Iatrogenic Esophageal Perforation During Endoscopy Caused by an Orogastric Tube

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ABSTRACT

Esophageal perforations are rare but serious complications resulting from upper endoscopy and other invasive procedures. Early identification and treatment can decrease the risk of subsequent morbidity and mortality. This is a case presentation of a 74-year-old man who sustained an esophageal perforation secondary to the presence of an orogastric tube during upper gastrointestinal endoscopy.

INTRODUCTION

Esophageal perforation is a rare but life-threatening condition associated with high morbidity and mortality.

Factors associated with mortality include:
• Location and etiology of the perforation.
• Time from diagnosis to treatment.
• Age and health status of the patient.

Causes of esophageal perforation include blunt and penetrating trauma and tumors. However, iatrogenic perforations account for up to 50% of all cases. Common causes of iatrogenic perforation include:
• Esophageal dilation.
• Upper gastrointestinal (UGI) endoscopy.
• Trans-esophageal echocardiography.
• Misplacement of airway management devices such as endotracheal and Combitubes.
• Naso- and orogastric tubes.

There is no consensus on the treatment for esophageal perforation and management must be tailored to the specific aspects of each case. Surgical intervention includes primary repair of the perforation or creation of a formal esophagostomy. For some cases, more conservative therapy may be appropriate, including medical management with IV antibiotics.

METHODS AND MATERIALS

Pertinent information was extracted from the medical record, including the patient’s history, physical exam, operative findings and radiology studies. A PubMed search was performed for reports of similar cases in the English literature.

RESULTS

The patient was a 74-year-old man undergoing UGI endoscopy to assess for bleeding; a double-lumen Salem sump orogastric tube (OGT) had been placed, but was not secured.

During the procedure, the OGT was accidentally advanced by the endoscope until the entire tube was in the cervical esophagus. On attempted removal, resistance was met and the patient developed diffuse cervical crepitus. A CT scan (Figure 1) showed the proximal large-bore end of the tube perforating the esophagus, just below the cricopharyngeus.

The patient was taken to the OR, where the tube was removed transcervically (Figure 2) and the perforation was left in the operative bed. The perforation closed without complications, but the patient ultimately died as a result of other comorbidities.

DISCUSSION

The reported mortality rate for esophageal perforations ranges from 10-50%. In the era of routine endoscopic evaluations, iatrogenic perforations account for more than 50% of all perforations.

Iatrogenic perforations are most likely to occur in the thoracic esophagus and therefore usually present with subtle findings including dysphagia and chest pain.

Cervical perforations occur less frequently but are more likely to present with immediate symptoms including subcutaneous emphysema and severe pain.

Esophageal injuries caused by naso- and orogastric tubes are a recognized—though rare—complication. Esophageal trauma and subsequent stricture formation can occur from gastric tube-induced gastroesophageal reflux. Perforation has been reported during insertion of gastric tubes, but a literature review did not identify any cases of perforations occurring secondary to the presence of a naso- or orogastric tube during UGI endoscopy.

REFERENCES