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Case Report

Non-Accidental Foreign Body Ingestion in Elderly - A Case Report

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Abstract

Introduction and Importance: Non-accidental foreign body ingestion (FBI) is an uncommon clinical problem encountered in the elderly with dementia, psychiatric illness or edentulous states.

Case Presentation: We present the case of an 86-year-old male patient who arrived to the emergency department with vomiting and dysphagia after suspected FBI. The diagnosis is confirmed by simple plain radiograph of the neck and chest. He underwent oesophagogastroduodenoscopy (OGD) and multiple foreign bodies were retrieved successfully.

Discussion: After diagnosis, prompt endoscopy should be undertaken to avoid risk of complications from FBI.

Conclusion: Spontaneous passage of foreign bodies can be seen in 80% of cases while 20% requires endoscopic intervention for its extraction.

Keywords: *Foreign Body Impaction; Dementia; Esophagogastroduodenoscopy; Case Report*

Introduction

Foreign body ingestion (FBI) is a clinical problem that can have fatal consequences and accounts for one of the most frequent gastrointestinal complaints encountered in the emergency room. It is mostly seen in the pediatric population, with children under the age of five contributing to 75% of cases [1]. On the other hand, food bolus impaction like animal or fish bone is primarily observed in adults and is typically unintentional in 95% of cases [2]. Non-accidental ingestion of true foreign bodies is uncommon in adults and is called as deliberate foreign body ingestion including objects like coins (3.6%) or dentures (2.4%) [3]. Mental retardation, dementia, alcoholism, psychiatric disorders, and edentulous states may all be contributing factors [4]. Adult patients with pre-existing pathologies, such as strictures (37%), esophageal rings (6%), malignancy (10%), and achalasia (2%) are also more likely to experience foreign body impactions [5]. Although most of the FBI (80 - 90%) tend to pass spontaneously, approximately 10 - 20% will require endoscopic intervention and less than 1% need surgical extraction [6].

Most FBI cases are unwitnessed and resolve without the need for medical attention. When an adult presents with a foreign body, they typically have symptoms like dysphagia, drooling, coughing, and reduced oral intake. It is imperative to assess the urgency of the situation and the most effective intervention strategy as soon as FBI is diagnosed to reduce the risk of complications such as esophageal perforation, mucosal ulceration, mediastinitis, aorto-esophageal and trachea-esophageal fistula [7].

Impaction most commonly occurs in the esophagus at three anatomical locations. The first and most typical location is at the thoracic inlet followed by the aortic arch and the gastroesophageal junction. The European society of gastrointestinal endoscopy (ESGE) recommends plain X-ray radiography to assess location, size and number of ingested foreign bodies [6]. X-rays show objects impacting at the level of the clavicles, the carina, and slightly above the gastric bubble, respectively. A cross-sectional study by Okan., *et al*. in 2019 concluded that one third of foreign bodies are visible on X-rays [8].

The 2016 ESGE guidelines for management of FBI advises careful observation for asymptomatic individuals with ingestion of blunt and small objects while emergent endoscopy within 2 hours or at least 6 hours is required for individuals with complete esophageal obstruction, batteries and sharp objects. The recommendation is for endoscopy within 24 hours for other FBI without complete esophageal obstruction [6].

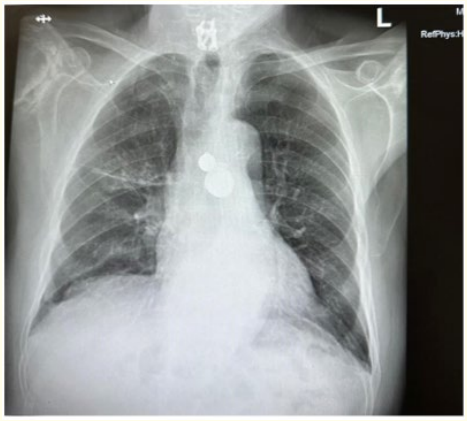
In this case report, we present an uncommon occurrence of FBI in elderly with vascular dementia, depression and a history of esophageal stricture. This case has been reported according to the SCARE 2020 criteria [9].

Case Report

An 86-year-old elderly gentleman presented to the emergency department following two episodes of vomiting and dysphagia for less than 24 hours. He was accompanied by his wife and son. He has a significant past medical history of transient ischemic attack, vascular dementia, depression and esophageal strictures. Per the patient's wife, he had been searching in drawers at home for a week and trying to put things in his mouth. The patient has also had a history of self-harm in the past since after the diagnosis of vascular dementia.

He reported a sensation of something solid in the back of his throat upon presentation. He denied experiencing any drooling, shortness of breath or abdominal pain. The wife stated that the patient has had suicidal tendencies in the past that warranted psychiatric admission but never tried to ingest any foreign bodies before.

Frontal and lateral plain radiography of the neck and chest showed multiple radio-opaque structures (Figure 1). Several round structures resembling a stack of coins, and an elongated structure resembling paper clip were identified in the left main stem bronchus/ aortic arch narrowing of the esophagus. Foreign body impaction on a background of esophageal stricture was suspected. His wife was unaware if he has swallowed any button cell battery.



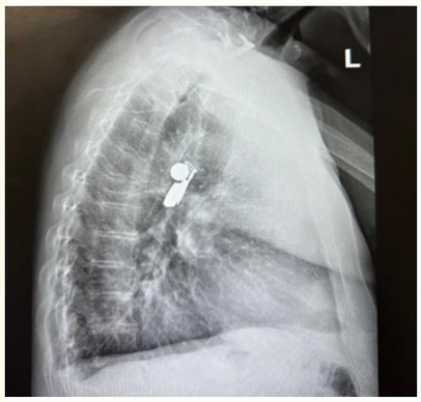


Figure 1: *Frontal and Lateral plain radiography showing multiple radio-opaque structures.*

The patient was admitted for OGD and a trial of 10 mg IV buscopan along with 1 mg intramuscular glucagon was given. Prior to going into the operating room, all reasonable risks including mucosal laceration and perforation were explained to the patient and informed consent was obtained.

Following intubation in the theatre, an OGD was carried out (Figure 2). Interestingly, three coins, part of a key chain and a small metal bead were retrieved successfully from mid-esophagus using endoscopic tripod forceps and roth-net (Figure 3). The rest of the OGD was completed by intubating D2 and taking random biopsies. No other foreign bodies were found in the rest of the procedure. The patient was discharged on the same day with no further complications.

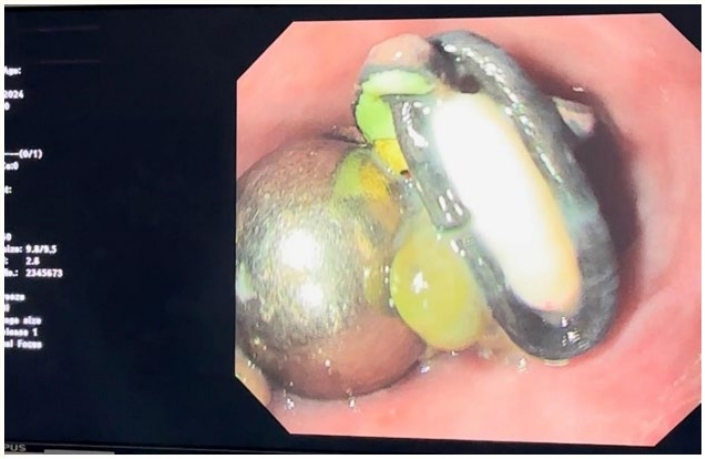


Figure 2: *Foreign bodies identified during OGD.*

Figure 3: *Three coins, part of a key chain and a small metal bead retrieved after OGD.*

Discussion

Non-accidental ingestion of foreign body in elderly is uncommon and there are few studies on this topic, most of which are retrospective. In our case, swallowing coins seems to have been a result of his deteriorating cognitive state brought on by advancing vascular dementia. Additionally, the patient's past self-harming behaviors and history of depression are contributing factors to the event. Furthermore, most elderly patients require screening for underlying pathologies that are causing feeding difficulties like strictures, which may increase the risk for impaction in esophagus [10].

Although the ESGE guidelines recommend avoiding endoscopy in asymptomatic patients who ingest small, blunt objects (apart from batteries and magnets) [6], most patients present with some sort of symptom, and cases involving elderly with psychiatric illness or dementia would find it hard to provide a detailed history regarding characteristics of the ingested foreign body. A prospective study on 521 adult patients in Portugal in 2018 concluded that majority of patients with FBI benefit from endoscopy, since it can remove the foreign body, prevent complications (particularly late complications like fistulation and abscess), and provide reassurance [11].

OGD is typically carried out under conscious sedation, but in difficult cases involving poor tolerance, multiple foreign bodies, and anticipated difficult extraction, general anesthesia with endotracheal intubation is necessary to ensure airway protection [3]. Our patient was intubated and set up in a left lateral position and his head slightly lowered to minimize aspiration risk.

The timing of endoscopy is crucial and has been debated whether impaction time increases the risk of complications. A retrospective review by Hong., *et al*. found that the two risk factors for major complications after FBI are duration of impaction and sharpness of the foreign bodies. There is a 2.4-fold increased risk for major complications with impaction lasting longer than 12 hours but less than 24 hours. In contrast risk factors like stricture, radio-opacity, age over 60, foreign body location, and size larger than 30 mm did not correlate with the development of complications [4]. The OGD was carried out within 24 hours for our patient and had no further complications.

Finally, pharmacological treatment was used in our patient as part of initial management until we were able to obtain endoscopy. The ESGE guidelines as well as a recent multicenter retrospective study found no advantage to the glucagon treatment [12]. The same results were observed in our patient as well and endoscopy should be the first-line approach to FBI.

Conclusion

Although uncommon in adults, non-accidental FBI should not be disregarded in high-risk individuals like the elderly with dementia and psychiatric illness. Early management of these individuals with prompt endoscopy can prevent risk of complications.

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Ethical Approval

All ethical considerations have been taken into account. No personal data has been exposed.

Consent

Written informed consent was obtained from the patient's next of kin for publication of this case report and accompanying images. A copy of the written consent is available for review by the Editor-in-Chief of this journal on request.

Conflict of Interest

None declared.

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