

Acute Phlegmonous Esophagitis as a Complication of Retropharyngeal Abscess

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— ABSTRACT —

Phlegmon refers to a spreading diffuse inflammation of connective tissue with formation of an exudate or pus. Phlegmonous infections may affect any region of the gastrointestinal tract. The stomach is the region most frequently involved; infections at other sites have been but rarely reported. Acute phlegmonous esophagitis is a very rare disease involving both the submucosal and muscular layers of the esophagus, with sparing of the mucosal layer. Acute esophageal esophagitis is commonly associated with acute phlegmonous gastritis; any association with a deep neck infection is very rare. We report herein a case of acute phlegmonous esophagitis developing as a complication of a retropharyngeal abscess treated via incision and drainage and prescription of long-term antibiotics. Thus, we did not perform esophageal surgery. We also review the relevant literature. (*J Clinical Otolaryngol* 2018;29:119-122)

KEY WORDS : Retropharyngeal abscess · Esophagitis · Airway obstruction.

Introduction

A deep neck infection can potentially affect the spaces within, and the fascial compartment of, the head and neck. If a patient remains untreated or receives inappropriate treatment, such an infection may ultimately progress to an upper-airway compromise, descending necrotizing mediastinitis, or sepsis. However, esophageal involvement after a deep neck infection has been but infrequently reported.¹⁾ Acute phlegmonous esophagitis, an unusual infection exhibiting a pattern of mucosal sparing, has been rarely reported to be associated with deep neck infections.¹⁻³⁾ Because of

the rarity of the condition, neither the pathogenesis nor the clinical manifestations of acute phlegmonous esophagitis have been elucidated. The predisposing factors are diverse, including immunocompromised status, alcoholism, diabetes, peptic ulcer disease, and other injuries to the gastric mucosa. However, previously healthy persons are often affected.^{3,4)} We report a case of acute phlegmonous esophagitis developing as a complication of a retropharyngeal abscess; we also review the relevant literature.

Case Report

A 60-year-old woman presented with complaints of sore throat, dysphagia, and dyspnea lasting for 3 days, and chest pain and nausea that had commenced the previous day. She had no underlying disease apart from well-controlled hypertension and also had no history of previous trauma or surgery. On laryngoscopic examination, swelling of the right arytenoid cartilage and the epiglottitis was observed (Fig. 1).

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Under suspicion of a deep neck infection, contrast-enhanced neck computed tomography (CT) was performed, revealing a retropharyngeal abscess, diffuse thickening of the esophageal wall and the presence of an air bubble (Fig. 2). We diagnosed a retropharyngeal abscess with acute phlegmonous esophagitis, and prescribed antibiotics in an attempt to treat the disease, but the laryngoscopic findings and symptoms gradually worsened. On the fourth day of admission, an emergency operation was planned because laryngoscopy revealed a laryngeal airway obstruction. During the operation, a large amount of pus was drained

through an incision of the most swollen region of the right arytenoid lesion; we did not perform a tracheostomy. On postoperative day 6, upper gastrointestinal endoscopy was performed to explore the extent of the esophageal lesion. We found no specific abnormality of the esophageal mucosa and the patient was thus commenced on a soft diet without using nasogastric tube (Fig. 3). The pain and dyspnea improved rapidly upon continuous antibiotic therapy prescribed after drainage of the retropharyngeal abscess. However, slight esophageal pain during swallowing persisted



Fig. 1. Mild epiglottitis with a partial laryngeal obstruction is evident on day 1 of admission (70 degree telescopic view).

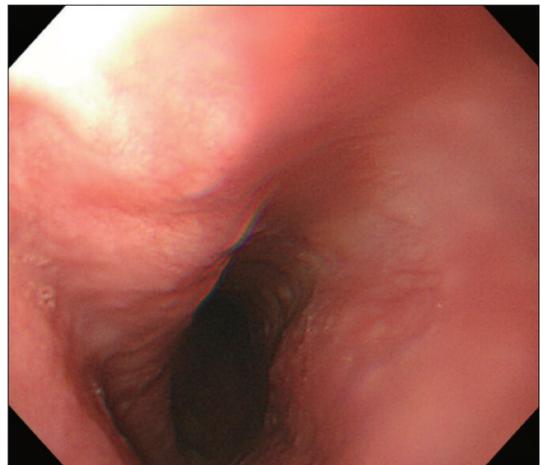


Fig. 3. Upper gastrointestinal endoscopic view of esophagus shows intact mucosa on the esophagus.

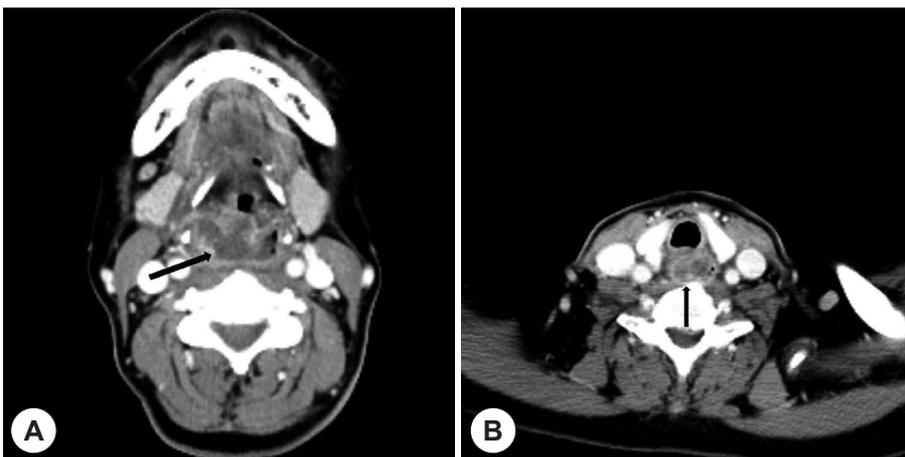


Fig. 2. Computer tomographic images taken on day 1 of admission of a retropharyngeal abscess accompanied by acute phlegmonous esophagitis. A : Axial views of the retropharyngeal abscess (Black arrow). B : Axial views of the acute phlegmonous esophagitis (Black arrow).

for up to 1 week after surgery. The patient was discharged on postoperative day 10 without any complications.

Discussion

Although the pathogenesis of acute phlegmonous esophagitis remains unclear, it is believed that immunocompromised status (such as that associated with either diabetes or alcoholism) may predispose patients to the condition.^{3,4)} However, our patient had been in good health, did not have diabetes, and was not an alcoholic. We surmise that purulent fluid descending from the deep neck infection dissected the posterior mediastinum along the retrovisceral space and ultimately infiltrated the esophagus, triggering the phlegmonous infection. CT is the gold standard for definitive diagnosis of acute phlegmonous esophagitis. The typical findings of acute phlegmonous esophagitis include diffuse esophageal wall thickening and low attenuation in the intramural area, surrounded by a peripheral enhancing rim. The low attenuation denotes severe inflammation and the presence of an intramural abscess. Air bubbles within the thickened wall can be caused by gas-forming microorganisms.^{3,4)} These findings were observed on CT in our patient, indicating phlegmonous esophagitis. Acute phlegmonous esophagitis can be differentiated from dissecting intramural hematoma, emphysematous esophagitis, and tubular duplication of the esophagus. Dissecting intramural hematoma is associated with chest pain without signs of infection or inflammation, while tubular duplication of the esophagus is clinically asymptomatic.^{3,4)} Acute phlegmonous esophagitis should be suspected if diffuse narrowing of the lumen of the esophagus is seen on endoscopy, accompanied by ulcer-like lesions and poor distensibility.⁵⁾ Contrast esophagography is mandatory to exclude inner mucosal lesions and esophageal perforation.⁶⁾ The condition usually responds well to broad-spectrum antibiotics; however, drainage via esophageal myotomy and mediastinal debridement is necessary if concomi-

tant mediastinal involvement is apparent.⁷⁾ Presumably because of the rarity of the condition, the use of internal endoscopic drainage to treat acute phlegmonous esophagitis has not been reported in the literature. We delayed closure of the dissection orifice, and did not incise the dissected septum, to allow complete evacuation of the abscess within the esophageal wall and to prevent possible mediastinal contamination attributable to esophageal perforation. We also (successfully) prescribed antibiotics. Early resumption of enteral feeding facilitates adequate nutrition in patients with deep neck infections.⁸⁾ For those with concomitant esophageal involvement (especially esophageal mucosal injuries), gastrostomy or jejunostomy should be performed to facilitate feeding; this avoids potentially devastating complications caused by possible esophageal perforation.⁹⁾ Although simple, nasogastric tube insertion per se may trigger undesirable complications, such as injury to the upper aerodigestive tract or esophageal perforation.²⁾ Intramural esophageal dissection, which is extremely rare, has seldom been reported upon nasogastric tube insertion.²⁾ To the best of our knowledge, the concurrent presence of acute phlegmonous esophagitis and esophageal intramural dissection has never been described in the literature. In other reports, however, development of this serious complication after nasogastric tube exchange (to facilitate 'internal drainage') incidentally triggered evacuation of the phlegmonous infection. This was possibly because the expanding phlegmonous infection within the esophageal wall rendered the esophagus prone to intramural dissection, and nasogastric tube insertion triggered a sudden pressure change creating a mucosal injury, which in turn allowed the pus to be expelled.¹⁰⁾ Although esophageal intramural dissection can be managed conservatively, via parenteral nutrition alone or a combination of a minced diet and proton-pump inhibitors, endoscopic treatment of an esophageal perforation or intramural dissection has been widely accepted to be appropriate for selected patients.^{1,2,9,11)} In our case, we treated our present case of acute phlegmonous esophagitis conservative-

ly, thus not surgically.

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