

Laparoscopic Removal of a Swallowed Dinner Fork from the Stomach: A Minimally-Invasive Management for Swallowed Gastrointestinal Foreign Bodies

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Abstract

Swallowed foreign bodies are common problems in emergency departments. Up to 90% of the foreign bodies pass spontaneously and 10 to 20% require an endoscopic removal [1]. Surgical intervention is indicated when large or sharp foreign bodies are involved because of the potential risk of perforation and obstruction. The surgical intervention may be laparotomy or laparoscopy. Advantages of laparoscopic surgery are well known and have to be preferred when endoscopy is unsuccessful or dangerous. We report on a case in which an unintentional ingested metal dinner fork was removed from the stomach by laparoscopic surgery.

MeSH Words: Foreign Body; Gastrointestinal Tract; Laparoscopy

Case Report

A 33-year old woman arrived to the Emergency Medicine Department after accidentally swallowing a metal dinner fork. The patient said that a winged bug jumped into her mouth as she was cleaning her home. She tried to scoop the bug out with a fork and involuntarily swallowed the fork as well.

Her past medical, psychiatric and surgical histories were unremarkable. She reported only mild epigastric discomfort. Her vital signs were normal and her physical examination was negative apart from mild discomfort on deep palpation.

An abdominal X-ray showed a dinner fork in the region of the stomach (Fig. 1).



Fig. 1 X-Ray Showing fork lodged in stomach.

Blood and coagulation studies were normal.

An urgent endoscopic study was arranged. The endoscopist failed to align the fork in the axis of the lumen and the prongs remained towards the cardio-esophageal junction. A surgical approach was agreed upon. Laparoscopy was performed and the fork removed by gastrotomy. The patient was fed after 48 hours and discharged after 4 days. The postoperative period was normal. She was seen at the clinic for follow up with no further problems.

Discussion

The ingestion of foreign bodies can be innocuous or life-threatening. About 1500 people die each year in the United States after swallowing foreign bodies [1]. The management is based on collected experience and not in controlled clinical trials.

The pediatric age group accounts for approximately 80% of all cases. In adults, the swallowing of foreign bodies occurs especially in those who are edentulous, have a psychiatric history or mental retardation, and among prison inmates.

A correlation exists between age groups and types of ingested material. Children often ingest

coins, toys, crayons and ballpoint pen caps; adults tend to have problems with bones and meat. The Standards of Practice Committee of the American Society for Gastrointestinal Endoscopy published the Guideline for the management of ingested foreign bodies [2]. After foreign body ingestion is diagnosed, the management is influenced by the age and clinical condition; the size, shape and type of ingested material; the anatomic location and the technical abilities of the endoscopist [2].

Urgent endoscopic intervention is indicated-even in the asymptomatic patient - when a pointed or sharp objects or a disk battery is lodged in the esophagus, or when it produces a high grade obstruction and there is a problem with managing the secretions. A foreign body can not be allowed to remain in the esophagus beyond 24 hours even if asymptomatic [2] because of the danger of transmural erosion and risk of perforation. In stable patients without evidence of obstruction, spontaneous passage may occur. Coins in the stomach may be observed for 2-4 weeks and gastric batteries for 48 hours unless symptomatic [2].

The majority (up to 90%) of ingested foreign bodies will pass spontaneously and 10 to 20% require an endoscopic removal. Objects longer than 6 cm or wider than 2 cm are unlikely to traverse the pylorus and or the duodenal C-loop and ileocecal valve and should be removed endoscopically [2]. The risk of perforation is about 1% and must be handled with surgery. Sharp and pointed objects, however, are reported to perforate the gastrointestinal tract (usually in the area of the ileocecal valve) in 15 to 35% of cases and must be removed actively to avoid this complication [3].

The removal of long and sharp objects from the stomach by endoscopy may be difficult and dangerous. The endoscopist must present the blunt end as the leading end, orient the long axis of the object in the line of removal and avoid losing grip while applying traction to remove it. The endoscopic removal requires skilled endoscopists and the availability of accessories. Endoscopic failure is not uncommon, being as high as 48% in some series. The complication rate of endoscopic extraction may be as high as 6% [4]. Patients are referred for surgical extraction when endoscopic retrieval failed or when the object is large or sharp. The surgical

intervention may be laparotomy or laparoscopy. The laparoscopic approach is less invasive, has less postoperative pain, better cosmetic results and a faster return to normal activities [5]. Hospital stay and costs are also reduced. In the reported case, the metal fork was removed laparoscopically. The postoperative course was uneventful and the recovery fast.

Laparoscopic approach has to be considered the first priority when the foreign body does not pass and endoscopy is dangerous or unsuccessful.

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