CLINICAL VIGNETTE

Endoscopic Management of Foreign Body Ingestion in Adult Psychiatric Patients

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Case Report

A 31-year-old male with bipolar disorder and methamphetamine abuse presented to the emergency department after ingestion of the metal nose piece of a surgical mask. The patient reported auditory hallucinations commanding him to swallow objects. He complained of abdominal pain and mild nausea and denied fevers, chest pain, hematochezia, or melena. Abdominal x-ray showed a linear metallic foreign object in the left abdomen. Review of records identified more than ten gastroenterology evaluations in the last two years for foreign body ingestions. He commonly swallowed the metal nose piece of surgical masks but also swallowed pencils, plastic utensils, and foil lids of snack cups. On examination, vital signs included blood pressure of 148/79 mm Hg and pulse of 80 beats per minute. He was afebrile with soft, nontender abdomen. Urgent endoscopy was scheduled for further evaluation.

General Discussion and Epidemiology

Foreign body ingestions are a commonly encountered by emergency room physicians and gastroenterologists. Most foreign body ingestions occur in adults with underlying psychiatric comorbidity, the elderly, patients with alcohol intoxication, and prisoners.[1] Ingested foreign bodies vary in material, shape, and length, which affects the management. The elapsed time since ingestion and anatomical location also affect the treatment approach.[2] About 80-90% of ingested foreign bodies pass through the gastrointestinal tract without causing harm. Because of risk of serious injury, treatments including endoscopy and/or surgical removal are frequently necessary.[3] Deliberate foreign body ingestion (DFBI) is defined as non-accidental ingestion of a true foreign body for parasuicidal reasons. DFBI presents challenges for healthcare providers and has a significant financial impact. These patients usually require a multidisciplinary approach. There is some data to support avoiding unnecessary endoscopic intervention may help prevent repeat foreign body ingestions in this population.[4] Although many case reports have been published, there is limited research on treatment for foreign body ingestion in patients with psychiatric disorders.[5]

Timing and Management

The need and timing for intervention depends on the ingested object and the patient's condition. Emergent endoscopy is recommended for patients that are unable to tolerate secretions and objects causing esophageal obstruction due to risk of aspiration and perforation. The American Society of Gastrointestinal Endoscopy (ASGE) recommends emergent endoscopy for ingested disk batteries and sharp pointed objects in the esophagus. Urgent endoscopy is recommended for sharp-pointed objects in the stomach or duodenum, objects >6 cm in length at or above the proximal duodenum, and any esophageal foreign objects.[6]

Removal of foreign objects with endoscopy has a very high success rate with minimal risk of complications. Several retrieval devices have been developed that assist with removal. Widely available accessories include polypectomy snares, strong toothed forceps, and retrieval nets. Commercial accessories developed for removal of foreign objects include protector hoods and overtubes.[7] Overtubes are rigid, sleeve-like devices with diameters larger than that of the endoscope. These are used to allow access to the GI tract, reducing aspiration risk and providing protection from mucosal injury during endoscopic procedures.[8]

Short blunt objects such as coins are best removed with retrieval nets. ASGE guidelines recommend removal of objects wider than 2.5 cm as they may be less likely to pass the pylorus. Objects longer than 6 cm should also be removed, as they will have difficulty passing through the system. Snare or baskets with an overtube are suggested.

DFBI commonly involve sharp objects. Sharp objects lodged in the esophagus is a medical emergency.[9] Sharp objects in the stomach have complication risk, up to 35%, mainly perforations, leading to peritonitis or mediastinitis.[10] Therefore endoscopic retrieval is recommended. Retrieval options include use of an overtube, a protective hood, use of forceps or snare and orienting the object parallel to the device, or a transparent distal cap.[5,11]

Clinical Course and Follow Up

Urgent endoscopy was performed and no foreign object was found in the esophagus, stomach, or proximal duodenum. Cross sectional imaging localized the 5 cm linear object to either the right colon or distal small bowel. While waiting for the object to pass, despite having a 1:1 sitter, the patient swallowed a plastic utensil. Given the length of the object, repeat endoscopy was performed. On Day 3 given concern for the metal part of the mask being stuck at the ileocecal valve, colonoscopy was

performed after bowel preparation. The metal object appeared to be stuck 10 cm into the terminal ileum and biopsy forceps were used to pull the metal object through the ileocecal valve and ultimately through the anus.

Conclusion

Deliberate foreign body ingestion is a global issue that affects hospital finances and staff morale. It most often occurs in a patient population that is difficult to treat for both gastroenterology and psychiatry. The need and timing of intervention by gastroenterology is based on the object swallowed and the patient's clinical course. Only 10-20% of patients required endoscopic intervention and less than 1% required surgical intervention.[2] Future work is needed to identify successful strategies in these patients.

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