Clinical Case Report

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Ectopic liver tissue in the esophagus

A case report

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Abstract

Introduction: Ectopic liver (EL) is a rare entity, which is reported to develop at various sites, such as the abdominal cavity, the retroperitoneal cavity, the pleural cavity, and the mediastinum.

Patient concerns: A 27-year-old previously healthy Chinese man suffered from a discontinuous abdominal pain in the upper abdomen for 2 months.

Diagnosis: The upper gastrointestinal endoscopy revealed there was a polypoid mucosal uplift on the distal region of the esophagus near the cardia.

Interventions: Endoscopic polypectomy was performed.

Outcomes: Pathology examination showed the liver tissue.

Conclusion: EL should be excised as it may possibly lead to the development of a malignancy. Endoscopic resection was found to be safe and reliable in this case.

Abbreviation: EL = ectopic liver.

Keywords: ectopic, endoscopic resection, liver, esophagus

1. Introduction

Ectopic liver (EL) is a rare congenital abnormality and is defined as liver tissue with no connection to the native liver. The EL is mainly located in the abdominal organs, mainly seen in the hepatic coronal ligament, the deltoid ligament, the gallbladder, and the pancreas. EL can also occur in the thoracic cavity, abdominal wall, kidney, and adrenal gland.[1] EL is a very rare entity with an incidence between 0.24% and 0.47%.[2] EL is identified most commonly during abdominal exploration for other conditions. These ELs are usually small in diameter and do not generally cause any clinical problems. Occasionally, EL may cause clinical symptoms such as abdominal pain due to torsion, intraperitoneal bleeding, compression, obstruction of adjacent organs, and rupture secondary to malignant transformation.[3–6] In this paper, we present a case of an incidental EL mass in the esophagus. To the best of our knowledge, EL in the esophagus has been rarely described previously, and this is the first reported case of an endoscopically treated EL distal to the esophagus.

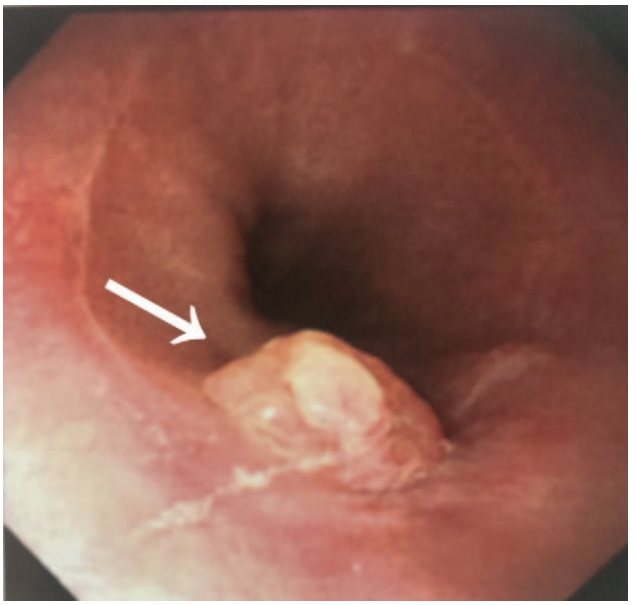

Figure 1. An oesophageal polyp was found on the distal region of the esophagus near the cardia by gastroscopy.

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Z-LZ and J-LW contributed equally to this work.

The patient has provided informed consent for publication of the case.

The authors have no conflicts of interest to disclose.

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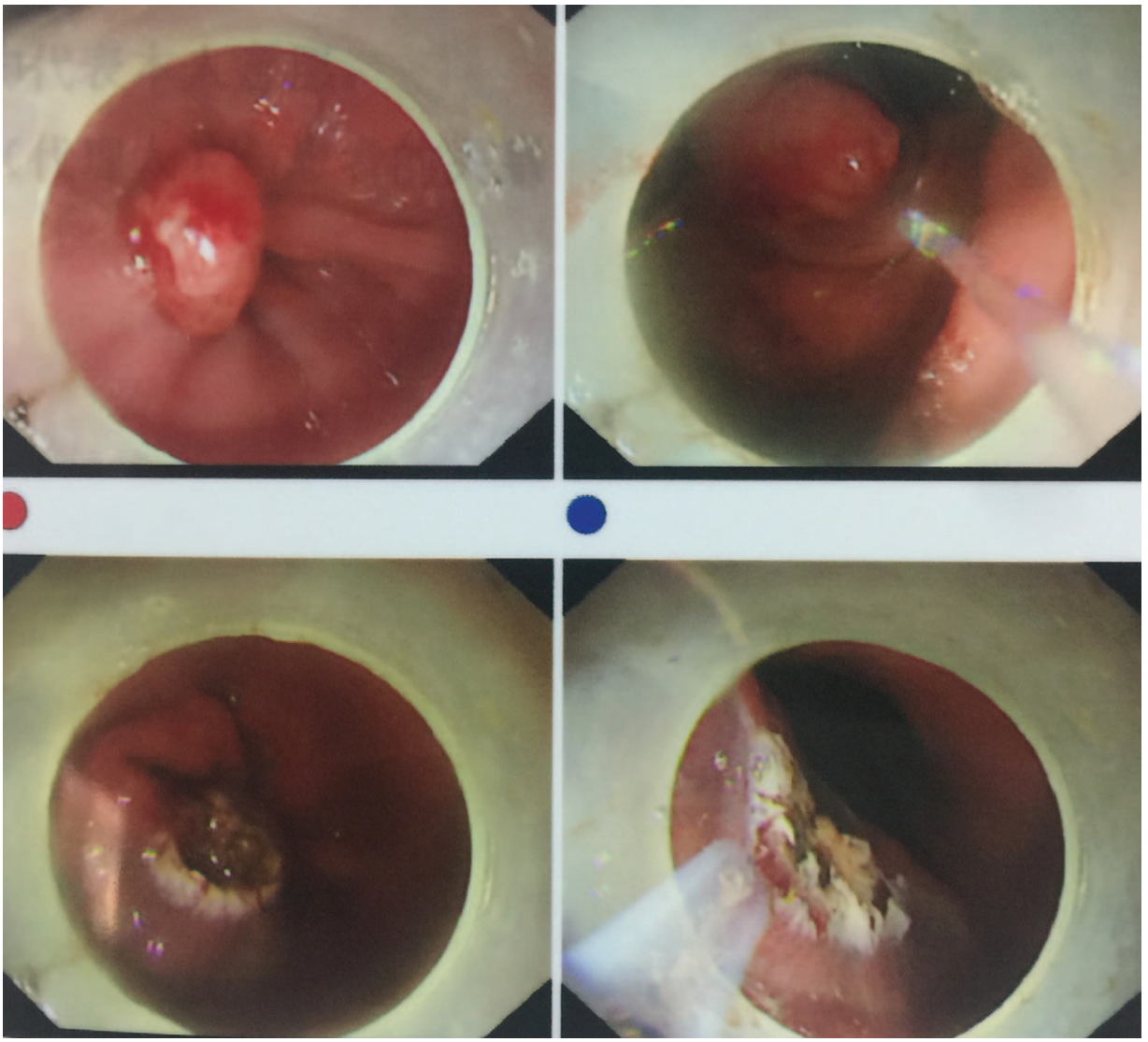

Figure 2. Endoscopic resection of esophageal polyp.

2. Case report

A 27-year-old previously healthy Chinese man with an oesophageal polyp found by gastroscopy was admitted for further treatment. The patient had a discontinuous abdominal pain in the upper abdomen for 2 months. The pain was relieved after eating, and a gastroscopy was performed, which suggested chronic atrophic gastritis and polyp of the esophagus. He was admitted for an endoscopic polypectomy. Posthospital examinations: the general condition was good, and the vital signs were stable, and the routine blood, stool, urine, blood coagulation, and liver and kidney function tests were normal. The abdominal B-ultrasound, the electrocardiogram, and the chest X-ray were also normal. Gastroscopy: there was a polypoid mucosal uplift on the distal region of the esophagus near the cardia, and the surface was reddish and lobulated, with a diameter of 1.2 cm (Fig. 1). Indicarmine and normal saline were injected into the submucous layer under the polyp, and then a complete excision using a ring was performed. The mass we removed was tough. The wound was clamped with 4 titanium clips, and no obvious bleeding and perforation were found after the operation (Fig. 2). Polyp pathology: (esophagus) liver tissue (Fig. 3). Microscopically, blood vessels and small bile duct structures were observed in the fibrous connective tissue, and banded epithelioid cells were attached to the edges. The cells were polygonal. Meantime, the nucleus was large, round, and centered. And the cytoplasm was rich as well as eosinophilic. The alignment of cells had no obvious structure. Immunohistochemistry: hepatocyte (+), desmin (−), smooth muscle actin (−), S-100 (−), cytokeratin (+), and leucocyte common antigen (−). The patient made an unremarkable postoperative recovery and was discharged on the third postoperative day.

3. Discussion

EL, also known as vagal liver and accessory liver, involves the localization of liver tissue outside the normal liver.[7] Very few cases of EL have been reported, and patients typically have no special clinical manifestations. Only when the patients are operated or autopsied for other diseases is it possible to identify

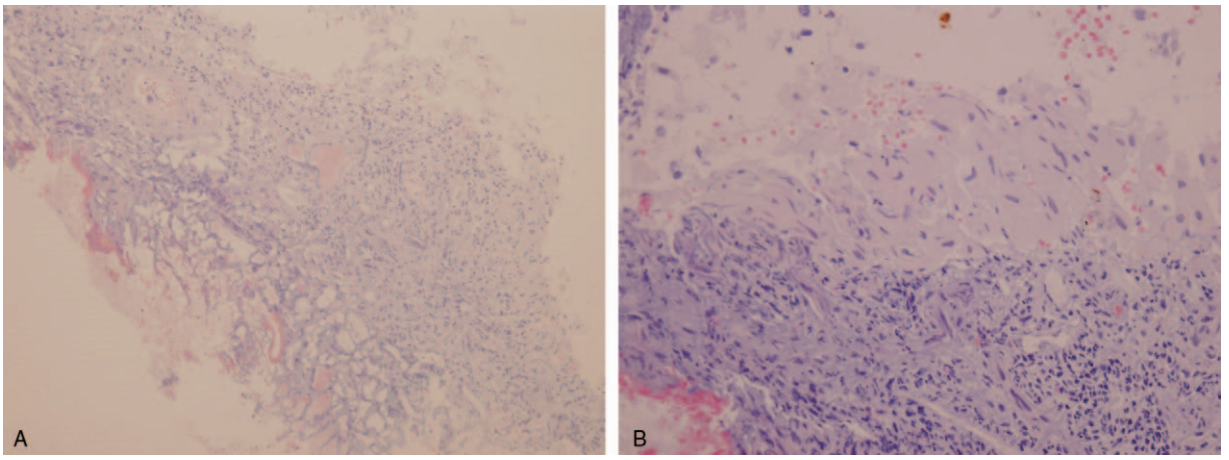

Figure 3. Pathology of polyp revealing liver tissue. (A) Hematoxylin-eosin staining ×200. (B) Hematoxylin-eosin staining ×400.

existing EL tissue, which causes the EL to be even rarer. Various theories have been presented to explain the development of EL at different sites including the presence of liver cell remnants around the abdominal organs during embryonic development, the formation of liver cell buds into the chest or diaphragm during the closure of the abdomen, the formation of an EL during the process of embryonic development, or atrophy leading to a loss of connection with the liver to become a heterotopic liver.[8,9] EL can develop at various sites, such as the abdominal cavity, retroperitoneal cavity, pleural cavity, mediastinum, lungs, and heart.[2,10–15] Herein, we discuss an extremely rare presentation of an EL nodule localized in the esophagus. EL is similar to other diseases such as fatty liver, liver cirrhosis, tumor, and so on. EL tissue seems to be prone to the development of hepatocellular carcinoma. Most scholars believe that it is related to the lack of complete vascular and catheter systems in EL tissue.[16] This defect leads to microenvironment changes around normal liver cells and may easily induce malignant changes in cells. Therefore, surgical resection is recommended for incidental EL tissue. EL only involves a variation in anatomical location, without any special clinical manifestations; thus, the diagnosis is difficult. This case is found by gastroscopy in the distal esophagus due to an unprecedented occasional abdominal discomfort. To prevent malignant transformation of an EL, endoscopic resection is effective for cases involving the digestive tract.

In conclusion, EL in the esophagus is an extremely rare condition, and it is difficult to make a radiological diagnosis. When seen during a surgical intervention, it should be excised due to the possibility of developing a malignancy. Endoscopic resection was found to be safe and reliable in this case.

Author contributions

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Methodology: Zi-Li Zhang, Chun-Li Guo, Lin Li, Xiang-Chao Meng.
Resources: Zi-Li Zhang, Chun-Li Guo, Lin Li.
Supervision: Zi-Li Zhang.
Validation: Zi-Li Zhang, Qi Li, Yi Pang, Xiang-Chao Meng.
Visualization: Jin-Liang Wang, Qi Li.
Writing – original draft: Zi-Li Zhang, Jin-Liang Wang, Qi Li, Lin Li.
Writing – review and editing: Zi-Li Zhang, Jin-Liang Wang.

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