Complete oesophageal obstruction after endoscopic variceal ligation

Introduction

Oesophageal variceal haemorrhage as a result of liver cirrhosis and portal hypertension is a clinical emergency. Endoscopic variceal ligation is an effective treatment for variceal haemorrhage. Its most common complications are transient dysphagia, chest pain, ulcers, scar and oesophageal stenosis, but complete oesophageal obstruction is a very rare event. This article reports a case of complete oesophageal obstruction during endoscopic variceal ligation. A search of the literature found 12 earlier cases of complete obstruction caused by endoscopic variceal ligation. Most of these patients were managed conservatively and had a good outcome.

Discussion

Oesophageal variceal haemorrhage caused by liver cirrhosis and portal hypertension is a clinical emergency. Endoscopic variceal ligation has been recommended as the best choice for the primary and secondary prophylaxis of variceal haemorrhage because of its greater effectiveness and safety compared with other treatments (Tripathi et al, 2015). With the wide application of endoscopic variceal ligation, a number of potential complications have become evident, requiring the attention of the endoscopist. These include bleeding, infection, cicatricial stricture, ulceration and transient dysphagia. However, few physicians are fully aware of these sequelae because complete oesophageal obstruction is very rare.

A literature search revealed a total of 12 case reports of complete oesophageal obstruction following endoscopic variceal ligation. The most common site of obstruction is at the distal oesophagus, as seen in this case. Complete oesophageal obstruction has been found to be more common in women, old people, those who have undergone repeated ligation, and in individuals with large varices.

The decision regarding intervention *vs* conservative treatment depends on the endoscopist's experience, the technology available, and the diagnostic timeframe. Attempts to remove the band can be

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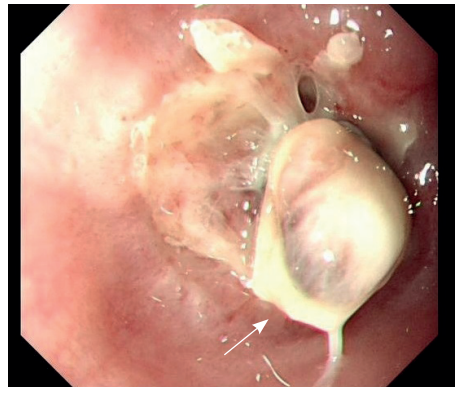
Figure 1. Complete obstruction at the level of the distal oesophagus during the procedure. The whole circumference of the oesophagus was ligated by the band (arrows).

Figure 2. Seven days after the procedure, endoscopy showed complete obstruction with entrapped band and surrounding necrosis. The band was still in the periphery of the obstructive mass (arrow).



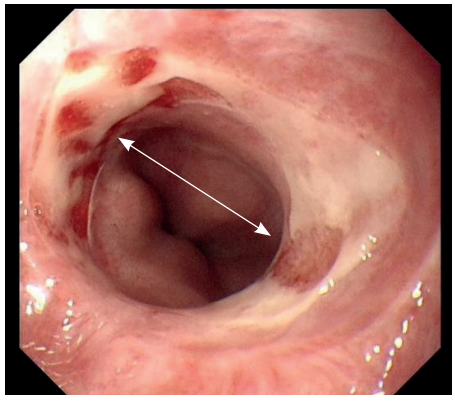
CASE REPORT

A 65-year-old woman with a medical history of diabetes, high blood pressure and cirrhotic non-alcoholic fatty liver underwent upper endoscopy which showed moderate to large oesophageal varices without bleeding. For primary prophylaxis, the patient underwent a series of endoscopic variceal ligations. During her first procedure, six bands were successfully placed with no adverse effect.

After 6 weeks, the patient returned to the authors' hospital for further evaluation and treatment of the remaining varices, at which time oesophagogastroduodenoscopy revealed a mild varix in the distal oesophagus. During the second endoscopic variceal ligation, the varix was ligated with only one band. Immediately, it was found that the band had ligated the whole circumference of the oesophagus as a result of excessive suction and there was no passage into the stomach (*Figure 1*). An attempt to remove the band with biopsy forceps failed. However, the patient experienced no other complications during this procedure. Postoperatively she complained of severe chest pain, dysphagia, and profuse secretion of white liquid with no evidence of blood. She was conservatively managed with total parenteral nutrition, intravenous esomeprazole and pain control. On the fourth day of hospitalization, the patient's pain was slightly improved, and the secretion of liquid had decreased significantly, but she was still unable to take liquids by mouth.

On day 7 after endoscopic variceal ligation, repeat oesophagogastroduodenoscopy showed a band-entrapped varix in the centre of the lumen; the surface and circumference of the varix were surrounded by necrotic tissue and fibrotic material (*Figure 2*). Intervention was withheld owing to the risk of bleeding and perforation. The patient was continued on total parenteral nutrition. On day 12 after endoscopic variceal ligation, the patient began to tolerate liquids, and by day 14, she was able to eat soft foods. At this point she underwent another oesophagogastroduodenoscopy, after which the obstruction resolved spontaneously, and the endoscope passed freely into the gastric cavity (*Figure 3*). The patient was discharged with follow up at the gastroenterology clinic.

Figure 3. Sixteen days after the procedure, the endoscope passed freely into the gastric cavity through the ligation site (arrow).



considered if obstruction is recognized early. Only two cases reported successful removal of the band with a reusable loop cutter and a clear cap (de Melo, 2011; Kwiatt and Merchant, 2016), but the endoscopist should be aware that the process of removing the band can cause bleeding and/or perforation (Chahal et al, 2013). Most patients were treated conservatively without further intervention. A subset of patients who still have dysphagia can be treated with dilatation therapy (Hilmi et al, 2011). BJHM

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Kwiatt JT, Merchant P. Successful removal of an esophageal band causing complete esophageal obstruction after variceal ligation. Gastrointest Endosc. 2016 May; 83(5):1030–1031. https://doi.org/10.1111/jgh.13444)

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LEARNING POINTS

- Complete oesophageal obstruction may be avoided by careful suctioning of the varix rather than use of excessive suction, especially when there are some mucosal scars after previous ligation procedures.
- Active manipulation to alleviate the obstruction is generally not successful, but conservative management will generally lead to a good result.

Spontaneous iliopsoas haematoma leading to kidney ischaemia

A 76-year-old frail man who was taking anticoagulants complained of severe left lower back and flank pain radiating to the groin and anterior thigh. No history of fall or minor trauma was reported. Physical examination revealed a wide haematoma at the left flank and lower abdomen, and forced flexion of the left hip. Urgent abdominal computed tomography showed a large left iliopsoas muscle haematoma (volume 2354 ml), with active signs of bleeding and medial dislocation of the left kidney (*Figure 1a–c*). He underwent super-selective endovascular embolization of the active bleeding sites. Post-origin occlusion of the left renal artery was noted, but multiple attempts to revascularize it were unsuccessful. The patient developed disseminated intravascular coagulopathy and died.

Spontaneous iliopsoas haematoma is a rare but serious and potentially lethal complication of anticoagulation treatment (Maruyama et al, 2016). Prompt diagnosis and subsequent medical endovascular or surgical treatment is essential for a good prognosis (Ferro et al, 2010; Popov et al, 2017). BJHM

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Maruyama T, Abe M, Furukawa T et al. Retroperitoneal hematoma in a patient with advanced chronic kidney disease receiving warfarin therapy. Intern Med. 2016;55(9):1153–1158. https://doi.org/10.2169/internalmedicine.55.5811

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Figure 1. **a.** Axial and **(b)** coronal abdominal computed tomography showing a huge left iliopsoas muscle haematoma (*) and medial dislocation of the left kidney (arrowhead). **c.** Coronal abdominal computed tomography volume rendering technique reconstruction that shows the medial dislocation of the left kidney (arrowhead).