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Can Endoscopic Submucosal Dissection Combine with Variceal Ligation for Early Gastric Cancer and Esophageal Varices

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Abstract

A liver cirrhotic patient presented with hematemesis was endoscopically found with esophageal varices accompanied with early gastric cancer. Endoscopic submucosal dissection and endoscopic variceal ligation were performed in one time. The early gastric cancer lesion was removed en bloc and varices banded without complication of bleeding and perforation. This case indicates that the strategy of performing the endoscopic mutation submucosal dissection and endoscopic variceal ligation at the same time may be safe and effective for the patient with decompensated stage liver cirrhosis.

Keywords: Endoscopic submucosal dissection; Endoscopic variceal ligation; Early gastric cancer; Esophageal varices; Liver cirrhosis

Abbreviations: LC: Liver Cirrhosis; EGC: Early Gastric Cancer; ESD: Endoscopic Submucosal Dissection; EVL: Endoscopic Variceal Ligation

Introduction

Studies have shown that patients with liver cirrhosis (LC) are at increased risk of developing gastric cancer [1,2]. A 2.6-fold increased prevalence of early gastric cancer (EGC) was observed as compared to the general population [3]. EGC without lymph node or distant metastasis are suitable for en bloc resection by endoscopic submucosal dissection (ESD) which preserves stomach function and improves patient quality of life as compared to radical surgery [4]. Decompensated patients with cirrhosis had high risk of bleeding and were intolerable for receiving gastric surgery. Few studies have confirmed that ESD was an effective and safe procedure to treat EGC in patients with comorbid cirrhosis [5]. However, the appropriate strategy for combination with ESD and endoscopic variceal ligation (EVL) at the same time was less discussed in cirrhotic patients with EGC and esophageal varices. We reported a case of successful performing ESD and EVL for a cirrhotic patient with EGC and esophageal varices induced bleeding.

Case Report

A 63-year-old man with alcoholic liver cirrhosis and EGC referred to our hospital in December 2017. One month before, the patient was admitted to local hospital because of hematemesis and treated with emergency endoscopic variceal ligation. Here, esophageal varices were still endoscopically confirmed (Figure 1), meanwhile, a 2.0 × 2.0 cm superficial depressed type (0-IIc type) lesion was observed in the greater curvature side of gastric antrum (Figure 2). Pathological examination revealed moderately differentiated adenocarcinoma. His laboratory test results were as a Child-Pugh A cirrhosis and thrombocytopenia (platelet count 60 × 10^9/L). Abdominal computed tomography (CT) showed thickness of gastric antral wall as well as liver cirrhosis with splenomegaly and mural thrombus in portal vein and superior mesenteric vein, no evidence of lymph node or distant metastasis. According to the consultation of vascular surgeons, thrombus didn't need to be treated at present. ESD was performed using an endoscope, a Dual knife and an IT knife, and electrosurgical hemostatic forceps. The lesion was resected en bloc and followed by an EVL of esophageal varices procedure with a ligation instrument to prevent bleeding. The patient had an uneventful postoperative recovery and was discharged in one week. The pathological examinations showed that a moderately differentiated adenocarcinoma in size 1.0 × 0.9 cm was confined within muscularis mucosa, without vascular or lymphatic vessels infiltration. Both the cranial and caudal margins were tumor free (Figure 3). The patient was symptom free at 3-month follow-up and the endoscopy showed relieved esophageal varices and healing of gastric mucosa without evidence of local recurrence or metastasis (Figure 4).

Discussion

Patients with LC in late stage have poor prognosis because of

Figure 1: Tortuous dilated varices lying from middle to inferior esophagus with red sign on it.

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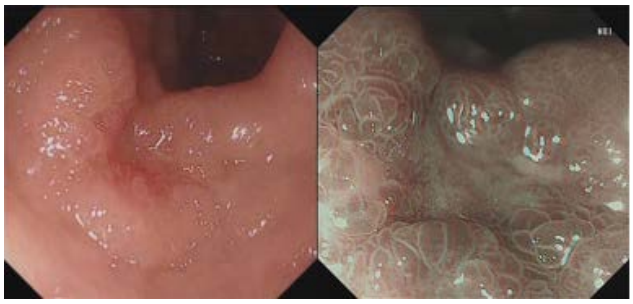

Figure 2: A 0-IIc type lesion located in the greater curvature side of gastric antrum (the left) and the NBI of the lesion showed with clear demarcation line and irregular microvascular (the right).

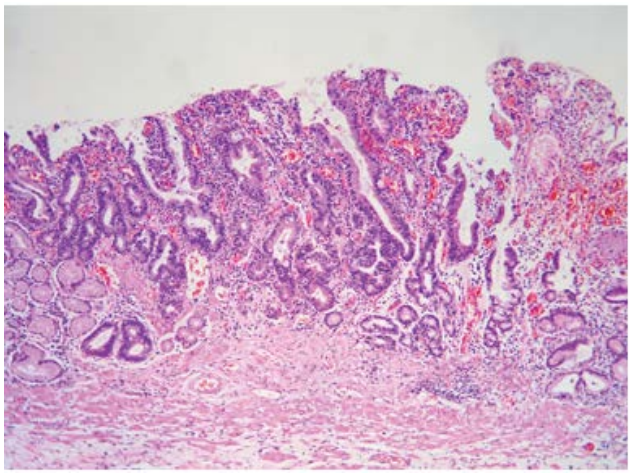

Figure 3: Microscopic histology showing a moderately differentiated adenocarcinoma with tumor cells confined within muscularis mucosa.

cirrhosis-related diseases including bleeding, hepatic encephalopathy (HE) and liver failure. Surgical treatment is associated with higher morbidity and mortality rates in cirrhosis patients as compared to controls [6]. LC patients who receive radical gastrectomy for EGC might have severe postoperative adverse events, including massive ascites, bleeding, anastomosis leakage, pneumonia and hepatic failure. The complication rate was reported with 58.6% in 34 of 58 LC [7]. Esophageal varicose veins and low platelets also increase the risk of bleeding and the difficulty of treatment for LC patients with ECG who intend to receive ESD. One of the most common adverse events of ESD is bleeding. Though procedure-related bleeding can be successfully managed endoscopically [8], it is calculated that the bleeding rate in cirrhotics appear to be 12.1% higher than which of 1.2% in non-cirrhotic patients [9]. LC patients appear to be good candidates for ESD with Child-Pugh grades A liver function and no history of HCC [10].

The appropriate time of choosing ESD and varices treatment in LC patients was still undetermined. One study reported ESD for EGC five days after endoscopic injection sclerotherapy for gastric fundal varices [11]. In another study, treatment priority was assigned to the esophageal varices to prevent bleeding, two months later ESD was successfully performed [12]. Of note, as a result of EVL, the esophageal lumen will be too narrow to come across that ESD has to wait, which increases the risk of infiltration and metastasis of gastric malignant lesions. There is one patient reported with EVs and early esophageal cancer, in whom EVL was safely done at the same time as Endoscopic Mucosal Resection, and the patient is disease free during follow-up period [13].

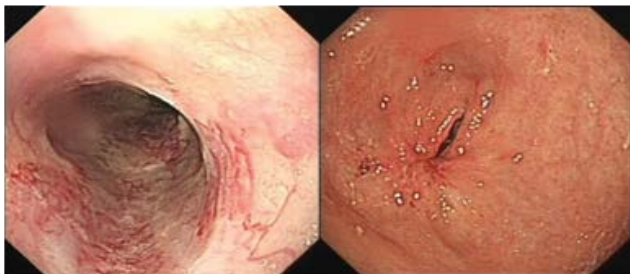

Figure 4: The 3-month follow-up endoscopy: relieved esophageal varices (the left) and healing of gastric mucosa (the right).

Conclusion

To our best acknowledge, we are the first report with performing ESD and EVL at the same time in patients with EGC and esophageal varices. In this report, we demonstrated that after a detailed assessment, the combination of ESD and EVL at the same time was safe and effective strategy for the patient with cirrhosis.

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