


**Case Report**

# External Esophagotomy for Removal of a Vulnerable Foreign Body from the Esophagus: Case Report

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## Abstract

**Introduction:** Endoscopic removal of a dangerous foreign body can pose a risk of complications such as perforation of the digestive tract. In this case, cervicotomy is a highly effective alternative. In this topic, the authors describe the extraction by esophagotomy of a denture with four teeth and two metal clasps performed in the ENT department of Hopital Principal de Dakar.

**Patient:** A 22-year-old patient, with no known medical history, was referred by another hospital and admitted to our structure 4 days after ingestion of a foreign body, such as a denture. The accident occurred following a seizure, due to an epileptic crisis, after the announcement of his brother's death.

A standard chest X-ray revealed a metallic-looking image at the cervical esophagus at C5, resembling the clasps of a denture.

He underwent endoscopic extraction under general anesthesia without success. External extraction was done after antibiotic and corticosteroid therapy.

The postoperative course was marked by mild dysphonia, and endoscopy revealed hypomobility of the left vocal cord. The patient was fed through a nasogastric tube for two weeks. An esophago-gastro-duodenal transit was performed to ensure the absence of an esophagotracheal fistula, and a swallowing test was performed before oral feeding.

**Conclusion:** External esophagotomy is an effective and safe alternative for the removal of dangerous foreign bodies. ENT specialists should keep this in mind to avoid fatal complications of forced endoscopic removal.

## Introduction

Intraesophageal foreign bodies are a common emergency in ENT practice. This frequency is more pronounced in children but can affect all age groups depending on habits and diet [1].

They are a source of multiple complications: esophageal perforations, cellulitis, strictures, etc., hence the need for appropriate and adequate management.

This management is primarily endoscopic. Surgery is rare but still has its place in treatment [2].

## Observation

The authors describe the extraction by esophagotomy of a denture with four teeth and two metal clasps performed in the ENT department of Hopital Principal de Dakar.

A 22-year-old patient with no known medical history, referred by another hospital and admitted to our structure

4 days after ingestion of a foreign body, such as a denture. The accident occurred following a convulsive seizure, on the grounds of an unmonitored epileptic condition, after the announcement of his brother's death.

Upon admission, the patient complained of chest pain associated with dysphagia, odynophagia, and hypersalivation.

A standard chest X-ray revealed a metallic-looking image resembling denture clasps in the cervical esophagus at C5 (Figure 1).

He underwent endoscopic extraction under general anesthesia, 6 hours after his admission, without success. External extraction was indicated after antibiotic and corticosteroid therapy.

On day 5, the foreign body was removed following an external esophagotomy (Figures 2–5).

The foreign body was a denture with four teeth and two metal clasps (Figure 6).

The postoperative course was marked by mild dysphonia, and endoscopy revealed hypomobility of the left vocal cord. The patient was fed through a nasogastric tube for two weeks. But he stayed in the hospital for a week after the extraction and was then followed up at home. An upper gastrointestinal series was performed to ensure the absence of a tracheoesophageal fistula, and a swallowing test was performed before oral feeding.



**Figure 1:** Cervicothoracic radiograph showing metallic hooks and tracheal deviation related to the presence of the foreign body. (White arrow showing the metal hook in C5).



**Figure 2:** Left cervical incision for esophagotomy.



**Figure 3:** Left cervicotomy showing the left recurrent nerve, the main obstacle to accessing the esophagus.



**Figure 4:** Left cervicotomy showing the left recurrent nerve, the main obstacle to accessing the esophagus.



**Figure 5:** Picture of the closure after extraction of the foreign body via cervicotomy.



**Figure 6:** Denture with four teeth extracted from the esophagus.

## Discussion

### Epidemiology

**Frequency:** Despite their high frequency and severity, childhood accidents are poorly documented in developing countries, particularly in sub-Saharan Africa, where infectious diseases and malnutrition are the primary concerns [3]. However, the number of years of life lost and disabilities due to

domestic accidents is much higher in these countries than in developed countries [3].

Foreign body ingestion is a common reason for emergency consultations in ENT departments [1], particularly for esophageal injuries, which constitute an emergency.

Esophageal localization of foreign bodies is an emergency due to the risk of impaction in areas of stricture, exposing them to serious complications.

The risk of complications is increased in the case of dangerous foreign bodies, often identified for their toxic nature, such as button batteries [4] or vulnerable ones [5-7].

However, surgical indications, particularly cases of extraction by cervicotomy, are rare and described in often old publications [1,2,8].

Dentures are among these dangerous foreign bodies due to their volume, the presence of roughness, and especially the presence of metal clasps.

**Age, sex, and background:** Intracervical foreign bodies are prevalent in male children. However, dentures are often found in older adults [3].

In our study, the foreign body was found in a young adult. However, he presented a neglected neurological condition and a low socioeconomic status. In addition to these aspects, the psychiatric background is also described by some authors in the literature [9].

## Radiological examination

According to the recommendations of the European Society of Gastrointestinal Endoscopy, standard radiography allows the exploration of radiopaque foreign bodies, which was the case with our patient. CT scanning is recommended in case of complications or if surgical intervention is necessary. It therefore allows for the detection of an esophageal perforation or to confirm the exact location of the foreign body before the procedure [10]. We were unable to do this due to a lack of resources for our patients, as well as our concern about delaying care.

## Surgical treatment

According to Chevalier's Law, "any foreign body that has entered the natural esophagus can be extracted through the same routes unless it has migrated [11]. For the therapeutic perspective, the recommendations of the European Society of Gastrointestinal Endoscopy (ESGE) support urgent endoscopy within 2 to 6 hours in cases of complete esophageal obstruction (hypersalivation, aphagia) as was the case with our patient, ingestion of sharp or pointed objects, or batteries in the esophagus due to an increased risk of tracheobronchial aspiration and/or complications such as perforation or toxic lesions of the esophagus that can cause liquefactive necrosis and transmural perforation [12]. Endoscopy can be postponed and performed within 24 hours in cases of foreign bodies in the esophagus that do not meet the previous criteria or if they have

already passed into the stomach [12]. However, endoscopic extraction, while possible in many cases, can be dangerous for certain foreign bodies. The main danger will then be a risk of esophageal perforation, which can be life-threatening. This explains the need for a surgical approach via cervicotomy (our patient).

The decision will take into account the nature of the foreign body, its size, and its position.

The main indications are

- A risk of complications [13,14].
- An unsuccessful attempt at endoscopic extraction
- An unsuitable technical platform and difficult operating conditions
- The surgeon's skills

The surgical approach is primarily performed on the left due to certain anatomical features (the esophagus extends beyond the trachea on the left, and the recurrent nerve constitutes an obstacle that is more difficult to control). However, some authors [4,15] have proposed the right approach based on the location of the foreign body.

## Conclusion

External esophagotomy is an effective and safe alternative for the removal of dangerous foreign bodies. ENT specialists should keep this in mind to avoid fatal complications of forced endoscopic removal. External esophagotomy stands as an effective and safe alternative for extracting dangerous foreign bodies from the esophagus, particularly when endoscopic attempts fail or pose excessive risks, such as perforation. In this case, the successful removal of a denture with sharp metal clasps via left cervicotomy highlights its utility in resource-limited settings like sub-Saharan Africa, where advanced imaging or endoscopy may be unavailable. The procedure's left-sided approach minimizes complications by accommodating anatomical features, including the recurrent laryngeal nerve, though vigilant postoperative monitoring for dysphonia and fistulas remains essential, as evidenced by the patient's transient left vocal cord hypomobility and nasogastric feeding. ENT specialists must consider this surgical option for vulnerable objects like dentures to avert life-threatening issues from forced endoscopy, aligning with ESGE guidelines on high-risk cases. Ultimately, timely recognition and tailored intervention enhance patient outcomes in esophageal foreign body emergencies.

**Conflicts of interest:** The authors declare that they have no conflicts of interest in the writing of this article.

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