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Endoscopic ultrasound-guided fine-needle aspiration of the left adrenal mass accessed via the gastrostomy tract: A case report with video

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ABSTRACT

INTRODUCTION AND IMPORTANCE: An adrenal metastasis is uncommon in esophageal cancer. Its diagnosis could be challenging if a percutaneous approach was inaccessible. Moreover, endoscopic ultrasound-guided fine-needle aspiration (EUS-FNA), a useful adrenal sampling technique, is complicated by the luminal obstruction.

CASE PRESENTATION: A patient with esophageal cancer accompanying by adrenal mass and established gastrostomy was described. The EUS-FNA of the adrenal lesion was successfully performed via the dilated gastrostomy tract. Adequate tissue for pathological examination was achieved, and the result indicated metastatic squamous cell carcinoma. Chemotherapy was started accordingly.

CLINICAL DISCUSSION: This report described an uncommon event of adrenal metastasis of esophageal primary. Even though it is possible to perform EUS via the gastrostomy tract, performing EUS from an unusual direction might add some difficulty to an endoscopist, considering that EUS involves image pattern recognition in identifying structures. Thus, this technique should be operated by experienced EUS endoscopists.

CONCLUSION: Gastrostomy can provide an enteral route for nutrition support in esophageal cancer patients. In addition, it could be an alternative EUS intervention portal when an esophageal stent is not accessible.

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1. Introduction

Incidence of adrenal metastasis was 52%–71% in patients with known extra-adrenal malignancy [1,2]. Common primary cancers include lung, breast, renal cell, and malignant melanoma. Contrary, the esophagus has been occasionally reported to be a primary site [3,4]. When adrenal metastasis is uncertain, fine-needle aspiration (FNA) guided by endoscopic ultrasound (EUS) could be a useful modality [5]. However, it would be problematic to perform EUS-FNA of adrenal mass given the passage is blocked by esophageal carcinoma. Herein, the successful EUS-FNA of adrenal mass accessed via the gastrostomy tract was demonstrated. This report has been reported in line with the SCARE2020 criteria [6].

2. Case presentation

A 68-year-old man presented to the hospital with esophageal squamous cell carcinoma at the upper thoracic level (Fig. 1). His tumor was staged T3N1 with suspected left adrenal metastasis (Fig. 2). According to his poor performance status, treatment priority is nutritional support. Because esophageal stent was not reimbursable, percutaneous gastrostomy was performed under the small-caliber endoscopy guidance. The patient's performance status was improved after receiving sufficient nutrition; then treatment strategy needed reconsideration. Consequently, tissue sampling from the adrenal mass was mandatory for treatment planning. Since the lesion was inaccessible by the intervention radiologist, gastrostomy was used as a portal.

By allowing gastrostomy tract maturation, the tract was dilated with a Savary-Gilliard dilator until a 14-mm diameter was achieved. EUS endoscope (EG-580UT; Fujifilm) was inserted through the dilated tract. Even though atypical EUS views were observed due to the unusual direction of EUS scanning

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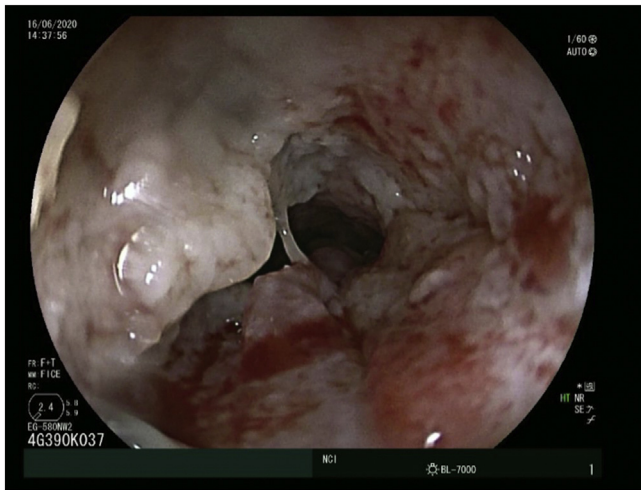


Fig. 1. Endoscopic view demonstrates esophageal cancer.

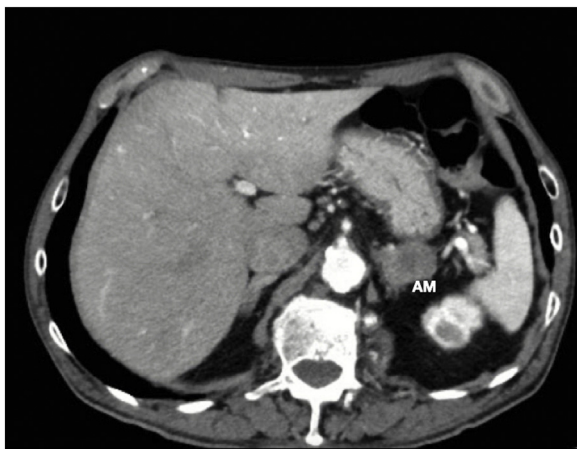


Fig. 2. Computed tomography scan demonstrates an adrenal mass (AM adrenal mass).



Fig. 3. Endoscopic ultrasound view demonstrates the left adrenal lesion and kidney.

(Figs. 3 and 4), the adrenal FNA, using a 19 G needle (EZ shot 2; Olympus), was able to be performed by an experienced EUS endoscopist without EUS-related complications (Supplementary video). The pathological examination revealed metastatic squamous cell carcinoma (Fig. 5). The nasoduodenostomy tube was temporarily placed for enteral nutrition during the suspension of gastrostomy

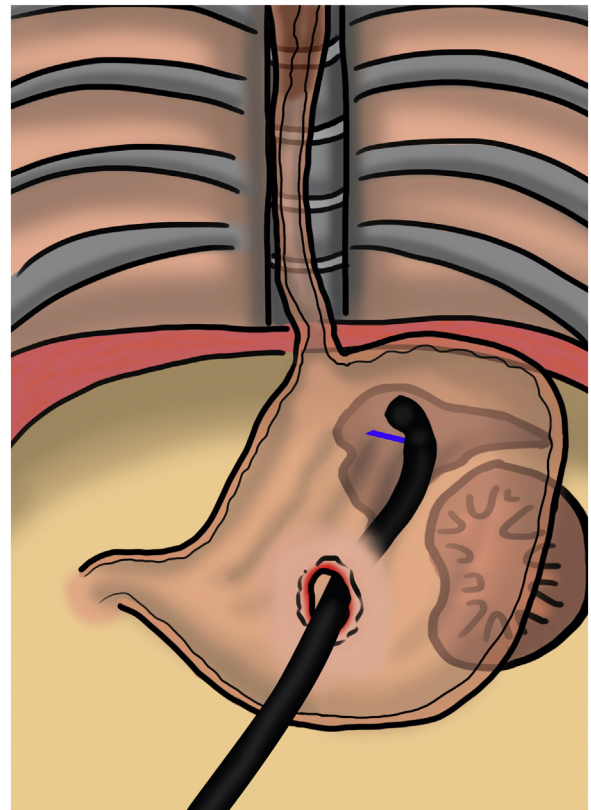


Fig. 4. Illustration demonstrates an endoscopic ultrasound position during the procedure.

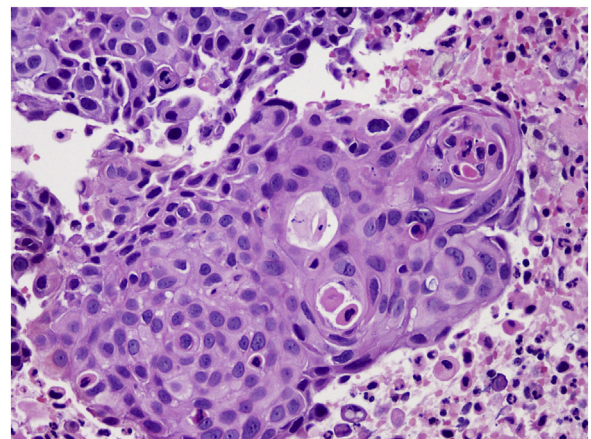


Fig. 5. Pathological examination demonstrates tumor cells with eosinophilic cytoplasm and focal keratinization.

feeding. Leakage around the gastrostomy tube had ceased within three days of expectant management. After that, chemotherapy was scheduled for systemic control. The patient was satisfied with the procedure.

3. Discussion

An accurate cancer staging is crucial for treatment planning. Any suspicious lesion in a cancer patient should receive a definite diagnosis if the diagnosis could influence treatment decision. A solitary adrenal nodule is an example of such a lesion. Only 5% of esophageal cancers metastasize to an adrenal gland [7]; however, tissue sampling could be challenging given the metastatic lesion

was unreachable by percutaneous technique and the esophageal lumen is impassable for the transmural approach.

Esophageal stenting associates with a better quality of life when compared with an ostomy and nasogastric tube feeding. Successful EUS-FNA of retroperitoneal lymph nodes following esophageal stenting has been reported [8]. The same approach can be applied for adrenal tissue sampling. Unfortunately, the high cost would make esophageal stent inaccessible to every patient. Moreover, some tumor location (i.e., cervical esophagus) is not the ideal site of stent placement. Tube feeding is the only option in those cases.

The present case is an example of using the gastrostomy tract as a route for EUS-FNA. Even though the procedure was challenging because of the unusual EUS scanning direction, FNA was successfully performed. With the meticulous technique, bleeding could be avoided. Leakage around the dilated gastrostomy tract was an annoying complication but could be treated conservatively. Another possible complication includes gastrostomy tract rupture, which could occur during tract dilation or EUS endoscope manipulation. If this severe complication did happen, it would require urgent control of intraperitoneal contamination. Considering that the EUS-FNA is rarely performed via the gastrostomy, this report would provide technical detail and findings for endoscopists facing the same problem.

4. Conclusions

Gastrostomy can be used as an alternative passage for the upper gastrointestinal EUS interventions. However, endoscopists have to be able to perform the procedure under the guidance of unfamiliar ultrasound imaging.

Conflicts of interest

All authors declare no conflict of interest.

Funding

None.

Ethical approval

This case report is exempt from the institutional review board approval process.

Consent

Written informed consent was obtained from the patient for publication of this case report and accompanying images. A copy of the written consent is available for review by the Editor-in-Chief of this journal on request.

Author contribution

- Conceptualization: Hathaiwan Mounghard
- Data curation: Hathaiwan Mounghard

- Visualization: Tanyaporn Chantarojanasiri, Hathaiwan Mounghard, Amarit Tansawet
- Writing – original draft: Amarit Tansawet
- Writing – review & editing: Tanyaporn Chantarojanasiri, Thawee Ratanachu-ek
- Supervision: Thawee Ratanachu-ek
- All authors have approved the manuscript and all materials before submission.

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Not applicable.

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Appendix A. Supplementary data

Supplementary material related to this article can be found, in the online version, at <https://doi.org/10.1016/j.ijscr.2020.12.090>.

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