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Original Article

The giant lower esophageal diverticulum within a heterotopic pancreas

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Abstract: The lower esophageal diverticulum (LED) and heterotopic pancreas (EP), also named aberrant pancreas, are considered as a congenital anomaly. The merger of them is extremely rare, and usually causes a wrong diagnosis. Here we reported a 27-year-old woman was diagnosed as with right pulmonary abscess and accepted treatments with meropenem and bromhexine for 1 month, then was with chest computed tomography (CT), esophageal iodine radiography and endoscopy. The woman was underwent right thoractomy exploration and resection of lesion. The pathological diagnosis was confirmed the lower esophageal diverticulum and heterotopic pancreas.

Keywords: Lower esophageal diverticulum, heterotopic pancreas, treatment

Introduction

The lower esophageal diverticulum (LED) and heterotopic pancreas (EP), also named aberrant pancreas, are considered as a congenital anomaly. The merger of them is extremely rare, and usually causes a wrong diagnosis. Here we reported that a 27-year-old woman was diagnosed as with right pulmonary abscess and accepted treatments with meropenem and bromhexine for 1 month, then was with chest computed tomography (CT), esophageal iodine radiography and endoscopy. The woman was underwent right thoractomy exploration and resection of lesion. The pathological diagnosis was confirmed the lower esophageal diverticulum and heterotopic pancreas.

Case report

A 27-year-old female presented recurrent paroxysmal cough and expectoration for about 5 months. Meanwhile, the female presented chest pain on the right side for more than 3 months, with intermittent tingling and high fever at the peak of 38.9°C. She was diagnosed as the right pulmonary abscess and administered with meropenem and bromhexine to reducing spetum. After one month of treatment, she was given chest computed tomography (CT) which was showed that the lesion of the right lower posterior may be diaphragmatocele or hiatal hernia. Physical examination: T 36.6°C, Pulse 88 bpm, Respiratory Rate 18 bpm, BP 114/77 mmHg. Breath sounds clear.

Chest CT was reviewed which was seen as a half hollow shadow with abnormal density located at the right lower lung and the posterior septum, and the lower esophagus was compressed and shift left (**Figure 1**). The esophageal iodine radiography showed that the iodine overflew in the lower esophagus and irregular lamellar high-density shadow within filling defect (**Figure 2**). The endoscopy showed a 0.8 cm fistula at the lower left esophagus, and food residue and granulation tissue were seen from the entrance of fistula (**Figure 3**).

Then the patient underwent right thoracotomy exploration and resection of lesion, and the pathological examination was given (**Figures 4**, **5**). The pathological diagnosis was the lower esophageal diverticulum and heterotopic pancreas in it.

Discussion

The final diagnosis of this patient was the lower esophageal diverticulum complicated with and heterotopic pancreas.

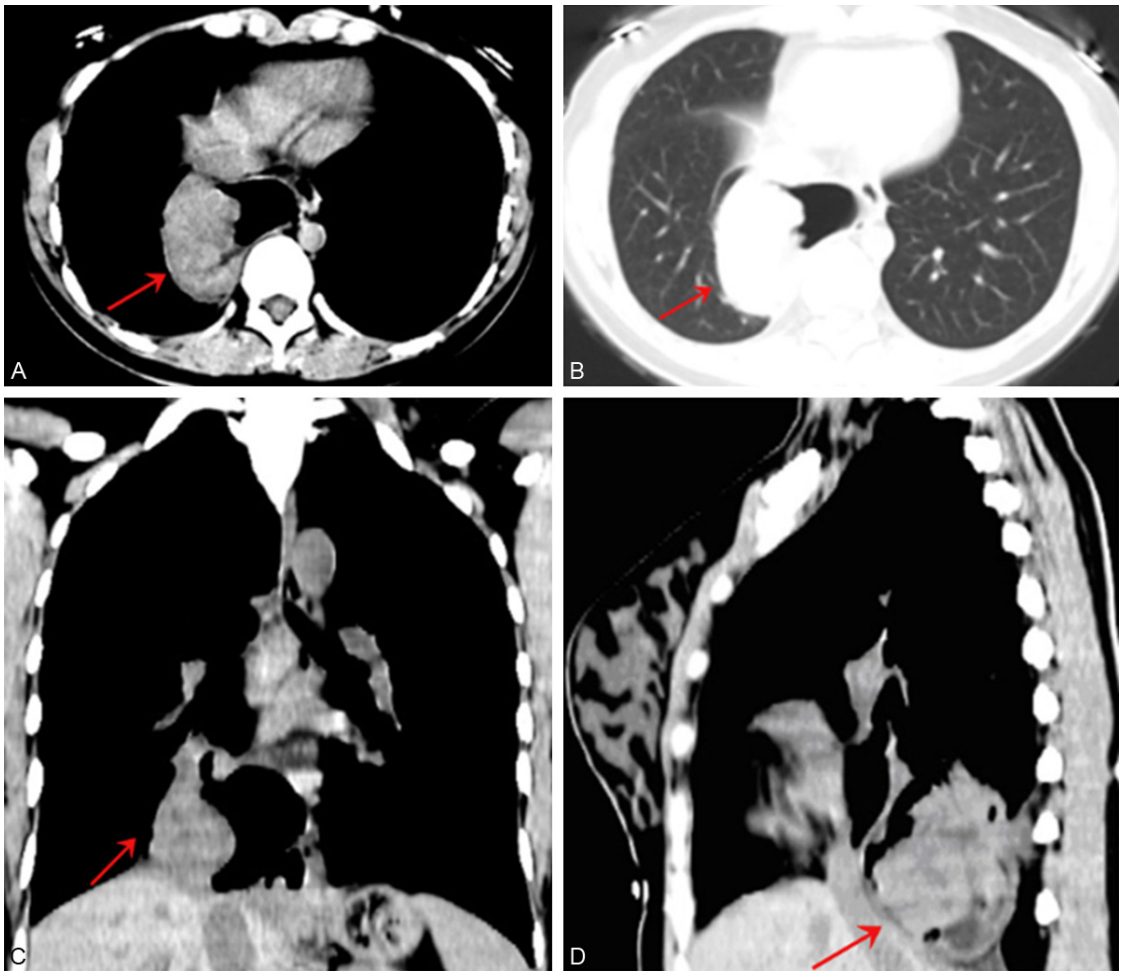

Figure 1. Chest CT show: it could be seen a half hollow abnormal density shadow of the right lower lung and the posterior septum (68 mm×54 mm×60 mm), an eccentric mass lesion in it (38 mm×54 mm×50 mm), and with uneven density, the average of arterial phase was 41HU, solid mass lesion has a clear boundary with a little free air bubble and liquid. The lower esophagus compressed and moved left. The right lower pleural become thick, and the adjacent lung tissue was not completely extended. A little patchy density of the right lower lung was observed, and the edge was fuzzy.

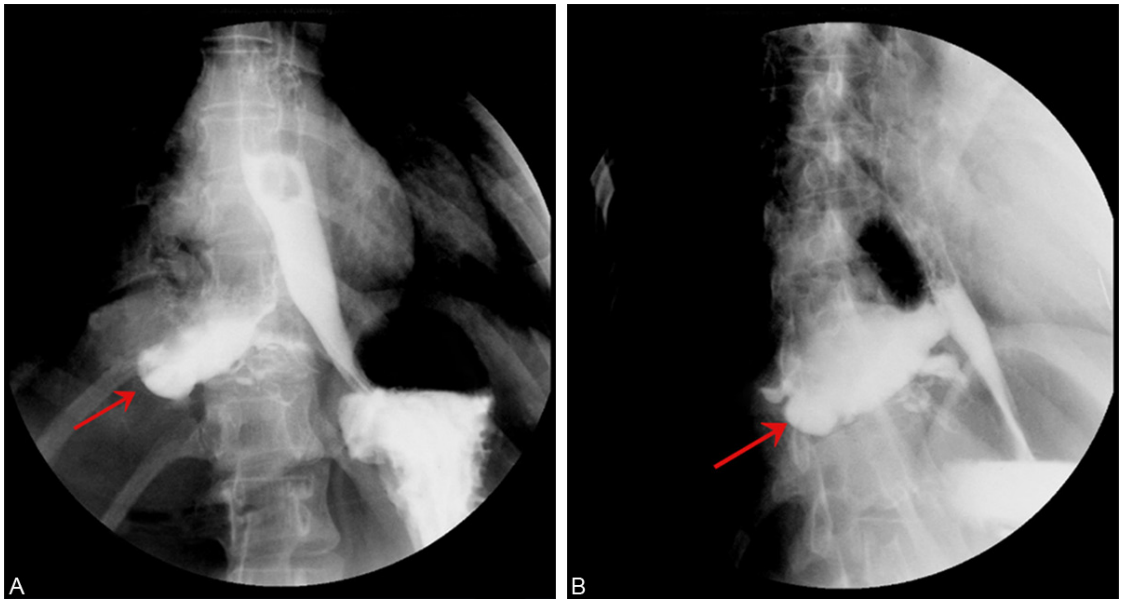

Figure 2. The esophageal iodine radiography showed that the iodine overflew in the lower esophagus and irregular lamellar high-density shadow within filling defect, there was no thickening and disruption of esophageal mucosa.

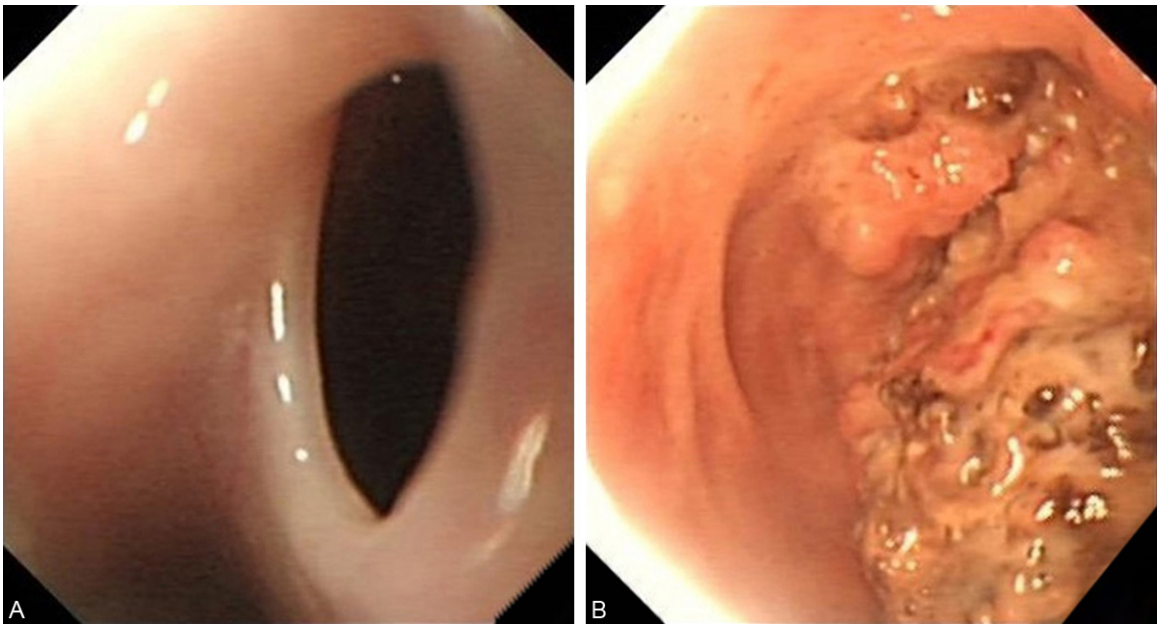

Figure 3. The endoscopy images showed a 0.8 cm fistula at the lower left esophagus, about 25 cm to incision. The local mucosa was smooth, without abnormal color. A little food residue and granulation tissue were observed in the entrance of fistula.

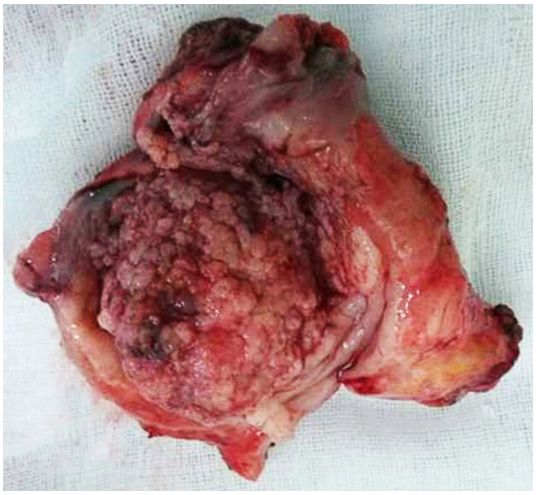

Figure 4. After surgery resection, the specimen was a big gray brown lesion (about 70 mm×60 mm×40 mm).

Heterotopic Pancreas (HP) was firstly reported in 1727 by Jean-Schultz [1]. HP is a rare congenital anomaly, and the estimated incidence is 1:500000 per year [2]. Also the lower esophageal diverticulum (LED) are rare [3], the LED is often associated with achalasia [4], while the HP in LED is extremely rare.

Most of LED is asymptomatic [5]. Only when the size is more than 5 cm, it can be manifested as dysphagia, vomiting and chest pain [6]. The HP usually has no symptom [7]. Sixty percent of HP lesions were mainly diagnosed by accident during abdominal surgery [8], in patients with clinical manifestations, the common symptoms were abdominal discomfort, abdominal distension and pain, nausea, loss of appetite, acid reflux, and the bleeding of upper digestive tract. HP has the secretory functions like pancreas, thus ulcer, erosion, inflammation, edema, oppression and bleeding could be seen in HP patients [9].

It is notable that esophageal diverticulum complicated with a mass within it have the tendency of carcinogenesis, as the result of recurrent inflammation caused by foods and physics grating. There are 17 cases with esophageal diverticulum with tumor were reported till now [10].

In this case, if the right diagnosis could be made before the surgery, the endoscopic resection or endoscopy combined with laparoscopy operation might be the option, which will minimize the damage, reduce complications, and accelerate the recovery of patients.

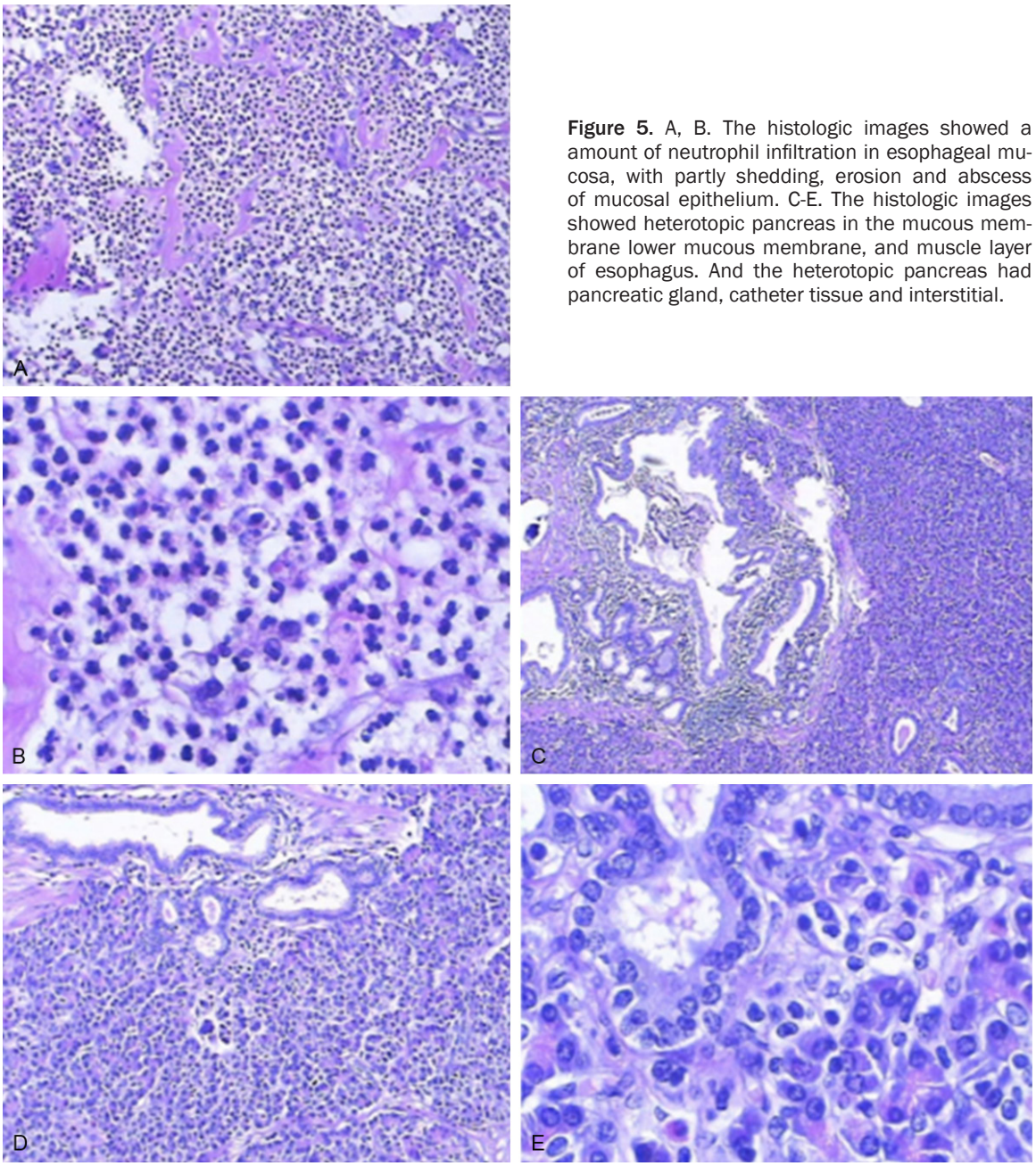

Figure 5. A, B. The histologic images showed a amount of neutrophil infiltration in esophageal mucosa, with partly shedding, erosion and abscess of mucosal epithelium. C-E. The histologic images showed heterotopic pancreas in the mucous membrane lower mucous membrane, and muscle layer of esophagus. And the heterotopic pancreas had pancreatic gland, catheter tissue and interstitial.

Disclosure of conflict of interest

None.

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