Endoscopic ultrasound to the rescue of pancoast tumour

Dear Editor,

A 48-year-old male presented with a two-month history of right-sided shoulder pain with right arm radiation and significant weight loss. A radiograph showed an opacity in the right upper zone. A 34 × 45 × 52 mm mass in the apex of the right lung was seen on contrast-enhanced computed tomography (CECT) [Figure 1a]. Magnetic resonance imaging (MRI) for local staging showed involvement of the right subclavian artery and nerve roots [Figure 1b]. A percutaneous biopsy was planned, but no safe window was available due to the clavicle and multiple vessels on the anterior aspect. Because of the proximity of the lesion to the oesophagus, the patient was referred for endoscopic ultrasound (EUS)-guided biopsy. EUS confirmed the findings of prior imaging [Figure 1c]. An initial attempt at EUS-guided fine-needle aspiration (FNA) with 22-G needle failed as the tumour was very hard. Hence, FNA of visualised subcarinal lymph nodes was performed with a 22-G needle followed by FNA of the tumour with a 19-G needle [Figure 2a]. After the procedure, the patient was observed for four hours and was discharged after confirming the absence of pneumothorax on chest radiograph. A final diagnosis of non-small cell carcinoma was made on pathological [Figure 2b] and cytological examination based on visualisation of clusters of large polygonal cells with round-to-oval vesicular pleomorphic nuclei with no evidence of malignancy in the mediastinal nodes. Because of an unresectable lesion, the patient was planned for a combination of induction chemotherapy and radiotherapy.

EUS has an established role in tissue acquisition from mediastinal lymph nodes, but data on EUS-guided sampling from lung mass remains limited. Transbronchial needle aspiration (TBNA) and endobronchial ultrasound-guided needle aspiration (EBUS-FNA) are the preferred modalities for the diagnosis and staging of lung cancer.[1] However, the tumour's location at the apex of the lung makes them inaccessible to TBNA or EBUS-FNA. In such cases, tumours close to the oesophagus may be amenable to transoesophageal EUS-guided FNA. It also has the advantage of simultaneous sampling of mediastinal lymph nodes and other organs like the liver and adrenal for assessment of metastasis.[1] The present case highlights the utility of EUS for diagnosing lung tumours at inaccessible sites. A recent multicentric study from Italy reported the efficacy and safety of EUS-guided tissue sampling as a minimally invasive procedure for the diagnosis and staging of peri-oesophageal parenchymal lung lesions.[2] However, transoesophageal FNA from lung mass may be rarely associated with pneumothorax[3] and haemoptysis.[4] Hence, a check X-ray should be done to rule out pneumothorax before discharging the patient. Keeping in mind the possibilities of complications, EUS-FNA of the lung lesions should be done in centres with the availability of pulmonologist to immediately address the adverse events.

Declaration of patient consent

The authors certify that they have obtained all appropriate patient consent forms. In the form, the patient(s) has/have given his/her/their consent for his/her/their images and other clinical information to be reported in the journal. The patients understand that their names and initials will not be published and due efforts will be made to conceal their identity, but anonymity cannot be guaranteed.

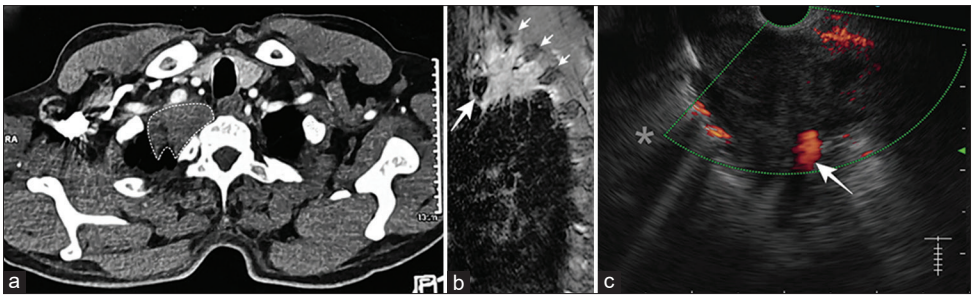

Figure 1: (a) Contrast-enhanced computed tomography (CECT) of thorax showing a mass in the apex of the right lung. (b) Magnetic resonance imaging (MRI) showing involvement of the right subclavian artery (large arrow) and nerve roots of C8, T1, and T2 (small arrows), (c) Transoesophageal endoscopic ultrasound (EUS) showing a hypoechoic irregular lung mass located on top on lung parenchyma (asterisk) and encasing the subclavian artery anteriorly (arrow)

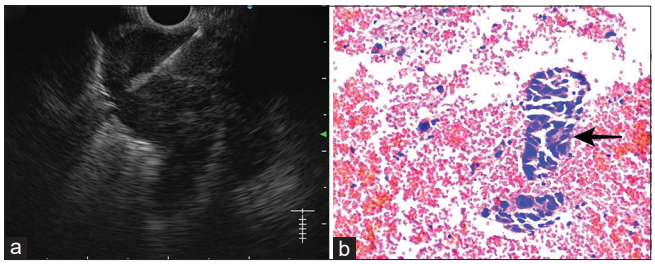

Figure 2: (a) Endoscopic ultrasound-guided fine needle aspiration from lung mass, (b) Haematoxylin and eosin (H and E) staining of core lung mass biopsy, suggestive of non-small cell carcinoma of the lung (arrow)

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Conflicts of interest
There are no conflicts of interest.

Suprabhat Giri[1], Shantveer G. Uppin[2], Sagar Gangadhar[1], Sukanya Bhrugumalla[1]

[1]Department of Gastroenterology, Nizam's Institute of Medical Sciences, Hyderabad, Telangana, India, [2]Department of Pathology, Nizam's Institute of Medical Sciences, Hyderabad, Telangana, India
E-mail: supg19167@gmail.com

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