

Spontaneous Esophageal Perforation Following Retropharyngeal Abscess Incision and Drainage

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Abstract

Esophageal perforation is a rare but life-threatening condition¹. Early detection and diagnosis are important to ensure good patient outcomes. The case that we present is of a patient that developed spontaneous esophageal perforation following irrigation and drainage of a retropharyngeal abscess.

Case Report: Spontaneous Esophageal Perforation Following Retropharyngeal Abscess Incision and Drainage

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Author Contributions

Courtney B. Shires, MD, FACS: Collected data, wrote and edited article

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Abstract

Background

Esophageal perforation is a rare but life-threatening condition¹. Early detection and diagnosis are important to ensure good patient outcomes. At least half of esophageal perforations are iatrogenic, oftentimes caused

by endoscopic instrumentation use in the upper gastrointestinal tract¹. Still, about a third of esophageal perforations are spontaneous¹. The scientific evidence that steers management of esophageal perforation is based primarily upon retrospective studies at single institutions, as well as on a few nationwide studies¹⁻⁸. Randomized studies are virtually non-existent¹. The case that we present is of a patient that developed spontaneous esophageal perforation following irrigation and drainage of a retropharyngeal abscess.

Case Presentation

A 49-year-old female, with a history of a retropharyngeal abscess status post irrigation and drainage on 5/3/20, presented on 5/6/20 to the emergency department in a large municipal city with increased pain at the surgical site. A computed tomography (CT) scan showed that the abscess had worsened, with it now extending into the posterior mediastinum from the aortic arch to the upper esophageal sphincter. The patient was taken to the operating room on 5/9/20 by Otolaryngology and Thoracic Surgery and underwent primary repair of cervical and thoracic esophageal perforation, sternocleidomastoid muscle flap reinforcement of the esophageal repair, and cervical and thoracic esophageal myotomy. Gastroenterology (GI) was also called into the operating room to assist with an esophagogastroduodenoscopy (EGD), which showed an esophageal tear 17 cm in length. The patient then had two esophageal stents placed, as well as a nasogastric tube and G-tube. The patient had an esophagram on 5/11/20, with no contrast extravasation. However, the patient did aspirate. The plan is to perform gastro-jejunal (GJ) conversion, per Interventional Radiology (IR), if no other complications ensue and the esophagus remains viable.

Her past medical history is significant for depression, schizophrenia, and nicotine abuse. Cultures of the abscess were taken, showing positivity for *Prevotella bacteremia*, and the patient was started on antibiotics. Otolaryngology, Thoracic Surgery, GI, and Medicine will continue to follow, with attention being paid to electrolyte replacement for a previous hyponatremia.

Conclusions

CT performed before initial incision and drainage of retropharyngeal abscess showed confinement to the retropharyngeal space (Figure 1). Following increased pain at the surgical site, repeat imaging showed extension into the mediastinum from the sagittal, axial, and coronal angles, respectively (Figures 2-6). Esophagram was performed and showed no extravasation, although the patient did aspirate (Figure 7). Based off of the patient history, we postulate that the esophageal perforation that occurred was a result of an increase in pressure due to patient activity. According to the patient, she had been yelling at her significant other for quite some time, with no other voice-related activity. With no episodes of vomiting or ingestion of a foreign body recorded prior to the esophageal rupture, combined with a chest x-ray showing no pneumoperitoneum, Boerhave's syndrome was ruled out (Figure 8). Our case we believe is the first study showing a spontaneous esophageal perforation following an incision and drainage of a retropharyngeal abscess.

Key Words

Esophageal perforation; prevotella; retropharyngeal abscess; irrigation; drainage

Key Clinical Message

It is possible to have a spontaneous esophageal perforation following an incision and drainage of a retropharyngeal abscess. We believe our case is the first study showing such an event, which can become catastrophic if not addressed immediately.

Case Presentation

A 49-year-old female, with a history of a retropharyngeal abscess status post irrigation and drainage on 5/3/20, presented on 5/6/20 to the emergency department in a large municipal city with increased pain at the surgical site. A computed tomography (CT) scan showed that the abscess had worsened, with it now extending into the posterior mediastinum from the aortic arch to the upper esophageal sphincter. The patient was taken to the operating room on 5/9/20 by Otolaryngology and Thoracic Surgery and underwent primary

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Her past medical history is significant for depression, schizophrenia, and nicotine abuse. Cultures of the abscess were taken, showing positivity for *Prevotella bacteremia*, and the patient was started on antibiotics. Otolaryngology, Thoracic Surgery, GI, and Medicine will continue to follow, with attention being paid to electrolyte replacement for a previous hyponatremia.

Discussion and Conclusions

CT performed before initial incision and drainage of retropharyngeal abscess showed confinement to the retropharyngeal space (Figure 1). Following increased pain at the surgical site, repeat imaging showed extension into the mediastinum from the sagittal, axial, and coronal angles, respectively (Figures 2-6). Esophagram was performed and showed no extravasation, although the patient did aspirate (Figure 7). Based off of the patient history, we postulate that the esophageal perforation that occurred was a result of an increase in pressure due to patient activity. According to the patient, she had been yelling at her significant other for quite some time, with no other voice-related activity. With no episodes of vomiting or ingestion of a foreign body recorded prior to the esophageal rupture, combined with a chest x-ray showing no pneumoperitoneum, Boerhaves syndrome was ruled out (Figure 8). Our case we believe is the first study showing a spontaneous esophageal perforation following an incision and drainage of a retropharyngeal abscess.

List of Abbreviations

computed tomography (CT); Gastroenterology (GI); gastro-jejunal (GJ); esophagogastroduodenoscopy (EGD)

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