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Case Report

Esophageal transection

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ABSTRACT

Herein, a case of intramural esophageal dissection is reported and the literature is reviewed. Intramural esophageal dissection is a rare but well described condition that is characterized by a laceration between the esophageal mucosa and submucosa but without perforation. A female patient aged 86 years was hospitalized with a diagnosis of abdominal aortic aneurysm. After placement of an aortic stent, she was started on intravenous heparin. After the procedure, the patient had retching and vomiting due to sedative drugs. On the first day after the procedure, the patient experienced sudden-onset chest pain, hematemesis, back pain and odynophagia. A hematoma was detected in the thoracic esophagus, which was opened during endoscopy and began to bleed suddenly owing to air insufflation. A false lumen was visualized within the esophagus. There was no perforation. The patient was followed up conservatively and discharged from the hospital uneventfully. In conclusion, we propose that esophageal transection, a condition that is widely regarded as relatively benign in the literature, has the potential to lead to perforation. It would be expected that most cases of esophageal transection would be managed conservatively.

Keywords: Esophagus, esophagus transection, transection

INTRODUCTION

Esophageal transection (ET) refers to the disintegration of the esophageal mucosa and submucosa layers. This disease affects a long segment and is not accompanied by perforation. Esophageal transection is a rare disease (1). Generally, it is seen in the 7th and 8th decades and commonly observed in women. The most common symptoms are sudden retrosternal pain, hematemesis, odynophagia, dysphagia and back pain. Esophageal transection diagnosis is made by imaging techniques such as upper gastrointestinal tract endoscopy and computed tomography (CT). Marksand Keet (1) first described ET in 1968. Another name for ET is intramural dissection of the esophagus. The etiology of ET is unclear. To date, it has been reported in patients with coagulopathy, who have undergone a visceral injection for sclerotherapy, during endoscopic instrumentation, after ingestion of a hard foreign body, due to eosinophilic esophagitis, as well as spontaneous occurrence (2). Conservative treatment is thought to be sufficient for the management of ET (1).

In this article, we present a patient who developed an ET while heparinized after undergoing stenting for an abdominal aortic aneurysm.

CASE PRESENTATION

A female patient aged 86 years was hospitalized after being diagnosed with abdominal aortic aneurysm. During follow-up the aneurysm increased in size and an angiography-stenting was performed while the patient was sedated. After placement of a stent to the aorta, intravenous heparin was started. After the operation the patient had retching and vomiting due to sedative drugs. On the first day after procedure, the patient experienced sudden-onset chest pain, hematemesis, back pain and odynophagia. The patient was hemodynamically stable and her hemoglobin and hematocrit levels were within normal range. The heparin infusion was discontinued and an upper-gastrointestinal tract endoscopy was performed. A hematoma was detected in the thoracic esophagus. When the hematoma was opened during the procedure it began to bleed suddenly owing to air insufflation. A false lumen had occurred in the esophagus. The distal esophagus was ecchymotic. Contrast-enhanced chest CT was performed first due to the suspicion of esophageal perforation. There was no mediastinal free air or contrast extravasation seen in the CT scan. A double-lumen was detected in the esophagus (Figure 1a-d). Subcutaneous emphysema did not occur in the patient. Esophageal perforation was ruled out clinically and the patient's oral nutritional intake was stopped and total parenteral nutrition therapy was started. After this, low-molecular-weight heparin was started.

In the early days, the patient was monitored using oral contrast-enhanced chest CT scan (Figure 2a, b) and with daily chest X-rays. There was no mediastinal free air and contrast extravasation detected and a double-lumen of esophagus was seen on CT scan (Figure 2a, b). The patient's oral intake was stopped

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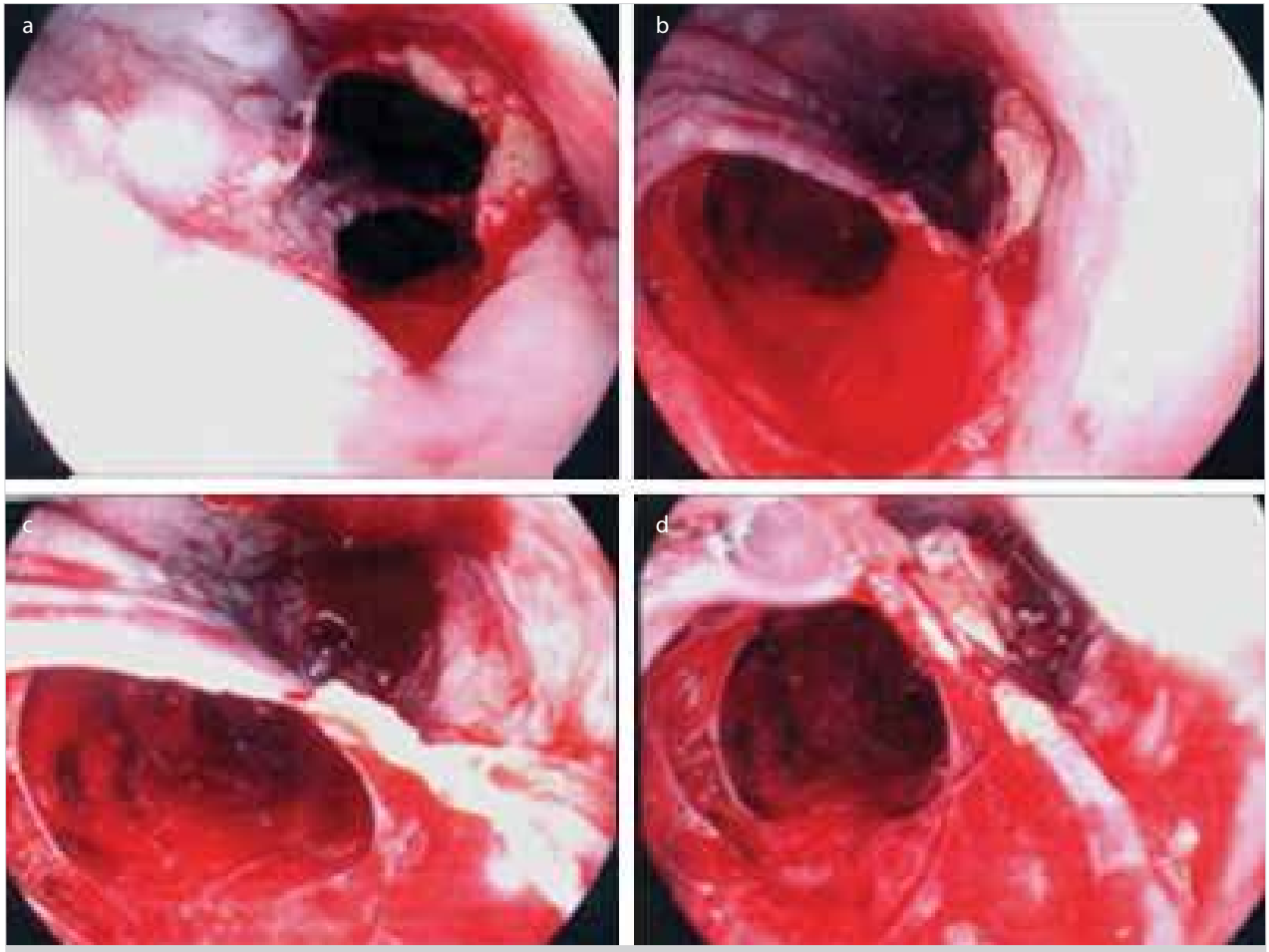

Figure 1. a-d. The double-lumen appearance of the esophagus

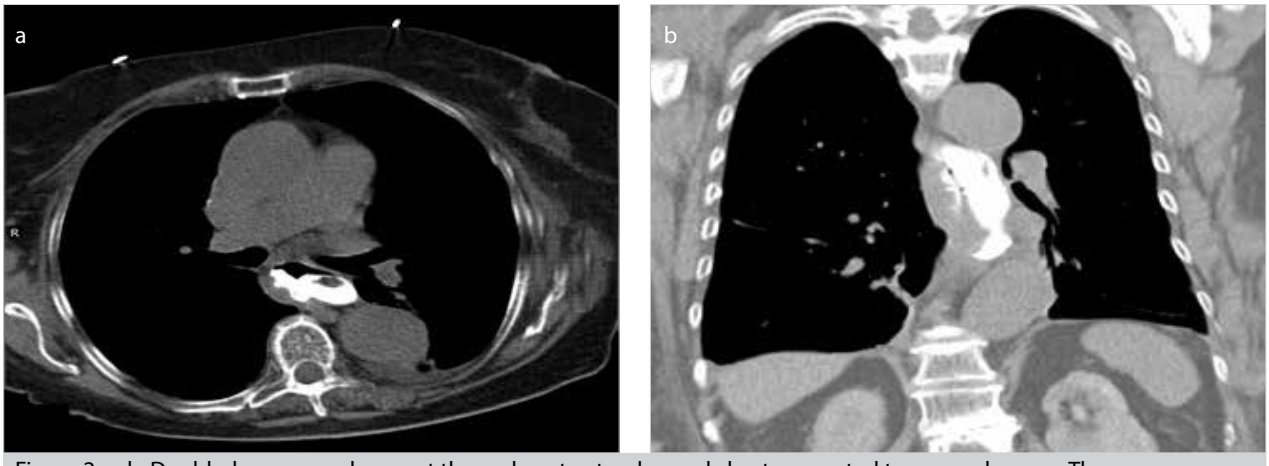

Figure 2. a, b. Double-lumen esophagus at the oral contrast-enhanced chest computed tomography scan. There was no mediastinal free air and contrast extravasation

on the tenth day and a control oral contrast-enhanced chest CT scan was performed. The double-lumen appearance of the esophagus lumen had disappeared on both the CT scan (Figure 3) and control upper-gastrointestinal tract endoscopy (Figure 4a-d). On the next day, the patient was started on oral liquid followed by soft food intake. No complaint was observed with fluid intake and oral solid food was started. Total parenteral nutrition was stopped. The patient was discharged uneventfully on the 14th day. An informed consent was obtained from the patient before discharge from the hospital.

DISCUSSION

Two hypotheses have been proposed for the mechanism of esophageal transections. The first of these is that esophageal transections or dissections develop after mucosal bleeds or hematoma (3). The second hypothesis suggests that bleeding of the esophageal mucosa develops into an esophageal transection or dissection. In both, a double lumen appearance of the esophagus eventually occurs (4).

The common consensus is not to use a barium enema for the initial diagnosis; however, orally ingested contrast medium can also be used for magnetic resonance imaging or CT scans,

which is helpful both to verify the diagnosis and to exclude other pathologies (5). We believe that upper-gastrointestinal tract endoscopy should be the first diagnostic method conducted to patients who have upper gastrointestinal tract bleeding, bearing in mind the possibility of an esophageal dissection. This is because endoscopy is used both for the treatment and diagnosis of upper gastrointestinal tract bleeding.

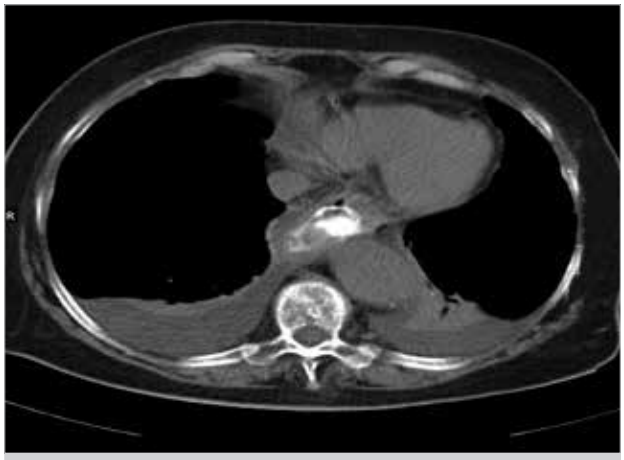

Figure 3. Control chest computed tomography scan, with normal esophageal lumen appearance

Once the diagnosis of esophageal transection is confirmed, conservative management of the condition with reversal of anticoagulation, parenteral nutrition and analgesia should be undertaken (6, 7). Spontaneous complete recovery of the mucosal tear and absorption of hematoma usually takes 1-3 weeks. In the literature the complete healing time has been reported as three weeks (5).

Endoscopic therapies have been used to treat intramural esophageal dissection if it is resistant to conservative treatment, including incision of the septum between the true and false lumens, balloon dilatation, transection of the true esophageal wall, and metallic stent insertion (8). Surgery should be reserved for cases that do not resolve with conservative management or that have complications, such as esophageal perforation or ongoing hemorrhage (9). Although esophageal transection does not carry any long-term sequel, repeat imaging should be considered to confirm the resolution of esophageal transection and exclude any underlying malignant pathology**.** Healing was observed during the control endoscopy that we performed on the 10th day, consequently the patient was allowed to start soft food intake on the same day.

CONCLUSION

We propose that esophageal transection, a condition that is widely regarded as relatively benign in the literature, has the

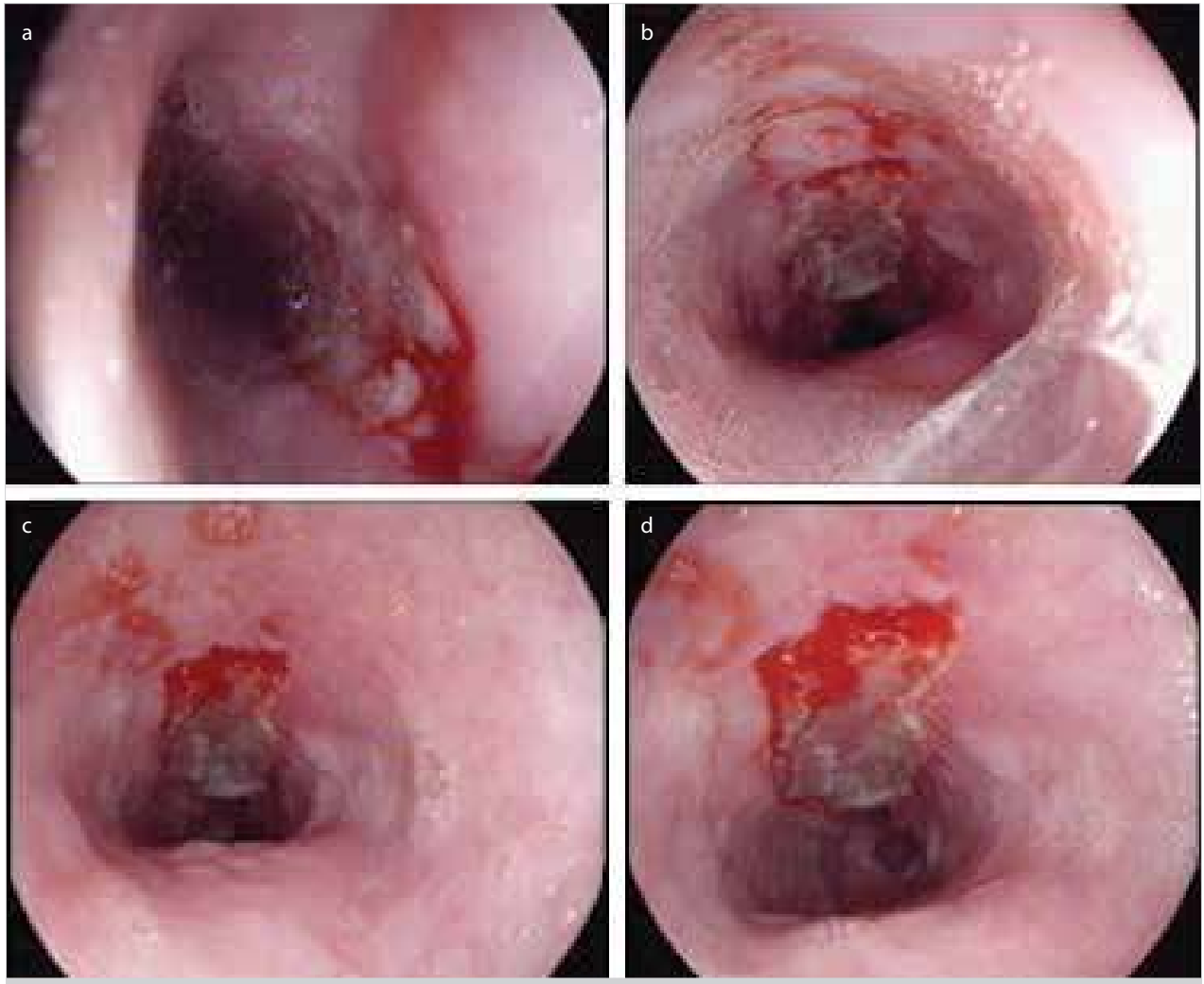

Figure 4. a-d. Double-lumen esophagus image disappeared in the control upper gastrointestinal tract endoscopy on the 10th day

potential to lead to perforation. It would be expected that most cases of esophageal transection would be managed conservatively.

Informed Consent: Written informed consent was obtained from patient who participated in this case.

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