Esophagobronchial Fistula after a Laparoscopic Partial Fundoplication, Mimicking as Empyema

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Introduction

Laparoscopic fundoplication is often indicated in cases of paraesophageal hiatal hernia (HH) as well as chronic GERD that is refractory to medical management. Partial or complete (Nissen) fundoplication can help to restore competency to the gastroesophageal sphincter. Common post-operative complications include dysphagia, bloating, and recurrent heartburn. A rare postoperative complication of fundoplication is esophagobronchial (EB) fistula and it can be very challenging to diagnose and manage. We present an uncommon case of EB fistula, eventually managed with esophageal stent placement.

Procedure

EGD was performed, and after identification of fistula opening, external markings were placed with paperclip under fluoroscopy to identify the site of fistula opening. Guidewire was inserted through the gastroscope and the gastroscope was completely withdrawn. Finally over the guidewire, under fluoroscopy guidance, an 18 mm x 10 cm fully covered Wallflex Boston Scientific esophageal stent was deployed with the distal end below the GE junction.

To prevent distal migration, the stent was anchored to the esophageal wall by placing two sutures using Apollo Endo Stitch device.

At the end of the hospital course, chest tube was removed.

At 3 months follow up, a repeat endoscopy with the removal of the esophageal stent was performed. On esophagogastroduodenoscopy, the fistulous opening appeared to have closed. Post-procedure gastrograffin esophagram demonstrated no leak.

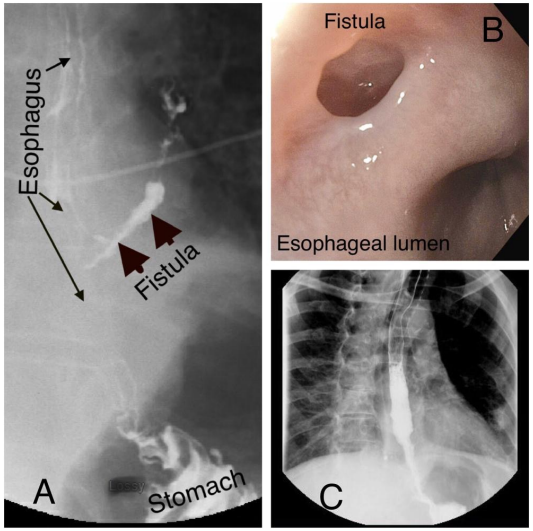
Case Presentation

A 69-year-old female with a history of paraesophageal HH and chronic GERD symptoms refractory to medical management underwent HH repair with 270-degree fundoplication. Upper flexible endoscopy performed after the fundoplication showed no evidence of trauma in the entirety of the esophagus. There was no complications from the procedure. Subsequently, she developed pneumonia in the hospital, presumed to be aspiration pneumonia and was treated with antibiotics. She presented 2 weeks post-procedure with persistent left-sided pleuritic chest pain, cough, and dyspnea which progressively worsened since discharge.

Labs were significant for WBC of 26 cells/mm3, CRP of 37 mg/L. Chest CT scan showed a loculated empyema (16 x 12x 13 cm) in the left lung base, a small gas/fluid collection (1x1 cm) posterior to the distal esophagus, and compressive atelectasis. She received piperacillin and metronidazole. Thoracotomy and empyema drainage were performed.

An EGD was done, which revealed a small fistulous opening in the distal esophagus (5-6 mm in size), about 4 cm proximal to the gastroesophageal (GE) junction. No ulceration or surrounding inflammation was seen. There was no stricture seen on endoscopy. On retroflexion from the stomach, fundoplication wrap appeared to be intact. No inflammation, ulceration, mass lesions, bleeding were seen in the stomach.

A fully covered esophageal Wallflex stent was deployed and secured. At the end of the hospital course, chest tube was removed. Patient was safely discharged home on pantoprazole. On follow-up 3 months later, she had no recurrent pneumonia, cough, chest pain, or fever. A repeat endoscopy with the removal of the esophageal stent was performed. On esophagogastroduodenoscopy, the fistulous opening appeared to have closed. Post-procedure gastrograffin esophagram demonstrated no leak. She continued to do well 2 months post-removal of the esophageal stent.



Esophagobronchial fistula (A and B); Gastrograffin esophagram performed 3 months after the esophageal stent placement (C)

Discussion

This case report highlights a rare complication of EB fistula that has been associated with a HH repair and fundoplication. A high clinical index of suspicion, early diagnosis, and management are needed in patients who develop recurrent cough and pneumonia with empyema soon after partial fundoplication. These patients can be successfully managed by placement of fully covered esophageal stent insertion along with drainage of empyema, if present, with chest tube insertion.