

(CASE REPORT)



Late presentation of esophageal foreign body impaction, remaining from a car accident 40 years earlier: A case report

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Abstract

Background: The foreign body impaction (FBI) is an emergent medical condition caused by any object, material, or food trapped in the upper gastrointestinal tract, most commonly caused by swallowing, iatrogenic, or penetrating trauma. The cases reported in the literature are acute, commonly presenting within few days after the accident. As far as we are concerned, such a late presentation of an esophageal FBI has not been reported to date.

Case Presentation: In this case report, we present a 67-year old male patient who was referred with severe dysphagia, recurrent fistula with sepsis, weight loss, malnutrition, and pulmonary aspiration. The history revealed a car accident 40 years ago with a penetrating wound in the neck. Rigid esophagoscopy was not possible, and the tip of car gear (3×4 cm) could be successfully removed by open surgical procedure with neck exploration.

Conclusions: This case refers to the necessity of paying greater attention to the possible foreign bodies, which can remain from any accident, in order to prevent its complications caused by late diagnosis.

Keywords: Foreign bodies; Esophagus; Esophagoscopy; Esophageal diseases; Case Reports

1. Introduction

The foreign body impaction (FBI) is an emergent medical condition, which can be caused by any object, material, or food trapped in the upper gastrointestinal tract, most commonly observed in the esophagus, especially in areas with physiological or pathological luminal narrowing [1]. The most common symptoms of FBI include retrosternal pain, dysphagia, and odynophagia, and a clinical diagnosis is mainly obtainable from patients' history, revealing the cause of FBI, most commonly accidental ingestion (most commonly sharp-pointed objects) [1], and rarely, iatrogenic, (i.e., surgical equipment, pharyngeal prosthesis, or endotracheal tube remaining in the esophagus) [2] or penetrating trauma (by a motor-vehicle accident, gun shot, stab wounds, etc.) [3].

As FBI can cause esophageal obstruction, pressure necrosis, and perforation, it is an emergent medical condition, and airway assessment and removal of the foreign body (FB) should be performed urgently (using a flexible or rigid

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endoscope) [4]. There is no time for observational treatment, and delayed intervention increases the risk of complications [5]. Chest X-ray (CXR) and computed tomography (CT) scans are also used for localizing the FB [6]. Few cases of FBI with failed removal using endoscope are scheduled for open surgery and neck exploration [7, 8].

FBI is generally an acute medical condition, presenting in adults within 1 hour to few days, while there are very few reports of the chronic and silent presence of FBs, such as delayed presentations after 2 months [9], 5 years [10], and 6 years [11]. However, as far as we are concerned, such a late presentation of an esophageal FBI (EFBI) that we observed has not been reported to date. In this case report, we present a 67-year old male patient who was referred with severe dysphagia, recurrent fistula with sepsis, weight loss, malnutrition, and pulmonary aspiration. The history revealed a car accident 40 years ago with a penetrating wound in the neck with no signs or symptoms until 5 years before his referral to our center. As rigid esophagoscopy was not possible, the patient was operated successfully. This case is unique considering the few cases of missed EFBI reported in the literature and none with such a long duration of silence.

2. Case Presentation

A 67-year-old man presented to the Surgery Department of Razi Hospital, Rasht, North Iran, end of May 2021 with pain in the left side of the neck and progressive dysphagia/odynophagia, starting since 5 years before his referral to our center. The physical examination discovered a 5-cm vertical scar on the left side of his neck with granulation tissue formation, resulting from a penetrating wound during an old car accident 40 years earlier. He reported that his neck bleeding was treated in the emergency department at that time without any other intervention or additional test. He reported that he had no problems until 5 years earlier when his symptoms of difficult and painful swallowing started and worsened gradually and reached dysphagia stage V in the past 6 months (he could only swallow liquids).

He had no other upper respiratory symptom except wheezing on lung auscultation. The CXR did not show any abnormalities, while the CT scan revealed a FB in the esophagus in addition to wall thickening at T₃-T₄ level above the carina (figure 1). He was scheduled for flexible endoscopy, performed by an internal medicine specialist, 3 days after his referral, the results of which was revealed a black lesion 12 cm from incisors of the esophagus; no biopsy was taken (figure 2). The patient was scheduled for open surgery with neck exploration under general anesthesia, performed by a thorax surgeon. But, surgical removal of the FB was not possible because of the severe adhesions in the neck fascia that prohibited further exploration for FB removal. Biopsy specimens were taken during surgery and sent for pathological examination, the results of which showed inflammation without malignancy. The diagnosis was not confirmed because of the discrepancy between patient's symptoms (progressive dysphagia) and unspecific results in direct imaging. The patient was discharged and scheduled for repeating the endoscopy after a week.

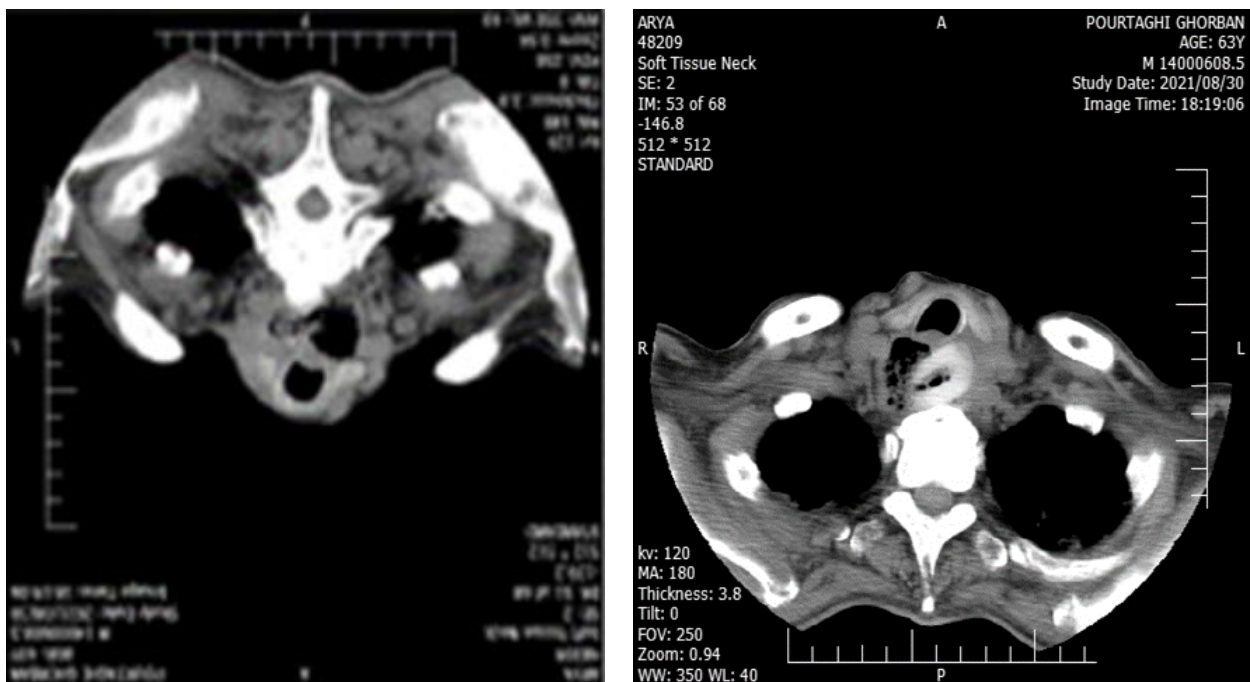


Figure 1 The result of the initial computed tomography scan of the patient, which indicates a foreign body in the esophagus

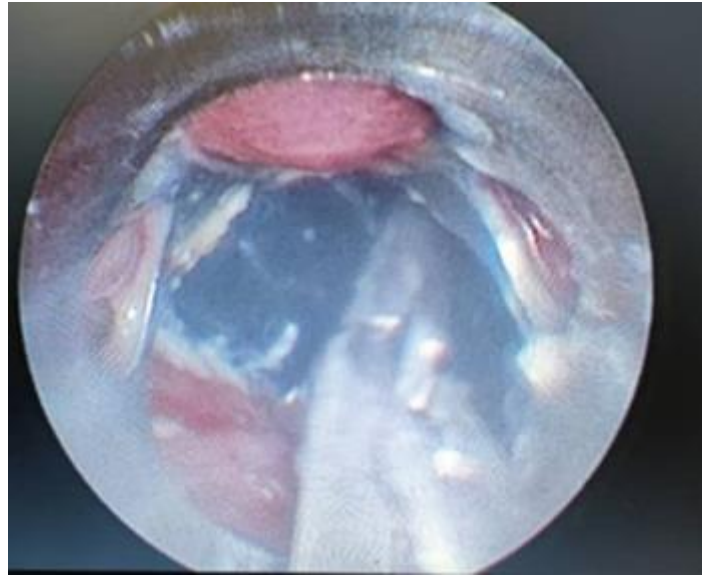


Figure 2 The results of the initial flexible endoscopy, which revealed a black lesion 12 cm from incisors of the esophagus

A week later, rigid esophagoscopy was performed under general anesthesia by an esophagoscopist, which diagnosed an impacted huge bezoar in the cervical esophagus; but the graspers could not remove the hard FB, which penetrated the esophageal wall (figure 3), while its removal with forceps was not possible and the patient was referred to the first surgeon, who requested another CT scan without contrast for the patient. The results of this imaging showed a lucent shadow in the cervical esophagus with partial obstruction of the esophageal lumen and tracheal compression. Finally, the patient was scheduled for open surgery, performed by a cardiothoracic surgeon. Under general anesthesia, a cervical incision was made above the sternocleidomastoid muscle for neck exploration, which revealed multiple micro-perforations in the esophagus, small cutaneous fistulas, and freezing neck (because of severe adhesions, which adhered the neck organs together). After the partial release of adhesions, the thyroid gland was lifted, and a hard object was palpated in the depth of the thyroid gland and at the inferior of the hypothetical line of the thyroid cartilage. After the esophageal lumen was exposed and a large nasogastric (NG) tube was placed in the esophageal lumen, the incision was extended to the esophagus. After incision of the esophagus, the subject was removed. A macroscopic evaluation of the object revealed a black 3×4cm object, which seemed to be a broken tip of car gear (figure 4).

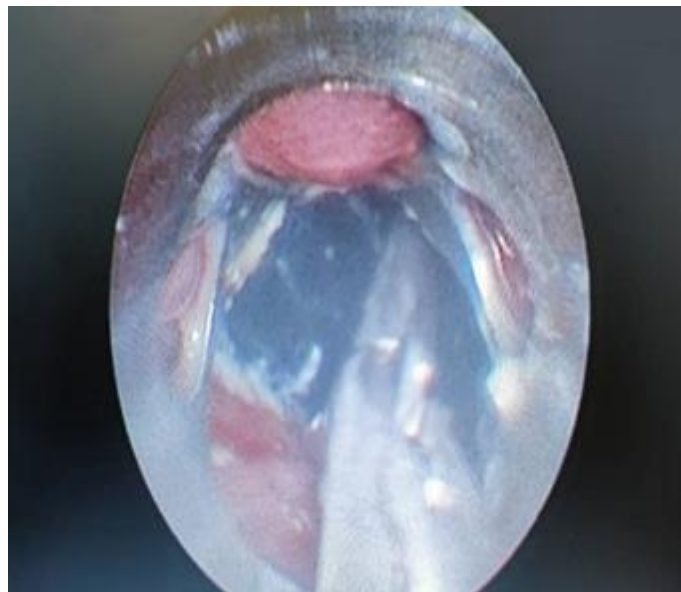


Figure 3 The results of rigid esophagoscopy, which diagnosed an impacted huge bezoar in the cervical esophagus



Figure 4 The macroscopic view of the foreign body, removed from the patient's neck, which was the tip of the car gear of an accident 40 years earlier

At the end of the surgery, a 7-mm tracheal tube was inserted in the esophagus, and the esophageal wall was repaired and reinforced using strap muscles over the repair site. A Penrose drain was inserted near the repaired site, and the incision was closed. A gastrostomy tube was also placed for the enteral nutrition of the patient. The postsurgical view of the patient's neck is shown in figure 5.



Figure 5 The postsurgical view of the patient's neck with a Penrose drain inserted

The patient was moved to the recovery room, and after half an hour, he was transferred to the surgery ward, where he received injected antibiotics and was under close observation for postoperative complications (such as fever, mediastinitis, etc.), which did not occur. Three days after the surgery, a barium swallow test was performed for the patient, which showed no leakage. Oral feeding with liquids was started the same day. The patient recovered well and had no complications during admission; he was discharged after 7 days with oral antibiotics (Tavanex 500 mg once daily and metronidazole 500 mg every 8 hours for 3-5 days) and recommended to refer for follow-up examination after a week. The gastrostomy tube was removed on the 20th day. In a 2-month follow-up, the patient was in good condition, had no complications, was symptom-free (no dysphagia, odynophagia, or dyspnea), and had well per oral feeding.

3. Discussion

This is the first case reported in the literature with a missed FB, resulting from a car accident 40 years earlier, silent and completely asymptomatic for more than 35 years. This case refers to the necessity of paying greater attention to the history of patients, which can help early diagnosis of rare phenomena. Most cases of EFBI in adults result from swallowing sharp foreign bodies that cause partial or complete obstruction of the esophagus, presenting with dysphagia and odynophagia; most of the EFBI in the upper third of the esophagus are symptomatic [1]. Although the patients' symptoms help diagnosis, dysphagia/odynophagia proposes a wide range of differential diagnoses, and diagnosis of EFBI is accomplished by the patient's history. Most cases present as an emergent condition within a few hours to a few days [12]. However, our patient provided no recent history of food/particle ingestion, and the car accident 40 years earlier was far from sight to be considered as the first diagnosis of patients' symptoms, as such a late presentation has never been reported previously. Another rare observation in the present case was no history of ingestion and formation of EFBI by an old penetrating wound.

There are very few reports of the chronic and silent presence of FBs in the literature, none as long as the present case. A retrospective study in Nigeria reported that about 30% of cases with EFBs had a late presentation, defined as later than a week, with one boy presenting 3 months and another 5 years after coin ingestion [10]. There are also reports of late presentations of a lost denture in an adult [9] and swallowed FB in a child after 2 months [13]. Another case with a missed diagnosis of EFBI was a 55-year-old woman who presented with a 6-year history of progressive dysphagia, getting worse in the past 6 months, caused by accidental swallowing of denture 6 years back. She had undergone several CXR and was prescribed anti-acids and pain killers each time. Finally, she was diagnosed with FB by endoscopy, confirmed with a contrast-enhanced neck scan, and underwent gastric resection with resection anastomosis (McKeown procedure) [11]. The presentation of this case was very similar to ours and confirms the difficult diagnosis of cases, especially the silent cases, with missed diagnosis of EFBI; although this woman had symptoms since the denture was swallowed 6 years earlier, the case presented here had no symptoms for more than 35 years, which made diagnosis more challenging. Another study reported the 26-month presence of occult aluminum can tab, ingested accidentally in a 36-month-old girl, which migrated through the esophagus into the mediastinum and was managed with thoracostomy and partial esophagostomy [14]. There are also reports of the sudden death of a 4-month-old infant, in whom the occult EBF was diagnosed during postmortem autopsy [15]. It has to be noted that EFBI is an emergent/urgent clinical condition, and missed diagnosis or inappropriate management can cause lethal complications for the patient. Therefore, a greater clinical suspicion is required for the diagnosis of occult EFBs and to prevent patient's death.

In the case presented here, the patients underwent imaging with CXR and CT scan, which have been suggested in the guidelines as the appropriate clinical approach towards EFBI [16, 17]. CT scan showed a black object but could not determine the nature of this shadow and suggested AV-fistulae, pseudoaneurysm or FB as the possible diagnoses. Both rigid and flexible esophagoscopy are suggested for the removal of EFBs. Rigid type is preferred in case of the presence of hard objects because of the ability to use larger graspers [4]. However, esophagoscopy has the risk of iatrogenic perforation of the esophagus and requires a skilled operator; therefore, the physician should consider the condition of the patient and FB for an appropriate treatment choice [10]. In the case presented here, the penetrating trauma and sharp-edged FB, present for a long duration in the patient's neck, had produced severe adhesions in our case, and the subsequent rigid esophagoscopy attempts failed. Failure of esophagoscopy has also been reported in previous cases with EFBI with identification of sharp FBs and late management as its predictors [5]. Late management of EFBI also increases the risk of complications, duration of hospital stay and decreases the success rate of esophagoscopy [18].

Surgical treatment is suggested in patients with endoscopically irretrievable EFBI or esophageal perforation [1, 19]. The patient presented here also benefited from surgery after several endoscopic and esophagoscopy attempts, which could finalize the diagnosis; although, observation of tip of car gear remained for 40 years in patient's neck without any symptoms for such a long duration was astonishing for the physicians. With appropriate management of this case, we could prevent further complications of this sharp-edged hard FB, which could have penetrated through the esophageal

wall and led to esophageal perforation, deep cervical infection and/or mediastinitis, or damage to the large vessels, and massive lethal hemorrhage, as suggested in previous cases with acute EFBI [1, 20].

Abbreviations

- FBI: foreign body impaction;
- FB: foreign body;
- CXR: Chest X-ray;
- CT: computed tomography;
- EFBI: esophageal FBI;
- NG: nasogastric

4. Conclusion

All in all, although EFBI is generally considered an acute condition resulting from ingestion, rare conditions have to be also considered, as well. Here, we reported a patient who had a car accident 40 years before that resulted in penetration of the tip of the car gear to his neck, missed at that time. This FB was inserted into the esophagus several years later and caused such problems for the patients. It has to be kept in mind that EFBI has life-threatening complications and can be lethal; therefore, more attention should be paid to its appropriate diagnosis and management. Patients with penetrating neck trauma should be comprehensively examined for the presence of any FB in their neck to prevent later complications. Fortunately, the patient presented in this case report was successfully managed by the surgical removal with good clinical conditions until a 2-month follow-up. In the meantime, this case emphasizes on consideration of non-ingested EFBs and the necessity of complete investigation in patients with penetrating trauma to the neck to prevent further complications.

Compliance with ethical standards

Disclosure of conflict of interest

The authors declare that they have no competing interests.

Statement of ethical approval

'The present research work does not contain any studies performed on animals/human subjects by any of the authors'.

Statement of informed consent

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

Authors Foreign ions

All authors were involved in the management of the patient and generating the concept. All authors made an intellectual contribution and reviewed the paper. All authors read and approved the final manuscript.

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