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Case Report

Foreign Body Ingestion in an Adult not Associated with Mental Disorder: An Unusual Clinical Case Report

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Abstract: Gastrointestinal tract divide into mouth, pharynx, esophagus, stomach, and intestines. The intestine is divided into the small intestine and the large intestine. The small intestine extends from the pylorus to the ileocecal junction. The large intestine is about 1.5 m long and extends from the cecum in the right iliac fossa to the anus in the perineum. The frequent locations of impaction of sharp foreign body are duodenal loop, duodenojejunal flexure (Angle of Treitz), appendix vermiform and terminal ileum. Esophagus is a muscular and mucosal tubular organ with 4 physiological narrowing's that are preferred sites for the retention of foreign bodies accidentally or deliberately ingested. The latter form is frequent in people with mental disorders and prisoners. The aim of this case report is to draw the attention of the medical profession (ENT, Surgeon, Gastroenterologist, physician, etc.) that not all foreign bodies in adults have suicidal intent or are linked to people with mental disorders or prisoners. This case describes an incident in which a young man deliberately swallowed a key to hide evidence of theft. This is a unique case in the literature of deliberate ingestion in mentally healthy people and not part of the prison population. In the presence of intentionally and/or accidental foreign bodies ingested in adults, it is necessary to discard mental disorders or emotional or social factors. Due to the characteristics of the object and the presence of few symptoms, except hiccups, it was not necessary to subject the patient to any surgical intervention. Remember that some foreign bodies may be passing spontaneously in the family environment and without hospital intervention.

Keywords: Foreign body ingestion; Key ingestion; Gastrointestinal tract.

1. Introduction

Gastrointestinal tract divides into mouth, pharynx, esophagus, stomach, and intestines. Esophagus is the tubular part of the digestive tract that joins the pharynx to the stomach, crossing three regions in its path: neck, chest, and abdomen, passing through the diaphragm muscle through a hole, the esophageal hiatus. The stomach is the widest and most distensible part of the digestive tract, located between the esophagus and duodenum [1]. The intestine is divided into the small intestine and the large intestine. The small intestine extends from the pylorus to the ileocecal junction. The large intestine extends from the cecum in the right iliac fossa to the anus in the perineum and is divided into four parts: Cecum and appendix vermiform, Colon, Rectum, and Anal canal [1]. The frequent locations of impaction of sharp foreign body happen at acute angles or intestinal narrowing:

duodenal loop, duodenojejunal flexure (angle of Treitz), appendix vermiform, and terminal ileum [2].

Accidental foreign-body ingestion is a common event observed in children. In adults, ingestion can be mainly accidental while performing work around the house, putting objects in the mouth (pins or sewing needles), jamming a large bolus, or by the presence of a disease that prevents normal progression of bolus through the oesophagus (tumor or stricture causing a spasm), but there are also cases of voluntary and premeditated ingestion in individuals with mental disorders and prisoners [3].

The aim of this case report is to draw the attention of the medical profession that not all foreign bodies in adults have suicidal intent or are linked to people with mental disorders.

2. Case Report

A 34-year-old man, warehouse manager, was observed at the emergency department with severe abdominal pain and hiccups after key ingestion 2 hours before admission. The patient denied any mental disorder. The physical examination was normal, and the mental evaluation was normal without any mental disorder signals or symptoms. None of the following complication signals or symptoms were found: cervical-thoracic emphysema, dyspnea, dysphonia, trismus, sialorrhea, fever, and dehydration. The patient lied in bed in an anti-pain position. A simple abdominal X-ray revealed the presence of a foreign body (a key) in the intestines.

When asked how he swallowed the key, the patient said that he did it to hide robbery evidence at the workplace when he was suddenly surprised. The patient was admitted for observation and pain control and was discharged after pain and hiccups ended, with a recommendation to check the stool during the following days to identify the foreign body and return to the hospital if any complications appeared. The patient expelled the foreign body naturally, without any medical intervention. No complications were observed.

Figure 1. X-ray of the abdomen showing the gate key in the gut. Nasofibroscopy showed the presence of a cage device adhered to the posterior wall of the hypopharynx and advancing over the supraglottic region, causing partial larynx obstruction, making it impossible to visualize the vocal folds (a = posterior wall of the hypopharynx, b = epiglottis, c = laryngeal inlet, * = cage device).

3. Discussion and conclusion

Foreign bodies are a public health problem, related to a large volume of ENT doctors' activities. They represent the leading cause of care in ENT emergency services, although large foreign body ingestion is rare. The worldwide literature is full of articles related to small accidental foreign body ingestion, especially in children, such as coins, toys, fish bones, and bones. In adults, foreign body ingestion can be accidental and/or deliberate in patients with mental disorders, alcohol intoxication, prisoners, or drug and substance abuse disorders [4]. The present case report shows a unique feature of intentional foreign body ingestion to hide theft evidence. We did not find any similar cases described in the reviewed articles. Initially, the intense abdominal pain was due to the foreign body presence and its passage through the cardia, while the hiccups resulted from phrenic nerve irritation.

The hiccup is a reflex resulting from a sudden spasmodic contraction of the diaphragm muscle, causing tremors of the inspiratory muscles of the thorax and abdomen, followed by sudden closure of the glottis, which generates a characteristic noise as the air is violently expelled from the lungs. The phrenic nerve participates in the hiccup reflex [5]. The phrenic nerve is a mixed nerve that originates from the 4th cervical nerve with contributions from the 3rd and 5th cervical nerves, carrying the only motor supply to the diaphragm and sensory fibers from the diaphragm, pleura, pericardium, and part of the peritoneum. Therapeutic phrenic nerve block is performed to stop an intense bout of hiccups [6].

Between 80% and 90% of esophageal foreign bodies pass spontaneously to the stomach without any medical involvement [7, 8], meaning that only 10–20% of patients require endoscopic intervention, and only 1% require open surgical extraction [8]. In the suspicion of a foreign body in the digestive tract, the doctor must carry out radiological studies to confirm the suspicion, perform a detailed anamnesis, and choose the appropriate treatment [9]. Complications are directly associated with the type of object and the site of impaction inside the gastrointestinal tract [2].

Foreign bodies that pass through the esophagus are usually asymptomatic unless perforation or obstruction occurs. Perforation of the gastrointestinal tract leads to peritonitis and manifests as abdominal pain, guarding, and rebound tenderness, while intestinal obstruction causes abdominal pain, distention, and/or vomiting [10]. Most foreign bodies that pass into the small bowel usually continue through the rest of the gastrointestinal tract without complications [10].

Choosing the best therapeutic option depends on the shape, location, and nature of the foreign body, symptoms and signs, and patient stability. Depending on these factors, observation, endoscopic removal, or rarely surgery may be chosen. The presence of a sharp foreign object lodged in the gastrointestinal tract for several weeks should be considered a serious condition and eligible for intervention, even in the absence of warning symptoms [9, 10].

The American Society of Gastrointestinal Endoscopy (ASGE) has divided the removal of foreign bodies into three categories: emergent, urgent, and nonurgent endoscopic removal [11]. This guideline is important but refers only to esophageal and stomach objects. Once a foreign body ingestion is diagnosed, the next step is to decide whether to remove the object or manage it conservatively. Some foreign bodies lodged in the intestines can be managed expectantly with observation, while other objects considered high risk (button batteries, magnets, sharp objects, bones, pins, razors, needles, and water beads) may require urgent or emergency removal [12].

Surgical management is usually reserved for patients presenting to the emergency department with bowel obstruction, abscess formation, or bowel perforation secondary to foreign body ingestion. These patients have traditionally required open surgery as a first choice, but currently, laparoscopic procedures are the most used, safest, and cost-effective [13]. In the present report, despite the foreign body being large, it had no sharp areas, minimal symptoms (hiccups), and no signs of complications. Therefore, a watchful

approach was chosen, with radiological monitoring and observation of the key's passage through the feces.

In cases of intentional and/or accidental foreign body ingestion in adults, it is necessary to rule out mental disorders or emotional or social factors. Some foreign bodies may pass spontaneously in the family environment without hospital intervention. As the clinical presentation of patients with intestinal foreign bodies varies widely—from nonspecific vomiting to severe complications like acute intestinal obstruction, fistula formation, intestinal necrosis or perforation, and life-threatening peritonitis, physicians must maintain a high level of clinical suspicion for ingested foreign bodies [12].

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