Massive Bleeding in Epiphrenic Esophageal Diverticulum: A Case Report

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ABSTRACT

Esophageal diverticulum is an outpouching of the esophageal wall. Approximately 65% of diverticulum is asymptomatic. Although bleeding from esophageal diverticulum is a rare symptom, it is a life-threatening complication. The authors report a 45-year-old man with massive upper gastrointestinal bleeding and hypovolemic shock. Esophagogastro-duodenoscopic examination revealed bleeding from a large epiphrenic esophageal diverticulum. The bleeding point was stopped by endoscopic adrenaline injection therapy. Radiographic examination revealed two esophageal diverticula. The larger one, a wide-mouth diverticulum of the epiphrenic type, was the cause of bleeding. An esophageal diverticulectomy with cardiomyotomy was performed via video-assisted thoracoscopic surgery (VATS). There was no esophageal leakage or post-operative morbidity or mortality. The patient had no recurrent bleeding during 24 months after operation.

Key words: Bleeding, epiphrenic esophageal diverticulum

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Epiphrenic esophageal diverticulum is a false diverticulum and is located in the distal 3 to 4 cm of the esophagus. Patients with epiphrenic esophageal diverticulum are rarely found and often asymptomatic. The presence and the severity of symptoms depend on the underlying motility disorder of the esophagus. The most common symptoms are dysphagia, chest pain, regurgitation and aspiration. Massive bleeding from the epiphrenic esophageal diverticulum is a rare symptom but has life-threatening complication. The authors report a case of a massive bleeding epiphrenic esophageal diverticulum and the patient was successfully treated with an esophageal diverticulectomy with cardiomyotomy via video-assisted thoracoscopic surgery (VATS).

CASE REPORT

A 45-year-old man from Pathumthani province in Thailand presented with 2 episodes of massive hematemesis 2 hours before admission. He had symptoms of dizziness, vertigo and syncope. Hematochezia or melena was not found. He had had some degree of dysphagia for a long time. He had no prior gastrointestinal bleeding and no history of smoking, alcohol drinking or NSAID use. He had a blood pressure of 90/70 mmHg and a heart rate of 120 beats per minute. His general physical examination was unremarkable. He had a surgical scar at his mid-line abdomen which was caused by a blunt abdominal trauma 2 years ago. Digital rectal examination revealed yellow feces and no bleeding from the rectum. His hematocrit was 27%. Emergency esophago-gastroduodenoscopy was performed, which revealed bleeding from a large epiphrenic esophageal diverticulum. (Fig 1) Gastric and duodenal examination revealed a normal finding. An endoscopic adrenaline injection was successfully applied. A swallowed barium radiographic examination revealed two esophageal diverticula. (Fig 2) The larger one, a wide-mouth diverticulum of the epiphrenic type was the cause of bleeding. He was discharged on the 6th postoperative day.

The patient had hematemesis again at 5 months after discharge. He returned to the hospital and received an emergency esophagogastroduodenoscopy. It revealed bleeding from a large epiphrenic esophageal diverticulum. The bleeding point was stopped by an endoscopic adrenaline injection technique. We considered an elective surgery to prevent recurrent bleeding and considered treatment for dysphagia after the patient became stable. An esophageal diverticulectomy on the large diverticulum was performed via video-assisted thoracoscopic surgery (VATS) at the left lateral decubitus position under a double lumen endotracheal tube with
one lung intubation. The esophagus was identified by opening the posterior parietal pleura. The diverticulum was dissected away from surrounding tissue. Autosuture Endo-GIA™ Universal Straight stapler (Covidine company) 45 mm in size was applied to the sacrificed diverticulum. (Fig 1) Cardiomyotomy was performed 8 cm above and 1-2 cm below the esophagogastric junction. An intraoperative esophagogastroduodenoscopy was done to check leakage and to show adequate cardiomyotomy. The chest tube drainage was replaced at the left thoracic cavity. There was no esophageal leakage and no post-operative morbidity or mortality. He had no recurrent bleeding during 24 months after the operation. The histological examination revealed epithelial hyperplasia with focal erosion and hemorrhage. Chronic inflammatory cell infiltration was noted in the submucosal area.

DISCUSSION

Esophageal diverticula are outpouching of 1 or more layers of the esophageal wall. They have been classified according to location: cervical esophagus (Zenker’s diverticula), mid-esophagus and the lower part of the esophagus (epiphrenic diverticula). Zenker’s and epiphrenic diverticula are pulsion diverticula (false diverticula) and are associated with an underlying motility disorder of the esophagus. Mid-esophagus diverticula are traction diverticula (true diverticula) and are associated with a chronic inflammatory process.

Epiphrenic diverticula occur at all ages. Small diverticula are often discovered incidentally during upper gastrointestinal endoscopy or roentgenographic examination. Approximately 65% of patients with epiphrenic diverticula may be totally asymptomatic. The presence and severity of symptoms depend on the association with motor abnormality. Manometric studies are important to establish the motility disorder. The most frequent abnormality is achalasia and diffuse esophageal spasm.1 The manometric study was not available for this patient.

Epiphrenic esophageal diverticula may cause dysphagia, chest pain, regurgitation and aspiration. Massive bleeding is a rare symptom, but a life-threatening condition. Hoxie DA, et al. reported a case of profuse bleeding in the epiphrenic diverticulum.2 Abul-Khair MH, et al. reported a case of bleeding from an epiphrenic esophageal diverticulum and treatment with diverticulectomy and lower esophageal myotomy.3 Wagh MS, et al. reported two patients with esophageal diverticulum bleeding, one patient was treated successfully with endoscopy and the other required surgery.4

No treatment is necessary for asymptomatic esophageal diverticula.5 Surgery may be required for symptomatic diverticula. Surgical options include resection of the diverticulum alone or with myotomy.5,6 Laparoscopic treatment should be the method of choice.5,9 A bleeding esophageal diverticulum is amenable to endoscopic therapy. Any patient who fails endoscopic treatment requires surgery. In this case, a thoracoscopy approach was chosen because the patient had recurrent bleeding and had a previous surgical scar at the abdomen.

In conclusion, the authors report a case of massive bleeding in the epiphrenic esophageal diverticulum. The patient underwent successful treatment with esophageal diverticulectomy with cardiomyotomy via video-assisted thoracoscopic surgery (VATS). He had no post-opera-
tive morbidity, mortality or recurrence of bleeding. We suggest that thoracoscopic surgery is an acceptable alternative treatment for epiphrenic esophageal diverticulum. It is appropriate for patients who cannot undergo a laparoscopic approach such as this patient.

REFERENCES


