We present the case of a 56-year-old woman with a contained esophageal perforation caused by ingestion of a chicken bone. Esophageal perforation is a life-threatening event that requires prompt diagnosis and treatment. Overall mortality can range from 20% to 30% but may increase as time passes without intervention. Common causes of esophageal perforation include medical instrumentation, foreign-body ingestion, and trauma. Most foreign-body perforations are due to either fish or chicken bones. They puncture the esophageal wall directly or can cause perforation by pressure necrosis, ultimately leading to perforation.

The usual esophageal sites affected are the 3 natural anatomic narrowings: the cricopharyngeus, the crossing of the left main stem bronchus or aortic arch, and the gastroesophageal junction. Management depends on several factors, including the cause, site, and size of perforation; the time elapsed between perforation and diagnosis; any underlying esophageal disease; and the overall health status of the patient.

A 56-year-old woman presented to the emergency department with odynophagia and associated vomiting with attempts of oral intake after ingesting a chicken bone 4 days earlier. CT of the chest with intravenous (IV) contrast material (Fig. 1) revealed a linear density, 2.5 cm in length, below the larynx with a small air pocket at the right lateral aspect of the esophageal wall, concerning for a contained perforation. She was given IV fluids and empiric antibiotics for sepsis and transferred to a tertiary care center.

Upper endoscopy (Video 1, available online at www.VideoGIE.org) revealed a 3-cm chicken bone lodged horizontally at the upper third of the esophagus, 13 to 14 cm from the incisors (Fig. 2). The endoscope was removed, and a transparent endoscopic cap was placed over the tip of the endoscope to help with tissue movement. The chicken bone was then grasped at its end with a Raptor grasping device (US Endoscopy, Mentor, Ohio) (Fig. 3), withdrawn into the distal endoscopic cap, and extracted. The cap allowed for protection from further esophageal injury related to the sharp end of the chicken bone. The site of the bone impaction was investigated further, with the identification...
of 2 localized severe mucosal changes, characterized by ulceration in the upper third of the esophagus (Fig. 4).

The superior area of mucosal damage 13 cm from the incisors on the right medial side revealed pus draining from the site (Fig. 5). The inferior ulceration 14 cm from the incisors appeared to be superficial mucosal damage. Because of concern for an underlying abscess and after collaboration with trauma surgery during the case, no further intervention was performed and conservative management was deemed best for her care. Figure 6 shows the chicken bone measured at 3 cm. The patient remained nil per os until repeated CT. The patient remained nil per os until repeated CT esophagram.
without IV contrast and with oral contrast was performed. This revealed no sign of extravasation of contrast material. The patient was discharged safely a few days later.

This case illustrates that EGD can be performed with therapeutic intent even in cases of esophageal perforation. Each patient with esophageal perforation should be treated on an individual basis. In this case, conservative management with IV antibiotics and imaging was indicated, inasmuch as placing a wall stent would have risked worsening of the abscess from lack of drainage or spilling of pus into the intrathoracic space. A CT should always be part of the initial management, and empiric antibiotics should be initiated because of the risk of sepsis. If there is concern for perforation, gastrografin should be used as oral contrast material for imaging. Carbon dioxide should be used for insufflation during EGD, and a cap should be used to protect the esophagus from the sharp end of the bone during extraction. A multidisciplinary team including surgery, gastroenterology, pulmonology, and medicine should be part of the treatment of such patients.

DISCLOSURE

Dr Draganov is a consultant for Boston Scientific, Cook Medical, Olympus America, and Conmed. All other authors disclosed no financial relationships relevant to this publication.

Abbreviation: IV, intravenous.

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