Clinical Surgery Journal

Clinical Review | Vol 5 Iss 2

Interesting Case of FB Esophagus and Review of Principles of Management of Foreign Bodies in Upper GI Tract

S Easwaramoorthy* and E Aravindaraghavan

Department of Accident & Emergency, Lotus hospital and Research Centre, Erode, Tamilnadu, India

Correspondence should be addressed to Sundaram Easwaramoorthy, Department of Accident & Emergency, Lotus hospital and Research Centre, Erode, Tamilnadu, India

Received: February 17, 2022; Accepted: February 28, 2022; Published: March 07, 2022

CASE SUMMARY

10-years boy presented with acute dysphagia and drooling of saliva to emergency department. X ray Neck AP and Lateral view and Chest were done which showed presence of Button battery in the upper esophagus. After clinical evaluation and resuscitation, informed consent was obtained for endoscopic removal of the foreign body under general anesthesia by the on-call general surgeon. Flexible endoscopy (Olympus CV 170) was done which showed severe esophagitis with button battery in the upper esophagus which was carefully removed using the Roth net having the fish net configuration. Post operative recovery was swift and the child was discharged same day after 4 hours of observation.

INTRODUCTION

Foreign body ingestion and food bolus impaction occur commonly. Though majority of ingested foreign bodies would pass spontaneously, at times it could present as a surgical emergency with acute dysphagia and odynophagia. Impaction, obstruction with risk of aspiration and rarely even perforation could occur due to ingested FB. Hence swift and expert management is paramount in these challenging situations.

Common Types of Ingested FB

Accidental ingestion

(Children, mentally challenged adults)

- Coin, Pin, small toys,
- Button batteries
- Food bolus
- Denture

Intentional ingestion

- Razor blades, nails (Prisoners)
- Heroin packs (Smugglers)

Citation: Sundaram Easwaramoorthy, Interesting Case of FB Esophagus and Review of Principles of Management of Foreign Bodies in Upper GI Tract. Clin Surg J 5(2): 44-48.

Approach to Case of Suspected FB Ingestion

- ***Take a good history***
  - Dysphagia, odynophagia, droolling of saliva and pain in the neck or chest
- ***Clinical examination***
  - Vital signs
  - Oral cavity, airway and examination of chest & abdomen
  - Look for crepitus over neck and chest
- ***Do X-ray of neck and chest and upper abdomen (AP/Lateral)***
  - Beware of radiolucent FB
    - Fish and chicken bone, wooden, glass and plastic objects
  - Coin will be seen as round shadow in the AP view if it is in the esophagus
  - Look for signs of perforation: Mediastinal and free peritoneal air
  - CT abdomen may be useful if sharp FB with esophageal impaction or penetration is suspected
  - Barium swallow is not indicated in cases of FB ingestion
- ***Diagnostic endoscopy***
  - Locate the nature of FB and note its level in esophagus.
  - Look for any local mucosal impaction and ulceration or even penetration.
  - FB with sharp edges or metal projection needs careful assessment and removal.
  - You may notice severe chemical esophagitis in case of button batteries left out for long duration. Hence this situation merits urgent endoscopy under short GA
- ***Timing of endoscopy***
  - Immediate endoscopy
    - Button battery in esophagus
    - Sharp object in esophagus
  - Urgent endoscopy (within 6 hours)
    - All FB in the esophagus
    - Long FB (>6 cm) or sharp FB in stomach
    - Magnets within endoscopic reach
  - Non urgent endoscopy (within 24 hours)
    - Objects in the stomach more than 2.5 cm diameter
    - Button batteries in stomach for >2 days

ENDOSCOPIC REMOVAL OF FB

Types of Foreign Body Removal Accessories

Name of Accessory	**:**	**Specifically Useful for**
Rat toothed forceps	:	Universal use
Dormia basket	:	Food bolus

2 and 3 Prong forceps	:	Coins and pins
Roth net basket	:	Rounded objects like ear stud, diamond rings or even coins in stomach
Snare	:	Denture
Magnet forceps	:	For some metallic objects in difficult location
Over tube/hood	:	For sharp objects

GENERAL PRACTICE GUIDELINES

- FB esophagus needs immediate attention and removal within 24 hours to avoid risk of perforation and aspiration. If the FB is already in stomach and beyond one may choose to observe for spontaneous expulsion in the next 2 days - 5 days.
- Button battery, denture with sharp wire, impacted fish or chicken bones are problem cases and need immediate attention by experts.
- Long or large FB stuck in the stomach or duodenum for more than 1 week may warrant intervention occasionally
- Perform x- ray neck, chest and abdomen to look for the site and nature of FB. 'Coin seen as coin' in the x ray neck AP view and as small ridge in the lateral view behind the tracheal air shadow confirms its position in the esophagus, usually either at or just below cricopharynx.
- In adults, removal can be accomplished under xylocaine spray or conscious sedation but in child it invariably requires presence of anaesthetist and GA, as airway control is vital.
- Keep all different FB removal gadgets ready and if possible, do a ' Dry run'. Practice with similar type of FB like coin, battery or pins kept outside and try to catch with various types of accessories to decide which one is most suitable for the given occasion. 'Dry run' gives us confidence and ensures success.
- Instruct the assistant exactly how to use appropriate accessories
- Do diagnostic endoscopy and note the following
    - The site and nature of FB
    - Any impaction or penetration
    - Any injurious sharp ends trailing or pointing up
    - Presence of food debris
    - Any associated distal stricture
- Use the appropriate FB forceps to catch hold of the FB. Gently remove the scope with the accessory as one unit keeping the FB under vision during the whole process of extraction. Take a pause at cricopharynx to ensure it relaxes to let the FB out!
- In case of a Sharp FB, take care to keep the sharp end trailing or else you may have to use a hood at the distal end of scope or even an over tube

- FB in the stomach may be lying in the puddle of fluid in the fundus and difficult to see or grasp. You may choose a magnet forceps to grasp the coin and dock it again in the antral region prior to grasping with a 2 prong coin forceps. Or else shift the patient to semi recumbent position and try.
- Like the surgery for cases of appendix, it may be the easiest FB to remove and some other day it could turn out to be most challenging frustrating task.
- Be innovative and use all your knowledge and experience and common sense!
- Check endoscopy after the removal of FB may be preferable to look for any damage at the site of FB or presence of any distal stricture

PRACTICE TIPS FOR CHALLENGING FOREIGN BODIES

1) Food Bolus Obstruction

- Common in elderly and edentulous patients.
- Chunk of meat, vegetable parts, chicken bone, fish bone are often the culprit.
- Look for any local impaction or penetration of esophagus by sharp objects.
- Eosinophilic esophagitis and underlying malignancy have to be considered.
- Radiological imaging may be needed including CT neck and chest in selected cases if impaction or perforation is suspected.
- Injection Glucagon is seldom used and rather expensive.
- Keep all different FB removal accessories ready during the procedure.
- Often the food bolus can be gently pushed into stomach.
- Associated peptic stricture or Schatzki's ring would warrant dilatation.
- One's experience, expertise, common sense and luck would determine the outcome.

2) Disk/button Batteries

- Button batteries are usually from toys, watches, calculators & hearing aids.
- Common in children <6 years.
- Disk battery in esophagus needs urgent removal to prevent severe chemical esophagitis with risk of perforation.
- Use of Roth net or Dormia basket is recommended.
- We need to consider endotracheal intubation and overtube for safe retrieval of FB.

3) Sharp Objects

- Fish bone, Denture with metal hooks, tooth picks and sharp pins and razor blades.
- Risk of impaction and perforation are real.
- CT neck and chest would assist in detailed evaluation.
- Rat toothed forceps, Polypectomy snare or Roth net can be used.
- Ensure sharp end is trailing during removal to avoid esophageal injury.
- Consider overtube or placing a rubber hood at endoscope tip for safe removal FB.
- Check endoscopy is usually recommended immediately after FB removal to assess any mucosal damage or perforation.
- In case of suspected perforation consider CT neck and chest and keep the patient nil oral.

4) Magnets

- Multiple magnets or magnet with metal object ingestion could risk necrosis and perforation of trapped bowel wall. Hence early removal of magnet is advisable.

5) Narcotic Packets

- Usually wrapped in plastic, latex condom or balloon and taken orally by smugglers.
- Accidental rupture and leakage of content could be lethal and hence endoscopic removal is not advisable.
- Surgery may be needed if patient shows signs of impaction or bowel obstruction.

CONCLUSION

Foreign body GI tract can be safely and efficiently managed by following above guidelines. More than 80% of FB passes out spontaneously and endoscopic removal is indicated only in 10%-20 % of cases. Surgery is rarely indicated. Our experience, expertise, common sense and luck would determine the nature of outcome!