Transgastric retrograde endoscopic ultrasound sampling of a mediastinal mass in a patient with radiation-induced trismus

Endoscopic ultrasound (EUS) guidance is a safe and effective technique for sampling mediastinal lesions [1–3]. We report a case where an EUS was done in retrograde fashion through a gastrostomy because of the patient’s limited degree of mouth opening due to trismus. We present the case of a 42-year-old man with oropharyngeal squamous cell carcinoma (SCC) who had had a suboptimal response to chemoradiation and was therefore undergoing evaluation for surgery. A positron emission tomography (PET) scan showed a hypermetabolic mediastinal lesion. If this mediastinal lesion was a metastatic focus, the patient would not benefit from surgery and therefore sampling was required. An initial EUS-guided fine needle aspiration (FNA) failed as the echoendoscope could not be passed through the patient’s mouth because of his radiation-induced trismus. After multidisciplinary discussion, we proceeded with retrograde EUS-FNA of the mediastinal mass performed through the patient’s pre-existing gastrostomy (▶Video 1).

The procedure was performed with the patient under general anesthesia. The existing gastrostomy tube was removed and, after serial dilation of the gastrostomy tract, was replaced with a 15-mm laparoscopic trocar. A standard gastroscope was passed through the trocar and two hemoclips were placed in the gastric cardia to aid identification of the gastroesophageal junction (GEJ) during echoendoscope passage. A radial echoendoscope (GF-UE160-ALS; Olympus, Tokyo, Japan) was inserted through the trocar and advanced in retrograde fashion through the GEJ until the mediastinal mass was identified (▶Fig. 1). The radial echoendoscope was then exchanged for a linear echoendoscope (UC140P-ALS; Olympus) to perform the EUS-FNA (▶Fig. 2). Two passes with a 22G needle were diagnostic for carcinoma by on-site cytology. The linear echoendoscope and trocar were removed and a balloon-type gastrostomy tube was placed.

Final pathology confirmed metastasis of the SCC. The patient was discharged on the same day without complications and was later started on palliative immuno-therapy.

Retrograde EUS-FNA through a gastrostomy for mediastinal mass sampling seems to be safe and feasible, and offers a novel solution for patients in whom the antegrade route is not available.

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Competing interests

None

Fig. 2  Tissue sampling from the mediastinal mass was obtained by endoscopic ultrasound-guided fine needle aspiration (EUS-FNA). a Schematic showing the linear echoendoscope inserted through the existing gastrostomy. b EUS image during tissue acquisition with a 22G needle.

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