Review

Repeat Intentional Foreign Body Ingestion: The Importance of a Multidisciplinary Approach

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Foreign body ingestion is a problem frequently encountered by emergency room physicians and gastroenterologists. It is thought that 80–90% of ingested foreign bodies spontaneously pass through the gastrointestinal tract, with only 10–20% requiring endoscopic intervention and a mere 1% culminating in the need for surgery.[1,2] The swallowing of foreign bodies can be accidental or intentional. Unsurprisingly, the majority of accidental cases of foreign body ingestion are seen in children under 3 years of age. Conversely, most intentional swallowing is primarily seen in adults, usually presenting as a pattern of repetitive ingestion. Until recently, the medical and psychiatric literatures did not focus much attention on prevention of and therapy for the behaviors associated with repeat foreign body ingestion. Atluri and colleagues present 2 clinical scenarios of recurrent intentional foreign body ingestion that highlight the importance of a multidisciplinary approach for managing these often challenging cases.[3]

The management protocol for foreign body ingestion depends on several key factors: the type, shape, and location of the ingested foreign body; the patient's symptomatology; the elapsed time since ingestion of the foreign body; and any concurrent evidence of complications such as bleeding or perforation. In addition, medical, surgical, and psychiatric evaluations should be part of any examination of intentional and/or repeat foreign body ingestion.

Intentional foreign body ingestion is most commonly seen in adult patients with intellectual or mental disabilities, significant substance abuse, psychiatric disorders, or external motivations (such as avoidance of a jail sentence). Repeat foreign body swallowing may be part of a syndrome of self-mutilation and/or attention-seeking behavior. Repeat swallowers are often diagnosed with the psychiatric syndrome of factitious disorder or Munchausen syndrome. The association of a personality disorder with repeat ingestion of foreign objects, self-mutilation, drug abuse, and/or alcohol abuse was first described by Carp in 1950.[4] In 1982, James and Allen-Mersh reported on 5 patients with a personality disorder syndrome, substance abuse, and self-injury; the researchers recommended conservative treatment and avoidance of surgical intervention.[5] In 1991, Karp and coworkers reported a series of 19 prisoners who swallowed foreign bodies; 10 of these patients had suicidal ideation with command hallucination.[6] Notably, none of the patients had reported swallowing foreign bodies prior to imprisonment.[6]

Both prevention of and therapy for intentional foreign body ingestion require a multidisciplinary approach. Patients with intentional foreign body ingestion are usually seen by emergency room, psychiatry, anesthesia, surgery, nursing, and even security services. Consequently, the hospital and fiscal resources needed to treat these patients can be significant, as highlighted in a retrospective review by Huang and coworkers.[7] This study reviewed repeat foreign body ingestion treated over an 8-year period at Rhode Island Hospital and identified 33 different patients involved in 305 cases. The majority of patients (79%) were diagnosed with a concomitant psychiatric disease. Hospital and cost accounting systems estimated that the total cost of these cases over 8 years was $2,018,073 ($1,500,627 in hospital costs, $240,640 in physician fees, and $276,806 for security services).[7] The average inpatient length of stay (5.66 days) appeared to be primarily affected by the patient's psychiatric health (ie, the tendency for suicidal ideation, belligerence, and the inclination to repeat self-mutilating acts), as well as the need for substance abuse counseling. The length of stay was rarely affected by a delay in endoscopy or the presence of complications. Therefore, as the authors concluded, intentional foreign body ingestion should be managed on an outpatient basis if the patient's medical and psychiatric states allow this option.

Unfortunately, there are major limitations to the long-term treatment of these patients. Antipsychotic agents, antidepressants, and mood stabilizers are limited in their effectiveness, particularly in patients with Munchausen syndrome. Physicians can try to use behavioral therapies to reduce impulsive acts and self-mutilation attempts, but specific psychiatric protocols pertaining to the repeat ingester have not been adequately studied. The medical staff should be counseled on how to avoid countertransference anger, which can occur after being repeatedly challenged by the patient. Patients may be motivated by eliciting an anger response in their

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medical team.[3] Psychiatric consultation is mandatory, and one-to-one supervision is usually necessary during hospital admission. Patients should return to their usual environment as soon as it is feasible in order to limit any secondary gain from hospital admission as well as to reduce the costs associated with hospitalization.

In addition, the avoidance of unnecessary endoscopic intervention may help prevent repeat foreign body ingestion.[8] A framework for making decisions regarding the need for endoscopic management and determining how best to perform that intervention can be found in the American Society for Gastrointestinal Endoscopy guidelines for the management of ingested foreign bodies.[9] The perceived risk of aspiration and/or perforation must be identified via patient symptomatology and/or imaging. Foreign body or food bolus impaction in the esophagus requires urgent intervention.[10] The best initial line of management is usually flexible endoscopy with airway protection and the use of an overtube and/or endotracheal intubation. Equipment for retrieval should be readily available to the endoscopist and should include baskets, Roth nets (US Endoscopy), polypectomy snares, rat-tooth forceps, and alligator forceps. The use of an overtube can enable repeat introduction of the endoscope into the esophagus as well as protection of the esophageal mucosa and airway. Identification of the type of ingested object (ie, sharp vs smooth, length, etc) via patient history and/or imaging can help determine the need, timing, and use of specific equipment during endoscopy. Surgical management is rarely needed.

Summary

The management of a patient with recurrent intentional foreign body ingestion requires a team approach that incorporates endoscopic expertise and medical, surgical, and psychiatric support. Collaborative strategies across these disciplines may help prevent an issue that is costly and burdensome both for the healthcare system and, most importantly, for patients.

References

1. Smith MT, Wong RK. Esophageal foreign bodies: types and techniques for removal. *Curr Treat Options Gastroenterol*. 2006;9:75-84.
2. Schwartz GF, Polsky HS. Ingested foreign bodies of the gastrointestinal tract. *Am Surg*. 1976;42:236-238.
3. Atluri D, Veluru C, Chopra A, Mullen KD. Recurrent intentional foreign body ingestion: an endoscopist's dilemma. *Gastroenterol Hepatol (N Y)*. 2012;8:482-484.
4. Carp L. Foreign bodies in the gastrointestinal tracts of psychotic patients. *Arch Surg*. 1950;60:1055-1075.
5. James AH, Allen-Mersh TG. Recognition and management of patients who repeatedly swallow foreign bodies. *J R Soc Med*. 1982;75:107-110.
6. Karp JG, Whitman L, Convit A. Intentional ingestion of foreign objects by male prison inmates. *Hosp Community Psychiatry*. 1991;42:533-535.
7. Huang BL, Rich HG, Simundson SE, Dhingana MK, Harrington C, Moss SF. Intentional swallowing of foreign bodies is a recurrent and costly problem that rarely causes endoscopy complications. *Clin Gastroenterol Hepatol*. 2010;8:941-946.
8. O'Sullivan ST, Reardon CM, McGreal GT, Hehir DJ, Kirwan WO, Brady MP. Deliberate ingestion of foreign bodies by institutionalised psychiatric hospital patients and prison inmates. *Ir J Med Sci*. 1996;165:294-296.
9. Eisen GM, Baron TH, Dominitz JA, et al; American Society for Gastrointestinal Endoscopy. Guideline for the management of ingested foreign bodies. *Gastrointest Endosc*. 2002;55:802-806.
10. Chaves DM, Ishioka S, Félix VN, Sakai P, Gama-Rodrigues JJ. Removal of a foreign body from the upper gastrointestinal tract with a flexible endoscope: a prospective study. *Endoscopy*. 2004;36:887-892.