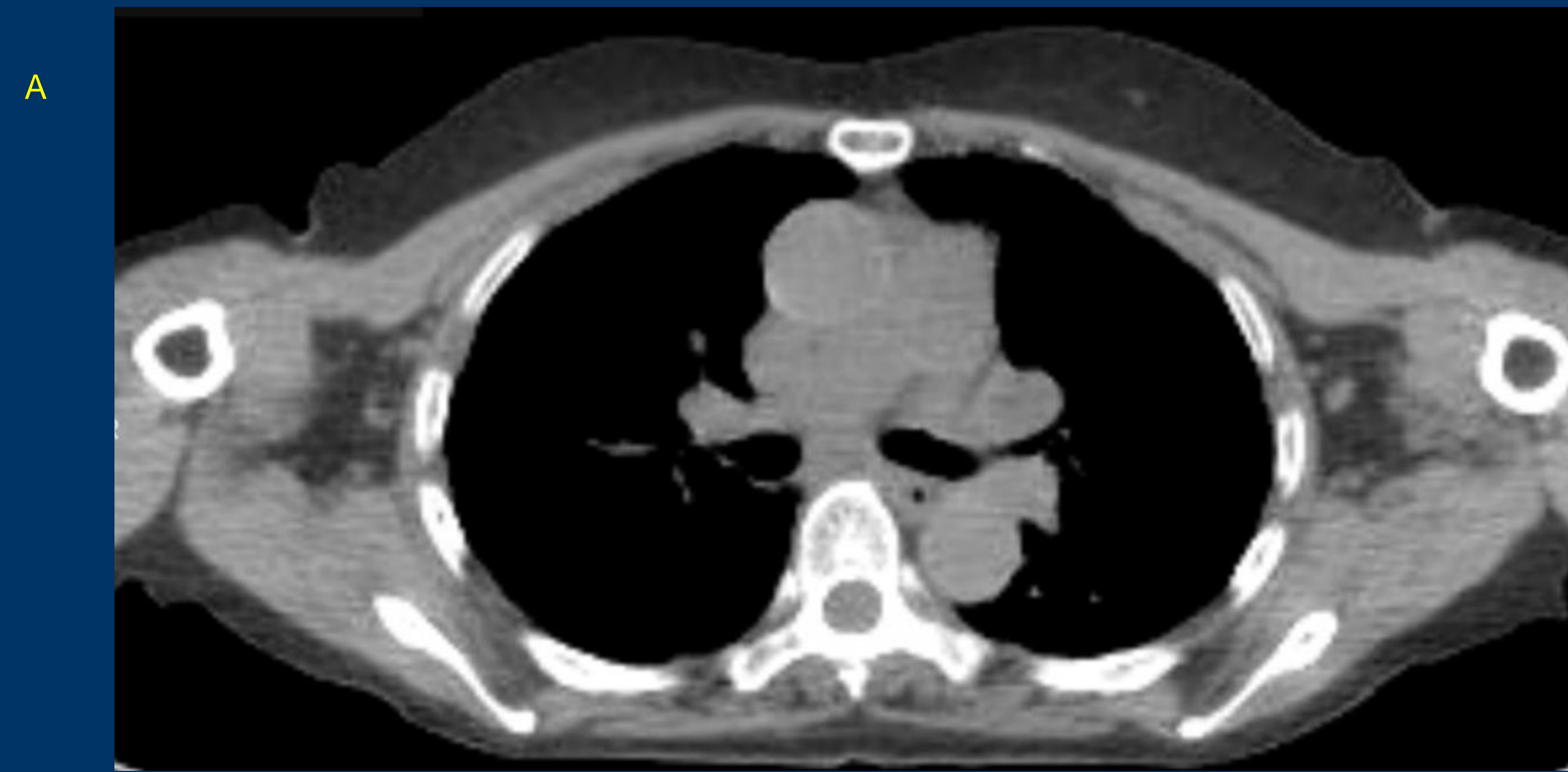
Initial Presentation

- A 79-year-old female with squamous cell carcinoma of the neck and mixed desmoplastic melanoma, status post excision and adjuvant radiation therapy presented with four years of persistent PET avid para-aortic lymphadenopathy. The initial EBUS guided-FNA (fine needle aspiration) of the para-aortic LN was negative for metastasis.

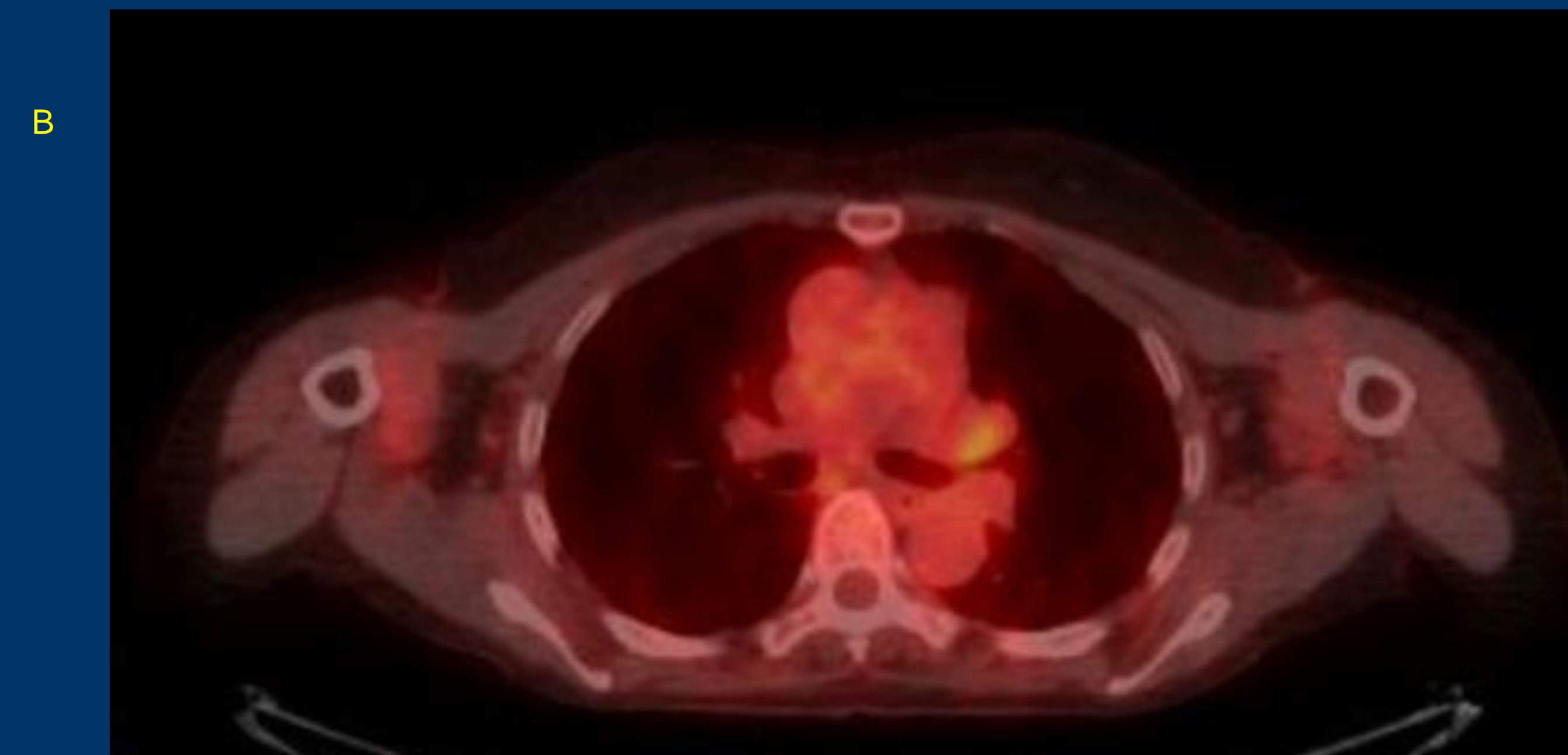
Procedure

- The SSRAB was utilized to access the station 6 para-aortic LN and positioning was confirmed with radial EBUS. Transbronchial needle aspirations were performed and handed to rapid onset cytology
- The EBUS scope was then used to biopsy the node as the robotic bronchoscope turns were too sharp to successfully pass the instruments.
- Biopsy from the combined approach resulted in a successful diagnosis, confirming metastasis of the patient's malignant melanoma.

IMAGES



A. Computed Topography (CT) of the chest without contrast showing the left hilar soft tissue lesion with central hypodensity suggestive of lymphadenopathy.



B. PET/CT with FDG avid left perihilar (AP window) lesion that measures 6.75 SUV and 21 mm (previously 7.1 SUV and 20.9 mm).

CONCLUSION

- Aortopulmonary window lymph nodes are accessed surgically through anterior mediastinoscopy, video-assisted thoracic surgery (VATS) or transcervical extended mediastinal lymphadenectomy (TEMLA).
- Endoscopic ultrasound-guided fine-needle aspiration has been proposed as a minimally invasive alternative, utilizing a trans-aortic approach but carries low diagnostic accuracy (1).
- While these stations and the surrounding structures can be visualized with EBUS, accessing the nodes for biopsy without passing through the aorta is not feasible.
- However, by combining SSRAB and an EBUS scope, we were able to biopsy paraaortic LN without traversing the aorta. This technique allowed for an accurate diagnosis to be made with less risk than the surgical approach.

REFERENCES

Ravaglia, Claudia et al. "Diagnostic Yield and Safety of EUS-FNA Biopsy in Sub-Aortic and Para-Aortic Lymph Node Stations with the Trans-Aortic Approach: a Case Series and Literature Review."

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