Transesophageal endoscopic ultrasound-guided transcarotid fine needle aspiration of a positron emission tomography (PET)-positive mediastinal lymph node

We report an unusual case of a positron emission tomography (PET)-positive para-aortic lymph node (Fig. 1) in a patient with breast cancer that was punctured with transesophageal endoscopic ultrasound (EUS)-guided fine needle aspiration (FNA) by traversing the carotid artery, with multiple needle passes performed.

EUS was performed by an experienced endosonographer (A.L.) using a conventional linear echoendoscope. It confirmed the presence of a 15×20-mm lymph node, which was located near to the origin of the left common carotid artery from the aortic arch (Fig. 2). A window that would allow the lymph node to be punctured without traversing any vascular structure could not be found. Therefore, transcarotid EUS-FNA was performed using a 25-gauge needle (Echotip Ultra, Cook Medical Inc., Bloomington, Indiana, USA; Fig. 3 a and Video 1).

After the first needle pass, a hyperechoic halo appeared around the vessel, suggestive of a small leakage of blood, but there were no ultrasonographic signs of overt bleeding (Fig. 3b). Two additional needle passes were performed. The patient was observed for 1 hour in the recovery room then for the following 24 hours with no evidence of complications. She was discharged on the day after the procedure. A definitive diagnosis of metastatic breast cancer was made on cytological examination (Fig. 4a) with evidence of positivity for the estrogen receptor (Fig. 4b).

Recently, Wallace and colleagues [1] have reported the first case of transbronchial endobronchial ultrasound (EBUS)-guided transaortic FNA in a patient with meta-
static lymph nodes from lung cancer using a 22-gauge needle. Subsequently, von Bartheld [2] utilized the same technique to perform transesophageal transaortic EUS-FNA of para-aortic lymph nodes and lung masses using a 25-gauge needle. In both cases, only a single needle pass was performed because of the fear of complications. In contrast, the present case shows that EUS-FNA of a para-aortic lymph node is also technically feasible by traversing the carotid artery and that no complications resulted even when multiple passes of a 25-gauge needle were carried out.

**Competing interests:** None

**References**


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**Video 1**

A conventional linear echoendoscope was used to confirm the position of the enlarged lymph node in proximity to the origin of the left common carotid artery from the aortic arch. Transcarotid endoscopic ultrasound (EUS)-guided fine needle aspiration (FNA) was performed using a 25-gauge needle. Multiple passes were performed without complications.

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**Bibliography**

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