

## 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 gastrotomy 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 gastrotomy (► **Video 1**).

The procedure was performed with the patient under general anesthesia. The existing gastrotomy tube was removed and, after serial dilation of the gastrotomy 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-AL5; 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-AL5; Olympus) to perform the EUS-FNA (► **Fig. 2**). Two passes with a 22G needle were diagnostic for carcinoma by on-site cytology. The linear



► **Fig. 1** The mediastinal mass is shown: **a** by the radial echoendoscope first used to locate it; **b** on a computed tomography (CT) scan, which produces a similar image.

echoendoscope and trocar were removed and a balloon-type gastrotomy 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 immunotherapy.

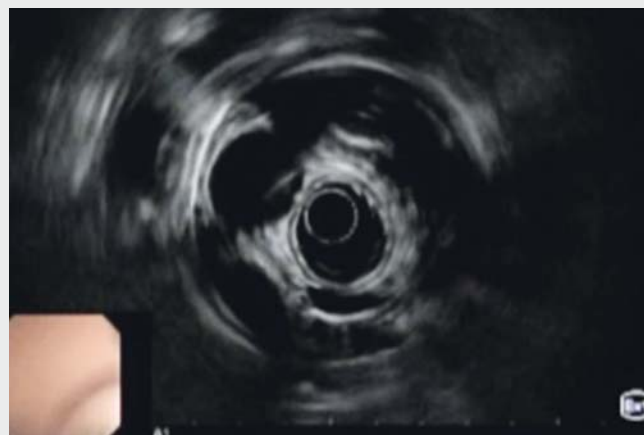
Retrograde EUS-FNA through a gastrotomy for mediastinal mass sampling

seems to be safe and feasible, and offers a novel solution for patients in whom the antegrade route is not available.

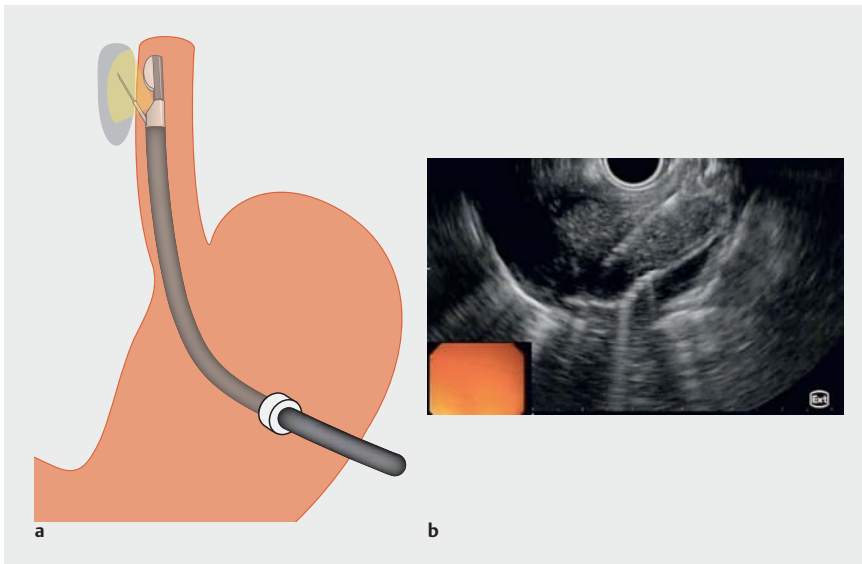
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### Competing interests

None



► **Video 1** Video demonstrating retrograde endoscopic ultrasound-guided fine needle aspiration (EUS-FNA) through an existing gastrotomy for sampling of a mediastinal mass in a patient with radiation-induced trismus.



► **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.

## References

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## Bibliography

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