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CASE REPORT: A Case Report on the Endoscopic Management of an Upper Gastrointestinal Foreign Body: A Clinical Approach to Safe Removal

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ABSTRACT

Foreign body ingestion (FBI) is a common emergency condition that frequently requires prompt diagnosis and appropriate management to prevent serious complications. Flexible endoscopy is considered the first-line therapeutic approach because of its high success rate, minimal invasiveness, and favorable safety profile. Although most ingested foreign bodies pass spontaneously through the gastrointestinal tract, large metallic objects require urgent intervention to reduce the risk of obstruction, perforation, and bleeding.

A 42-year-old man presented to the emergency department with severe epigastric pain after accidentally swallowing a metallic spoon. His medical history was notable for an undiagnosed psychiatric disorder associated with anxiety and agitation. Physical examination revealed stable vital signs without evidence of gastrointestinal perforation. Plain abdominal radiography demonstrated a metallic spoon lodged in the distal stomach. Emergency upper gastrointestinal endoscopy was performed under propofol sedation. The spoon was successfully retrieved using an endoscopic grasper with careful manipulation and rotation to minimize mucosal injury. Endoscopic examination revealed only superficial erosions without evidence of perforation or additional foreign bodies. The patient recovered uneventfully and was discharged after psychiatric consultation was recommended.

This case highlights the importance of early diagnosis, appropriate imaging, and timely endoscopic intervention in the management of unusual upper gastrointestinal foreign bodies. It also emphasizes the value of a multidisciplinary approach in patients with underlying psychiatric disorders, who are at increased risk for recurrent foreign body ingestion.

Flexible endoscopy remains the gold-standard treatment for upper gastrointestinal foreign bodies because of its excellent safety profile and high therapeutic success. Early recognition, careful procedural planning, and appropriate post-procedural follow-up contribute substantially to favorable clinical outcomes.

Introduction

Foreign body ingestion (FBI) is a common clinical problem frequently encountered in emergency departments worldwide and represents an important cause of gastrointestinal emergencies [1,2]. In adults, food boluses, particularly meat, are the

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most common foreign bodies and usually become impacted at sites of underlying esophageal pathology, such as strictures, rings, or eosinophilic esophagitis [1–3]. In contrast, coins are the most frequently ingested foreign bodies among children [1–3]. Individuals with psychiatric disorders, intellectual disabilities, alcohol dependence, opioid use, and illicit drug abuse are at increased risk of recurrent foreign body ingestion [1]. The condition is reported more frequently in men than women, with an approximate male-to-female ratio of 1.5:1 [2,3].

The upper esophagus is the most common site of impaction, followed by the middle and lower esophagus, stomach, and duodenum [3–5]. Less frequently ingested foreign bodies include dentures, fish bones, chicken bones, batteries, and other metallic objects [1,6,7]. Clinical manifestations vary according to the location and type of the foreign body and may include odynophagia, dysphagia, chest pain, excessive salivation, nausea, vomiting, abdominal pain, or the sensation of a foreign body lodged in the gastrointestinal tract [8,9]. Approximately 80% of ingested foreign bodies pass spontaneously without requiring intervention, whereas less than 1% ultimately require surgical management [10,11]. Nevertheless, delayed diagnosis or inappropriate management may result in serious complications, including gastrointestinal perforation, obstruction, bleeding, mediastinitis, or fistula formation [1–3,12]. Sharp objects, particularly fish bones, carry the highest risk of perforation [12]. Button batteries deserve special attention because they may cause severe mucosal injury through electrical discharge and chemical burns, potentially resulting in life-threatening complications such as aortoesophageal fistula formation [13–15].

A thorough medical history and physical examination are essential for the initial evaluation of patients with suspected FBI. Plain radiographs of the chest and abdomen remain useful initial imaging modalities for detecting radiopaque foreign bodies and determining their number, size, shape, and anatomical location [11,16]. However, non-contrast computed tomography (CT) provides superior diagnostic accuracy, with a reported sensitivity of 80–100%, particularly for radiolucent or complicated foreign bodies [16,17]. Flexible upper gastrointestinal endoscopy is considered the diagnostic and therapeutic modality of choice, with reported success rates exceeding 95% [4,20]. Endoscopic removal is generally recommended within 24 hours after ingestion or sooner for sharp, large, or hazardous foreign bodies to minimize the risk of complications [18,19].

Sharp objects, including needles, nails, toothpicks, safety pins, and bread bag clips, should ideally be removed before passing beyond the stomach because of their increased risk of intestinal perforation, particularly near the ileocecal valve [11,16,21]. Immediate endoscopic removal is also recommended for button batteries impacted in the esophagus because prolonged mucosal contact can rapidly result in tissue necrosis and perforation [22,23]. Surgical intervention is reserved for patients with perforation, failed endoscopic retrieval, bowel obstruction, or other life-threatening complications [5,21,22].

In this report, we present a rare case of accidental ingestion of a metallic spoon that was successfully removed from the stomach by flexible endoscopy. This case highlights the importance of prompt diagnosis, appropriate imaging, careful endoscopic technique, and multidisciplinary management, particularly in patients with underlying psychiatric disorders.

Case Presentation

A 42-year-old man presented to the emergency department after accidentally swallowing a metallic spoon during a meal. His medical history was notable for an undiagnosed psychiatric disorder. Upon arrival, he complained of severe epigastric pain but denied vomiting, hematemesis, or respiratory distress. Owing to the severity of his symptoms, he was immediately

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transferred to the resuscitation area for further evaluation.

On physical examination, the patient was conscious, anxious, irritable, and agitated. His vital signs were stable, with a pulse rate of 89 beats/min, a respiratory rate of 23 breaths/min, a blood pressure of 120/70 mmHg, a body temperature of 37°C, and an oxygen saturation of 97% while breathing room air. Oropharyngeal examination was unremarkable, and chest examination revealed normal bilateral breath sounds without evidence of subcutaneous emphysema.

A plain abdominal radiograph demonstrated a metallic spoon positioned semi-transversely within the distal stomach (Figure 1). No radiographic evidence of gastrointestinal perforation or free intraperitoneal air was identified.

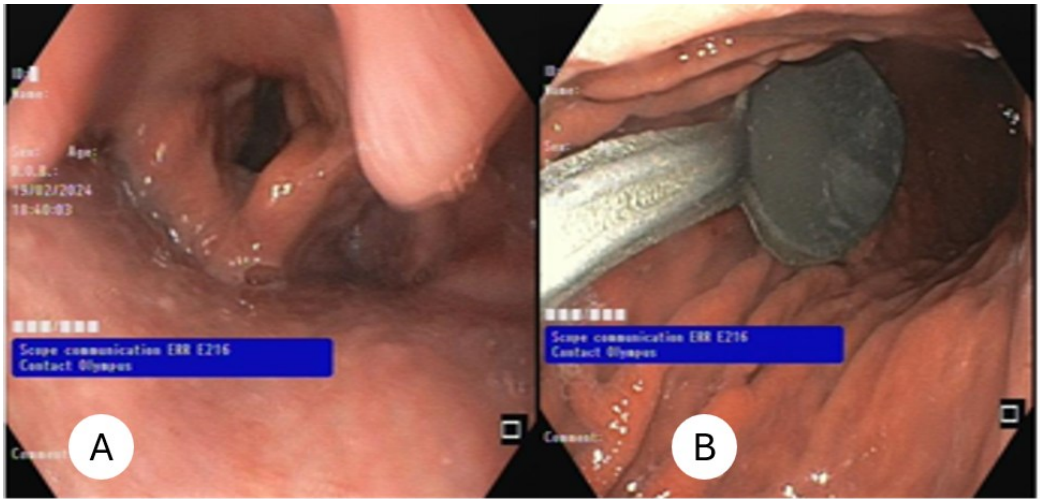


Figure 1. Abdominal X-ray showing the foreign body (a tablespoon) occupying the entire Stomach

The patient was immediately transferred to the endoscopy suite for emergency upper gastrointestinal endoscopy. After induction of conscious sedation with intravenous propofol (100 mg) while maintaining spontaneous respiration, a flexible upper gastrointestinal endoscope was introduced. The spoon was identified in the distal stomach and carefully grasped using an endoscopic retrieval grasper. Gentle manipulation and gradual rotation of the spoon into a longitudinal position facilitated safe extraction while minimizing the risk of esophageal mucosal injury (Figures 2).

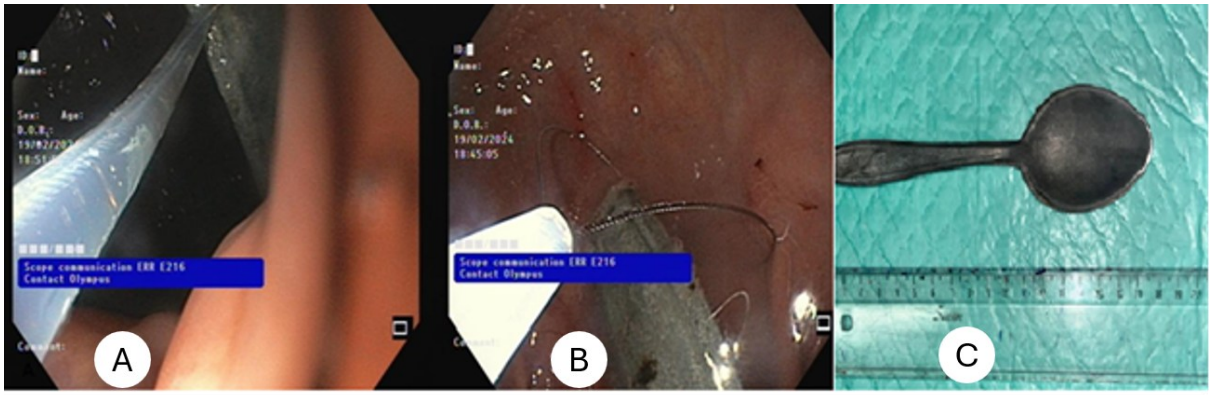


Figure 2. A, B.C Endoscopic evaluation of the esophagus and detection of the spoon

Following successful removal, the endoscope was advanced to the second portion of the duodenum for a complete examination. No additional foreign bodies or evidence of perforation was observed. Only superficial mucosal erosions were detected at the site corresponding to the tip of the spoon, without active bleeding or deep tissue injury.

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The patient remained hemodynamically stable throughout the procedure and experienced an uneventful postoperative course. He was admitted for short-term observation, during which no procedure-related complications developed. Considering his underlying psychiatric condition, psychiatric consultation was recommended before discharge. The patient was discharged in good general condition two days later with appropriate follow-up recommendations.

Discussion

Foreign body ingestion (FBI) is a common clinical emergency, although the accidental ingestion of large metallic objects, such as spoons, remains exceptionally rare in adults. Most cases involve food boluses, fish bones, dentures, or coins, whereas ingestion of long metallic utensils is typically associated with psychiatric disorders, eating disorders, intellectual disability, or attempts at self-induced vomiting [1–3]. The present case is unusual because the patient accidentally swallowed a metallic spoon and was subsequently found to have an undiagnosed psychiatric disorder, highlighting the importance of considering underlying psychological conditions in adults presenting with atypical foreign body ingestion.

The clinical presentation of FBI depends primarily on the size, shape, composition, and anatomical location of the ingested object. Patients may present with dysphagia, odynophagia, chest pain, abdominal pain, vomiting, or hypersalivation, whereas others remain asymptomatic until complications develop [8,9]. In our patient, severe epigastric pain was the predominant symptom, which correlated with the location of the spoon within the distal stomach. Importantly, there was no evidence of gastrointestinal perforation, bleeding, or airway compromise, allowing prompt endoscopic intervention without the need for surgical management.

Initial imaging plays a crucial role in determining the appropriate therapeutic approach. Plain radiography remains the first-line imaging modality for radiopaque foreign bodies because it rapidly identifies the location, orientation, and size of metallic objects [11,16]. In the present case, abdominal radiography clearly demonstrated the spoon within the stomach, enabling immediate therapeutic planning. Although computed tomography provides greater diagnostic accuracy, particularly for radiolucent foreign bodies or suspected perforation [16,17], it was not required because the diagnosis was evident on plain radiographs and the patient's clinical condition remained stable.

Flexible upper gastrointestinal endoscopy is currently regarded as the treatment of choice for most upper gastrointestinal foreign bodies because it combines excellent diagnostic capability with a high therapeutic success rate exceeding 95% [4,18,20]. Compared with rigid endoscopy, flexible endoscopy is associated with lower morbidity, improved patient comfort, and a reduced risk of iatrogenic esophageal injury [20]. In our patient, careful endoscopic manipulation and gradual rotation of the spoon into a longitudinal orientation allowed safe extraction while minimizing mucosal trauma. Post-procedural endoscopy demonstrated only superficial erosions without evidence of deep injury or perforation, confirming the effectiveness and safety of this approach.

The timing of endoscopic intervention is another critical determinant of clinical outcome. Current international guidelines recommend urgent endoscopic removal of large, sharp, or potentially hazardous foreign bodies because prolonged retention increases the risk of pressure necrosis, mucosal ulceration, perforation, and gastric outlet obstruction [18,22]. Objects longer than 6 cm, such as spoons, are unlikely to pass spontaneously through the pylorus and therefore generally require endoscopic retrieval. Prompt intervention in our patient prevented the development of these potentially life-threatening complications and resulted in an uneventful recovery.

Another noteworthy aspect of this case is the patient's underlying psychiatric condition. Adults who present with unusual foreign body ingestion frequently have psychiatric

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disorders, intellectual disabilities, substance abuse, or behavioral conditions that predispose them to recurrent ingestion episodes [1]. Although the spoon ingestion in our patient was reported as accidental, his history of an undiagnosed psychiatric disorder highlights the importance of comprehensive psychiatric assessment following successful medical management. Addressing underlying psychological conditions may reduce the likelihood of recurrence and improve long-term patient outcomes. Therefore, multidisciplinary collaboration between gastroenterologists, emergency physicians, anesthesiologists, and mental health professionals is essential in managing such patients.

Only a limited number of similar cases involving the ingestion of large metallic utensils have been reported in the literature [27–29]. Most published reports describe fork ingestion rather than spoon ingestion, and many of these cases were associated with eating disorders or deliberate attempts to induce vomiting [27,29]. In contrast, our patient presented with accidental spoon ingestion and successful endoscopic retrieval without the need for surgical intervention. This case therefore contributes additional evidence supporting the feasibility and safety of flexible endoscopy, even for relatively large gastric foreign bodies when performed by experienced endoscopists.

Appropriate endoscopic accessories and careful procedural techniques are equally important for achieving successful outcomes. Selection of the retrieval device should be based on the size, shape, and location of the foreign body. Retrieval graspers, snares, baskets, and overtubes may all be considered depending on the clinical situation. In our patient, an endoscopic retrieval grasper provided adequate control of the spoon, allowing gradual rotation into a favorable orientation before extraction. This maneuver minimized mechanical trauma to the esophageal mucosa during withdrawal and contributed to the absence of significant complications. Careful inspection of the upper gastrointestinal tract after foreign body removal is also recommended to identify occult mucosal injuries or additional foreign bodies that may otherwise remain undetected. This case has certain limitations inherent to a single-case report. The findings cannot be generalized to all patients with foreign body ingestion, particularly those presenting with delayed diagnosis, gastrointestinal perforation, or hemodynamic instability. Nevertheless, rare case reports remain valuable because they expand the available clinical evidence regarding unusual foreign bodies and provide practical guidance for clinicians facing similar situations. Our experience further supports existing recommendations advocating early diagnosis, appropriate imaging, and prompt endoscopic management for large gastric foreign bodies.

Overall, this case demonstrates that timely recognition, accurate radiological evaluation, and skilled flexible endoscopy can achieve excellent clinical outcomes even in uncommon presentations of foreign body ingestion. Early multidisciplinary management, including psychiatric evaluation when indicated, is essential not only for successful treatment of the acute event but also for preventing recurrence and improving long-term patient care.

Conclusion

Foreign body ingestion remains a common gastrointestinal emergency; however, the accidental ingestion of large metallic objects such as spoons is exceptionally uncommon in adults. This case demonstrates that prompt clinical assessment, appropriate radiological evaluation, and timely endoscopic intervention can result in successful management while avoiding potentially serious complications, including gastrointestinal perforation, bleeding, obstruction, and the need for surgical treatment.

Flexible upper gastrointestinal endoscopy remains the first-line therapeutic modality for the removal of most upper gastrointestinal foreign bodies because of its high success rate, favorable safety profile, and minimally invasive nature. Careful procedural planning,

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selection of appropriate retrieval devices, and meticulous endoscopic techniques are essential for minimizing mucosal injury and achieving optimal clinical outcomes, particularly when managing large or unusually shaped foreign bodies.

This case also emphasizes the importance of adopting a multidisciplinary approach. In adults presenting with unusual foreign body ingestion, clinicians should carefully evaluate the possibility of underlying psychiatric or behavioral disorders, as these conditions may contribute to recurrent episodes. Early psychiatric consultation and appropriate long-term follow-up may help reduce the risk of recurrence and improve overall patient care.

Although spoon ingestion is rarely reported in the literature, our experience supports existing evidence that flexible endoscopic retrieval is both safe and effective when performed promptly by experienced endoscopists. Reporting uncommon cases such as this expands the current body of knowledge, increases clinicians' awareness of atypical presentations, and contributes to improving evidence-based management strategies for patients with upper gastrointestinal foreign body ingestion.

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Authorship

A Sh: Case data collection; N A: Case data collection; B M: Case analysis and interpretation; MA: Case analysis and interpretation; S Gh T: Drafting of the case report; M A: Conception and design of the case report; MF: Drafting of the case report, critical revision, final approval of the case report, and corresponding author.

All the co-authors contributed to this paper, are responsible for all aspects of the work, and approved the final manuscript.

Ethics Approval

The study received ethical approval from the Ethics Committee of Guilan University of Medical Sciences (Reference number: IR.GUMS.REC.1403.078).

Consent to participate

Not applicable

Conflicts of interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

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