

Esophageal adenocarcinoma metastasis in the left adrenal gland diagnosed by endoscopic ultrasound-guided fine needle aspiration

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A 54-year-old man with a 2-month history of dysphagia, epigastric pain, and 15 kg weight loss was referred for upper endoscopy, which revealed a vegetative lesion in the distal part of the esophagus [Figure 1]. Endoscopic biopsies confirmed the diagnosis of esophageal adenocarcinoma.

Computed tomography scan showed a parietal thickness of the distal part of esophagus and some perigastric, portocaval, and periaortic lymph nodes [Figure 2]. In addition, a nonspecific small nodule in the left adrenal gland was observed [Figure 3].

As a result of these findings, the patient was referred for EUS staging (Processor EUS SU 8000, insertion tube EG 530 UT, Fujinon Corporation, Japan) that revealed a hypoechoic and heterogeneous lesion, invading the mucosa, submucosa, muscularis propria, and adventitia of the esophagus [Figure 4].

EUS confirmed the presence of enlarged regional lymph nodes [Figure 5] and also revealed a hypoechoic heterogeneous nodule in the left adrenal gland with hyperechoic central area, measuring about

12 mm × 13 mm and with well-defined limits. EUS-guided fine needle aspiration (EUS-FNA) of the left adrenal gland was performed [Figure 6] with a 22-gauge EchoTip[®] Needle (Cook Medical Inc., Limerick, Ireland). The cell block histology and immunohistochemistry (CDX2 and CD20 positive) confirmed the diagnosis of esophageal adenocarcinoma metastasis [Figure 7]. Therefore, EUS staging was concluded as T3N3M1-Stage IV and the patient was forwarded for adjuvant therapy.^[1]

The majority of the patients diagnosed with esophageal cancer, unfortunately, are not candidates for surgery, because at the time of the diagnosis, they present with distant metastases and therefore forwarded for adjuvant treatment.^[2] The most common sites of esophageal metastasis are the liver, lungs, and bones. The adrenal gland is the fourth most common location of metastasis, but it is usually diagnosed in the context of advanced disease in postmortem studies.^[3]

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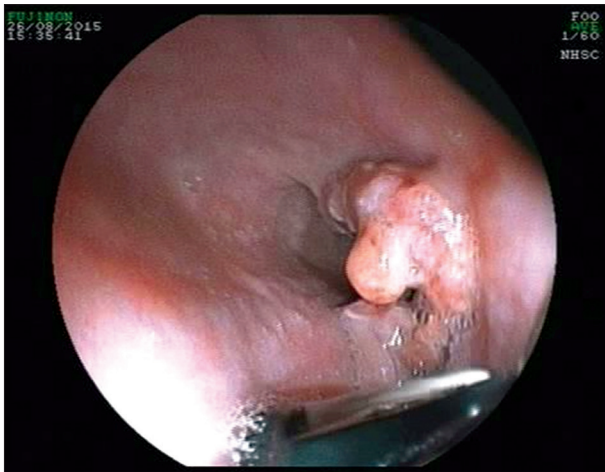


Figure 1. Upper endoscopy image: Vegetative lesion in the distal part of the esophagus

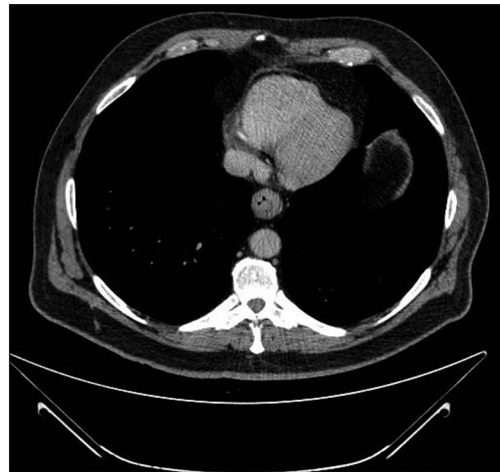


Figure 2. Computed tomography image: Parietal thickness of the esophagus

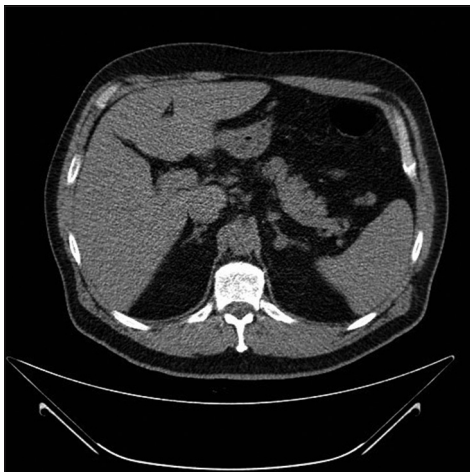


Figure 3. Computed tomography image: Nonspecific nodule in the left adrenal gland

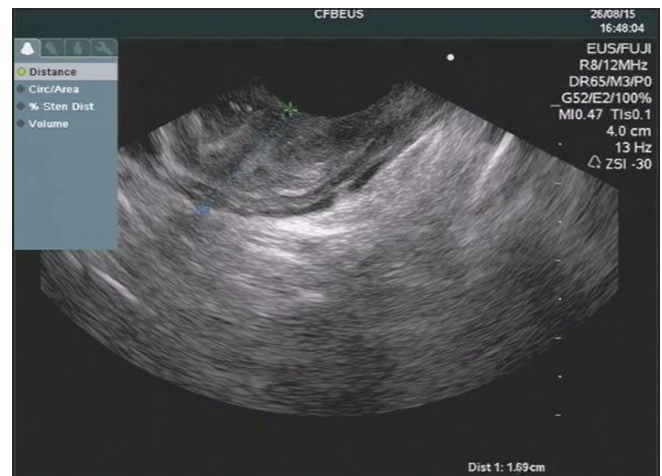


Figure 4. Endoscopic ultrasound image: T3 esophageal cancer

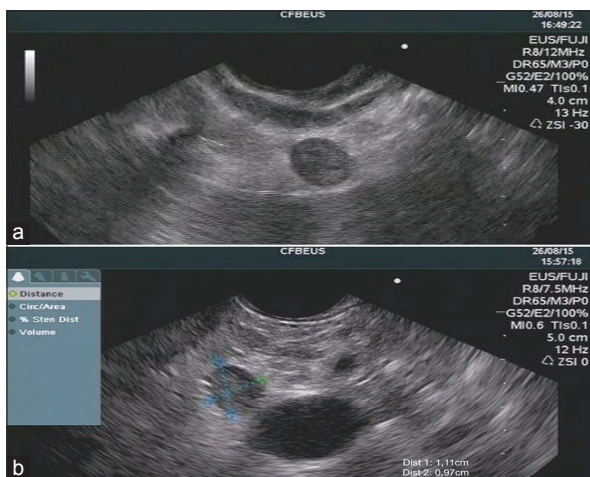


Figure 5. Endoscopic ultrasound images: Esophageal lymph nodes (a) and pancreatic lymph nodes (b)

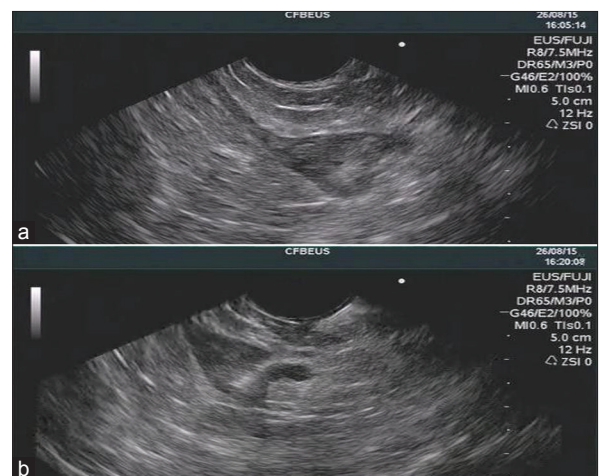


Figure 6. Endoscopic ultrasound images: Heterogeneous nodule in the left adrenal gland (a). Endoscopic ultrasound-guided fine needle aspiration of the nodule (b)

The prevalence of the neoplastic dissemination to the adrenal glands varies from about 5% in clinical

evaluation studies to 13.6% in autopsies studies.^[2,4] In this context, there are some isolated reports in the

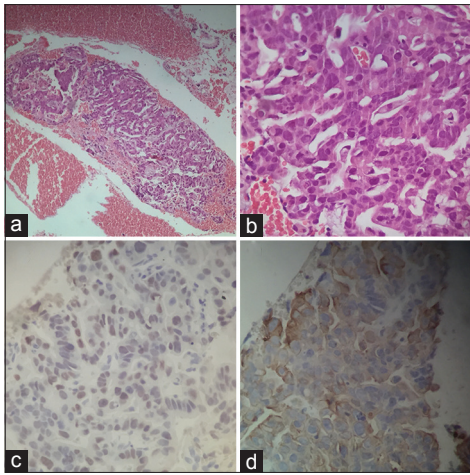


Figure 7. Section of the cell block showing an epithelial glandular neoplasm, consistent with adenocarcinoma ($\times 40$) (a). Section of the cell block showing an epithelial glandular neoplasm, consistent with adenocarcinoma ($\times 80$) (b). Immunohistochemistry nuclear positivity for the CDX2 marker ($\times 40$) (c). Immunohistochemistry membrane positivity for the CK20 marker ($\times 40$) (d)

literature suggesting the benefit of adrenalectomy in patients with esophageal carcinoma, when the gland represents a single metastatic site, suggesting some benefits in the survival rates of these individuals.^[3-5]

Asymptomatic masses found in the adrenal glands may correspond, in most cases, to a benign disease; however, in the context of cancer staging, up to 75% of the lesions may be a neoplastic dissemination.^[6] It is assumed that tumor infiltration of the gland is facilitated by abundant blood supply and high local concentration of corticosteroids, which would promote the implantation.^[3]

The EUS-FNA of the adrenal gland can be considered a safe procedure after several series of reports without complications.^[7] Only two isolated cases of bleeding and hypertension caused by EUS-FNA have been reported in the literature.^[8,9] Both cases had favorable outcomes.

EUS-FNA of the adrenal gland has an overall accuracy rate of 92% and high negative predictive value (89%) for the diagnosis of malignancy. Some authors suggest that nondiagnostic biopsies are more frequent in cases where there is diffuse thickening of the adrenal gland compared with cases where a mass is identified. It is reported that the puncture of the right adrenal gland is technically more difficult due to its low degree of visualization (approximately 30% of cases) and the interposition of the vena cava.^[7,10,11]

In this case report, EUS-FNA was performed without complications; it confirmed an advanced disease, allowing the appropriate treatment for the patient. Furthermore, the cost-effectiveness of this procedure

was appropriate because it could avoid unnecessary surgery and other examinations. In the literature, only five cases of adrenal metastasis of esophageal tumor diagnosed by EUS-FNA could be found.^[6,10,12]

In conclusion, we emphasize that it is very important to evaluate the left adrenal gland during EUS staging not only for lung cancer but also for all other neoplasms, including esophageal cancer.

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.

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Conflicts of interest

There are no conflicts of interest.

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