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(CASE REPORT)

Cervical esophageal perforation secondary to a chicken wing bone: A case report and literature review

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Abstract

We report the case of a 39-year-old female patient admitted to the emergency department for acute odynophagia following the ingestion of roasted chicken. Imaging revealed a foreign body lodged in the cervical esophagus, causing a focal perforation. Surgical removal resulted in a favorable outcome. This case highlights the importance of prompt diagnosis and multidisciplinary management of non-traumatic esophageal perforations.

Keywords: Esophageal Perforation; Foreign Body; Chicken Bone; Rigid Endoscopy; Cervicotomy; ENT Emergency

1. Introduction

Esophageal foreign bodies are a common emergency in ENT and gastroenterology. While most cases resolve spontaneously or are managed endoscopically, certain situations can lead to serious complications, notably esophageal perforation. This represents a medical and surgical emergency, with prognosis highly dependent on timely diagnosis and intervention. We present a case of cervical perforation following ingestion of a poultry bone, with failed endoscopic extraction.

1.1. Clinical Case

A 39-year-old woman with no significant medical history presented to the emergency room with acute pharyngeal pain after swallowing a piece of roasted chicken bone. She experienced intense, persistent odynophagia.

Upon examination, the patient was afebrile with stable vital signs. Tenderness was noted on palpation of the cricoid region, without subcutaneous emphysema. The abdominal exam was unremarkable.

Blood tests showed moderate leukocytosis (6,000/mm^3) and elevated CRP (18 mg/L). Electrolyte panel and renal function were within normal limits.

Cervicothoracic CT scan revealed a 24 mm × 3 mm foreign body located in the cervical esophagus (D1 level), with focal perforation of the left lateral wall and the presence of paraesophageal air bubbles. Circumferential thickening of the esophageal wall with inflammatory characteristics was also observed (Figure 1a, b).

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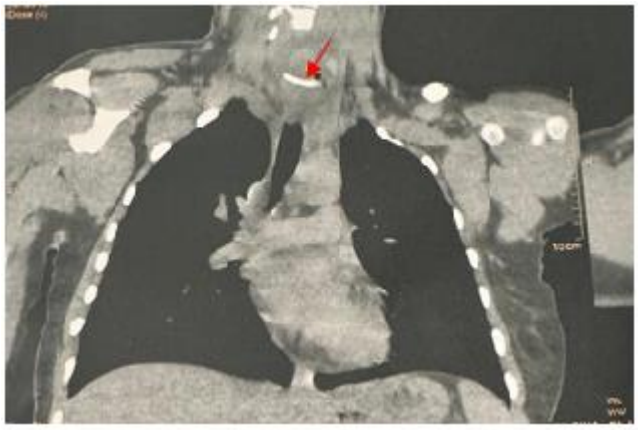

Figure 1 A Coronal CT scan showing the foreign body with an air bubble at the level of the cervical esophagus

Figure 1 B Axial CT scan showing a foreign body at the level of the cervical esophagus

The patient was transferred to our department for removal. Rigid endoscopy revealed a 2.4 cm chicken wing bone lodged transversely in the cervical esophagus. A small perforation was observed on the left lateral wall. Multiple extraction attempts failed (Figure 2).

Figure 2 Endoscopic image showing the chicken bone embedded in the cervical esophagus

Initial medical treatment was initiated (pain management, antibiotics with ceftriaxone 2 g/day and metronidazole 500 mg three times/day, high-dose PPIs, and parenteral nutrition). The patient was taken to the operating room 24 hours after the incident. She was positioned supine with the neck extended and head turned to the right. A left cervicotomy was performed along the anterior border of the left sternocleidomastoid muscle, extending down to the sternal manubrium. After incising the platysma and superficial cervical fascia, the sternocleidomastoid muscle was retracted laterally. The space between the carotid sheath and the left thyroid lobe was carefully dissected. Access to the tracheoesophageal groove was facilitated by ligating the middle thyroid vein, inferior thyroid artery, and if necessary, the omohyoid muscle.

Surgical exploration allowed for removal of a 2.5 cm × 4 mm bone. A 5 mm perforation was identified and simply sutured, with placement of a drain in situ. Postoperative recovery was uneventful, with an esophagram scheduled on day 5 before resuming oral intake, which was well tolerated following the control imaging (Figure 3a, b / Figure 4).

Figure 3 A Intraoperative image showing the esophageal perforation

Figure 3 B Simple suturing of the esophageal perforation

Figure 4 Chicken bone after surgical extraction

2. Discussion

Foreign body ingestion (bones, fishbones) accounts for 80% of cervical esophageal perforations [1]. These bodies often become impacted at physiological narrowing sites of the esophagus. Complications occur in 1–5% of cases, with perforation being the most serious.

Cervical esophageal perforations are particularly challenging due to their proximity to vital neck structures such as the trachea, thyroid gland, and carotid artery. The risk of mediastinitis, abscess formation, or vascular injury emphasizes the need for a swift and well-coordinated intervention.

CT imaging plays a pivotal role in diagnosis, offering high sensitivity in detecting both the foreign body and any associated complications such as pneumomediastinum or soft tissue emphysema. Although plain radiographs are often used initially, their sensitivity is limited, particularly for radiolucent foreign bodies.

The choice between conservative and surgical management depends on multiple factors including the size and location of the perforation, presence of systemic signs of infection, and the stability of the patient. In contained perforations without systemic sepsis, conservative management including broad-spectrum antibiotics, nil per os, and nutritional support may be sufficient. However, in cases of free perforation or when endoscopic extraction fails—as in this case—surgical exploration remains the gold standard.

Non-surgical treatment may be attempted for small contained perforations, usually of iatrogenic origin, provided close monitoring is ensured. Early-detected perforations may be treated with endoscopic clipping. Currently, stenting is not recommended due to placement difficulties and the high risk of migration [3]. Surgical treatment, required in 70–80% of patients [1, 2], ideally consists of two-layer suturing of the perforation with drainage via a left cervicotomy, and, if necessary, reinforcement flaps in cases of associated tracheal injury. Simple drainage may be acceptable in cases of extensive wall damage or inability to locate the perforation [4].

In recent years, advances in endoscopic techniques such as clipping or endoscopic vacuum-assisted closure (EVAC) have shown promise in select cases. Nevertheless, these techniques are more often reserved for lower esophageal perforations or post-surgical leaks [5].

Our case underscores the importance of a multidisciplinary approach involving ENT specialists, gastrointestinal surgeons, radiologists, and anesthesiologists. Rapid decision-making, supported by imaging and clinical judgment, is crucial to avoid life-threatening complications [6].

3. Conclusion

Esophageal perforation due to a foreign body is a rare but serious emergency requiring prompt diagnosis and appropriate management. Failure of endoscopic extraction should immediately prompt surgical intervention. This case highlights the importance of multidisciplinary collaboration between ENT, digestive surgery, and radiology teams.

Compliance with ethical standards

Disclosure of conflict of interest

No conflict of interest to be disclosed.

Statement of informed consent

Informed consent was obtained from all individual participants included in the study.

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