Case Report

Managing ingested foreign bodies – not a piece of cake

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Abstract

Foreign body ingestion into gastrointestinal tract is a common problem in pediatric age group and in mentally retarded adults. In this article we have presented three patients from three age groups depicting the entire spectrum of the problem. Majority of these foreign bodies will be excreted without any problem but some sharp objects and impacted ones need emergency removal by endoscopy. We have also reviewed the literature for guidelines to manage this problem.

Keywords: Foreign body in gastrointestinal tract; Emergency endoscopy; urgent endoscopy; non-urgent endoscopy; retrieval devices

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INTRODUCTION

Ingestion of foreign bodies is a common problem especially among the pediatric age group, whereas in adults it occurs more commonly in those with psychiatric disorders, or mental retardation, prisoners and alcoholics[1]. Fortunately, most of them pass through the gastrointestinal tract harmlessly [2,3]. However, 10–20% will require nonoperative intervention and only 1% or less require surgical intervention.[1-4]. In this article, we present the details of 3 cases of foreign bodies in GIT in 3 different age groups which were managed by us and also review the literature of this evolving topic.

Patient 1: A 5 yrs old boy was brought to the casualty for ingestion of one rupee coin which was impacted in esophagus. CXR along with neck revealed impaction of the coin at cricopharyngeal level. So emergency endoscopy was done and the coin was removed. It was done under 10% lignocaine throat spray and no sedation was used. The boy was discharged on the same day without any problem.

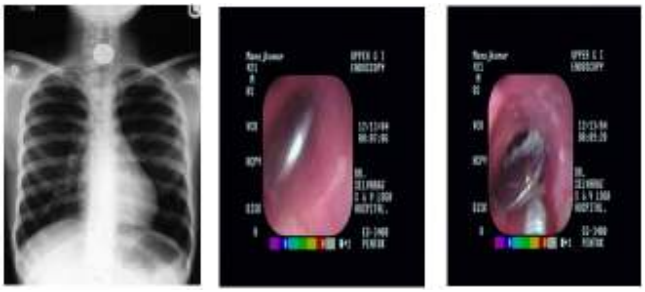

Figure 1: One rupee coin impacted in upper esophagus extracted by emergency endoscopy

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Patient 2: A 20 yrs old mentally retarded girl who had allegedly swallowed an open safety pin was brought to us. Abdominal X-ray revealed an open safety pin in stomach. Since it was in open position, emergency endoscopy was done for removing it immediately. The circular part of the safety pin was held with grasping forceps for safe extraction without injuring the stomach or esophageal mucosa.

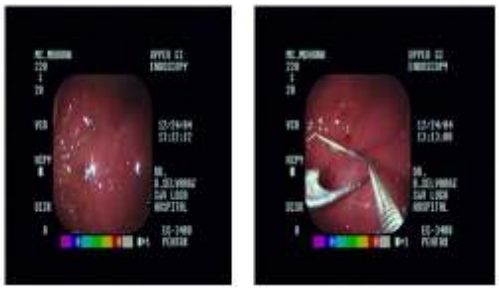

Figure 2: Open safety pin was extracted by emergency endoscopy

Patient 3: A 50 yrs old edentulous old lady was brought to us for alleged ingestion of a mutton piece which was impacted in the esophagus. The lady was not able to drink even water. She also underwent emergency endoscopy and the foreign body was pushed into the stomach, for later excretion via naturalis.

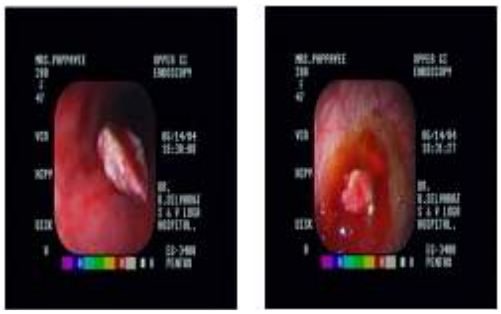

Figure 3: Impacted mutton piece in esophagus was pushed into the stomach by emergency endoscopy

DISCUSSION

The vast majority of pediatric foreign body ingestions are accidental. The most common pediatric foreign bodies ingested are coins, followed by a variety of other objects, including toys, toy parts, sharp objects, batteries, bones, and food. In adolescents and adults, meat or food impactions are the most common accidental foreign body ingestion. In Infants, esophageal stenosis and other congenitalgut anomalies are risk factors. While in adult soesophageal strictures, previous GI tract surgery, neuromuscular diseases like myasthenia gravis and ankylosing spondylitis are the risk factors. In children most of the foreign bodies are impacted in the upper oesophagus at the cricopharyngealjunction, which is the narrowest part of the oesophagus, while in adults the foreign body usually gets impacted at the site of the predisposing lesion or at sites of angulations like in the lower oesophagus. Most of the FBs including sharp objects ,once through the esophagus, pass uneventfully[5,6,7,12.]so just pushing into the stomach is all that is needed in managing a esophageal FB .Ingestion of pointed objects, bones, staplerpins, magnets and medications increase the risk of perforation[5-10,15-19]. So, pointed objects and magnets have to be removed by emergency endoscopy. The clinical presentation depends on the site, nature, age of patient, and duration. The Spectrum of clinical manifestations ranges from asymptomatic to long-term complications like esophageal stricture. Older children and mentally sound adults may give clear history of ingestion and localize the site of discomfort, while this is not possible in case of infants and mentally retarded adults thus creating a diagnostic challenge. Children present with drooling of blood stained saliva, choking, refusal to eat, vomitingor respiratory distress. Neckswelling, erythema, tenderness and crepitus indicate perforation of the esophagus at that level[13,14,21]. The importance of X-rays in locating the FB and associated complications like perforation, mediastinitisetc need not be stressed more .The fact that certain thin metal objects, wood, glass, plastic ,fish and chicken bones are not readily seen in X-rays needs mention here. Even CT may not detect radiolucent objects although a 3-dimensional reconstruction may have increased sensitivity[22-24]. So, when history of FB ingestion is present, endoscopic evaluation must be done if symptoms persist [25].Even Bronchoscopy has to be

resorted to if there is no clinical improvement. The Standards of Practice Committee of the SAGES (American Society for Gastrointestinal Endoscopy) published certain guidelines for the management of ingested FB initially in 1995 and updated it in 2002 which has avoided most of the doubts in the management .The emergency management starts with assessment and protecting the airway from aspiration risks. Most ingested FBs are best managed by flexible endoscopy .Rigid esophagoscopy is done only in proximal FBs impacted at the level of the upper esophageal sphincter or hypopharynx. Rigid endoscopy needs general anaesthesia, while flexible endoscopy can be done under conscious sedation itself. Various retrieval devices like rat tooth forceps, alligator forceps, polypectomysnares, Dormia baskets, retrieval nets, magneticprobesand friction-fit adaptors are in use[24-28]. The timing of endoscopy has been recommended as follows ,taking into consideration the risks like aspiration, obstruction or perforation .Obviously the timing may be changed according to the other variables of each case.

Table 1:

Emergent endoscopy	Urgent Endoscopy	Nonurgent Endoscopy
Esophageal impaction with complete obstruction	Esophageal food impaction without complete obstruction Blunt esophageal FB	Asymptomatic esophageal coins upto 12-24hours
Esophageal Disk batteries	Stomach or Duodenal sharp objects Objects >6cm or at or above the proximal duodenum	Gastric FB larger than 2.5cm
Esophageal Sharp objects	Magnets within endoscopic reach.	Asymptomatic Gastric Disc batteries and cylindrical batteries upto 48 hours

CONCLUSION

Although certain dependable guidelines have been developed, they need not be adhered to very strictly and management decisions should be taken only after considering the entire clinical scenario and the facilities available.

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