Foreign Body Retained in the Esophagus for More Than a Decade: Thoracic Esophagotomy for Retrieval

Olusola Oduntan, MD, James Bardes, MD, Karthik Penumesta, MD, and Swati Pawa, MD
Department of Surgery, Division of Thoracic Surgery, Department of Surgery, Department of Medicine, Digestive Diseases Division, West Virginia University, Morgantown, West Virginia

A foreign body (FB) lodged in the esophagus is not uncommon. Although endoscopic removal is successful in the majority of cases, it could prove to be difficult in those whose foreign bodies are large or have been incarcerated for a long time.

We describe the case of a 23-year-old woman who had a FB in her esophagus for at least 13 years. She became symptomatic 2 years before presentation, but presented for treatment when dysphagia to both solids and liquids developed. Endoscopic retrieval of the incarcerated FB was unsuccessful, and she eventually required thoracotomy and esophagotomy for its extraction.

Materials that can lodge in the esophagus include food boluses and true foreign bodies. The latter include coins, toys, buttons, batteries, toothpicks, narcotic packets, and other inorganic materials.

The act of repetitive ingestion of nonnutritive substances is a component of the disorder known as “pica.” This is considered to be the case if the act persists for more than 1 month at an age at which eating such objects is considered developmentally inappropriate [1].

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Address correspondence to Dr Oduntan, PO Box 957, Morgantown, WV 26507; e-mail: solaodunt@aol.com.

Fig 1. (A) Endoscopic view of foreign body (FB) in esophagus. (B) Chest computed tomographic (CT) scan showing FB in the esophagus.
the wall of the esophagus. A biopsy procedure was attempted, with the yield consisting of fragments of plastic, but no vegetable matter was identified. The abdomen was closed and patient was returned to the intensive care unit.

The operative findings were disclosed to her and the family. At this point, she recalled her habit of chewing and swallowing items made of plastic from 6 years through 10 years of age. The most notable item she chewed was electrical duct tape. Her mother confirmed this.

The next day, she underwent a right thoracotomy through the eighth intercostal space. The distal esophagus, at the location of the FB, was mobilized and retracted with a Penrose drain. A longitudinal 7-cm esophagotomy was made and the FB was carefully removed (Fig 2). The mucosa of the esophagus was evaluated, and absence of pressure necrosis was confirmed before repairing the esophagotomy in 2 layers, followed by buttressing using an already harvested intercostal muscle (Fig 3).

The postoperative course was marked by ileus, which was managed with parenteral nutrition and withholding enteral intake. Escherichia coli wound infection was managed with antibiotics and local wound care. Contrast esophagography on postoperative day 7 showed no evidence of extravasation from the esophagus, with prompt emptying of contrast into the stomach (Fig 4A). Her nasogastric tube was removed and oral intake of liquids was commenced. This was gradually advanced to a soft diet, and she was discharged on this diet on postoperative day 12.

She was seen at the thoracic surgery clinic and was noted to be doing well. Her wounds had healed and she was tolerating a regular diet, with no dysphagia or regurgitation of food.

Contrast esophagography was repeated at 3 months after her esophagotomy. This showed a normal-caliber esophagus, with prompt emptying of contrast into the stomach and absence of narrowing at the site of the esophagotomy repair (Fig 4B). She remains alive and well and continues to be followed as an outpatient.

Comment

Flexible esophagoscopy constitutes the usual method of intervention for retrieval of esophageal FBs. Preliminary contrast studies are not obtained in many cases to prevent the risks of aspiration and chemical pneumonitis [3].

Rigid esophagoscopy is equally safe in the hands of an experienced surgeon or endoscopist. The wide lumen of the instrument allows for manipulating and extracting most FBs through the channel without withdrawing the instrument [4, 5].

Surgical intervention is considered inevitable when extraction of the FB is either dangerous or impossible to accomplish by the endoscopist or when perforation or aortoesophageal fistula is present [6, 7]. The decision to perform a laparotomy was made because the FB was originally believed to be impacted food material, and evidence of esophageal perforation was not demonstrated on the CT scan of the chest. We therefore aimed to avoid the morbidities of a thoracotomy. Two of the authors (OO and SP) have had previous (unpublished) experience with manual disimpaction and fragmentation of lodged food materials, thereby facilitating easier endoscopic retrieval.
in cases in which rigid esophagoscopy could not be performed. Rigid esophagoscopy was not attempted in this patient because of the size of the FB (Fig 1A).

Esophagotomy for incarcerated FBs may be complicated by leakage at the suture line [8]. Unrecognized esophageal mucosal injury and pressure necrosis may be responsible for suture-line dehiscence. Well-established principles of esophageal perforation repair should be followed after removal of the impacted FB. Nonviable mucosa should be debrided, and the esophagotomy carefully closed in layers. Buttressing with vascularized tissue flaps should be considered, and adequate drainage of the mediastinum should be provided.

Nutrition should be administered by the enteral route if a jejunostomy is present. Otherwise, total parenteral nutrition should be used in the postoperative days before obtaining a contrast esophagogram. Oral feedings are then resumed and are generally tolerated provided that normal bowel function has returned and there was no underlying disease of the esophagus before the FB impaction.

A MEDLINE search did not return similar case reports of FBs retained in the esophagus for more than a decade.

References