
بسم الله الرحمن الرحیم

Foreign Body Ingestion

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Introduction

- FB ingestion is a quite common event in childhood, with the highest peak incidence between 6 months and 3 years of life.
- As opposed to adults, 98% of foreign body ingestions (FBIs) in children are accidental and involve common objects found in the home environment, such as coins, toys, jewelry, magnets, and batteries.
- Male= Female

- Children may present with overt symptoms, including, but not limited to,

stridor,

pain,

drooling,

fussiness,

chest pain,

abdominal pain,

fever,

feeding refusal,

wheezing, and

respiratory distress

- Conversely, they may be completely asymptomatic but brought in after ingestion witnessed by a caretaker.

- Among pediatric patients, approximately 80% eliminate the FB naturally over a week; 20% require an endoscopic removal; 1% undergoes surgery for removal itself or for the presence of complications

- Determining the indications and timing for intervention requires assessment of patient size, type of object ingested, location, clinical symptoms, time since ingestion, and myriad other factors.

- If an object is in the esophagus, removal is considered mandatory.
- The airway should be protected with an endotracheal tube during removal.
- Depending on the position of the object and the nil per os (NPO) status of the patient, removal by anesthesia with McGill forceps or by ENT with a rigid scope may be alternatives to endoscopic removal.

FBIs will be categorized into the following major groups:

- button batteries (BBs),
- magnets,
- sharp/pointed objects,
- food impaction,
- coins/blunt objects, and
- Drug body packing

BOX 18-1 *Indications for Urgent Foreign Body Removal*

- Signs of respiratory distress
- Signs of esophageal obstruction such as inability to manage secretions
- Button battery in the esophagus
- Sharp objects
- Objects ≥5 cm in length and/or ≥2 cm in width
- Multiple high-powered magnets
- Signs of intestinal obstruction, such as fever, abdominal pain, or vomiting
- Foreign body has been impacted in the esophagus for more than 24 hours or for an unknown period of time

- Radiologic examination is routinely performed to determine the type, number, and location of the suspected objects.
- Conservative management is indicated for most foreign bodies that have passed through the esophagus and entered the stomach.
- While waiting for the object to pass, parents are instructed to continue a regular diet and to observe the stools for the appearance of the ingested object.
- Cathartics should be avoided.

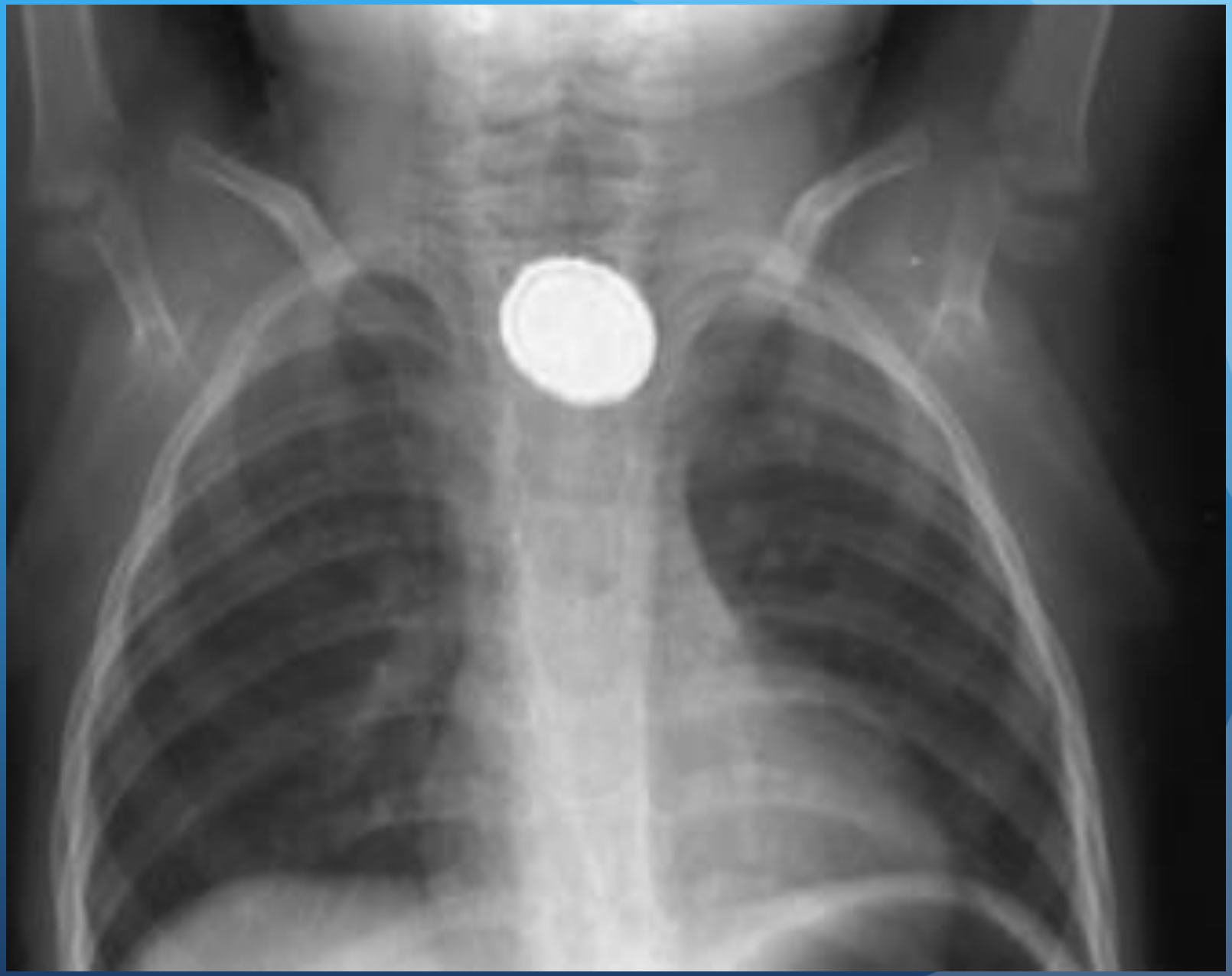
- Parents or patients should be instructed to report abdominal pain, vomiting, persistent fever, and hematemesis or melena immediately to their physicians.

- Failure of the object to progress within 3-4 wk seldom implies an impeding perforation but may be associated with a congenital malformation or acquired bowel abnormality

Major groups Of Foreign Bodies

BUTTON BATTERY INGESTIONS

- Esophageal BBs have emerged as the most critical indication for emergent endoscopy in children.
- Cases of BB ingestion may be difficult to distinguish from the more common coin ingestions.
- Plain radiographs of the chest and abdomen should be examined carefully for the double halo sign on anteroposterior views which help distinguish the offset poles of a BB from regular coins.



- Cylindrical batteries in
- Esophagus: Should be removed endoscopically
- Stomach: Batteries in stomach that remain for 48 hours or more should be removed endoscopically

MAGNET INGESTIONS

- The number of magnets is thought to be critical.
- If a single magnet is ingested, there is the least likelihood of complications.
- If 2 or more magnets are ingested, the magnetic poles are attracted to each other and create the risk of obstruction, fistula development, and perforation.
- Endoscopic retrieval is emergent after films are taken when multiple magnets are ingested.

- Abdominal pain or peritoneal signs require urgent surgical intervention.
- If all magnets are located in the stomach, immediate endoscopic removal is indicated.
- If the ingestion occurred greater than 12 hr prior to evaluation, General Surgery should be consulted.
- If the magnets are beyond the stomach and the patient is symptomatic, General Surgery should be consulted.
- If the patient is asymptomatic, endoscopic or colonoscopic removal may be considered along with a surgical evaluation.

POINTED OBJECTS (PINS, TOOTHPICKS)

- A sharp object in the esophagus is a medical emergency because of the high risk of perforation and migration.
- It should be removed even if the patient has not been appropriately fasted.
- If the patient exhibits signs of respiratory compromise, neck swelling, crepitus, or peritonitis, a surgical consultation is mandatory and the patient should be transferred to a facility with appropriate expertise.

ESOPHAGEAL FOOD IMPACTION

- EFIs should be managed endoscopically when spontaneous clearance has not occurred.
- If the patient is acutely symptomatic or showing signs of near-complete obstruction of the esophagus (eg, drooling, neck pain), endoscopy should be performed emergently to relieve the obstruction.
- If patients are able to tolerate their secretions, endoscopic removal may be delayed up to 24 hours.
- At the time of endoscopic removal, biopsies should be obtained from the proximal and distal esophagus to assess for underlying pathology

COINS AND OTHER BLUNT OBJECTS

- Factors that influence the likelihood of spontaneous passage include position in the esophagus, age of the child, and coin size.
- Initial management of witnessed or suspected coin ingestions should begin with a foreign body series of radiographs to identify the presence and location of any coins.
- double halo sign of a BB
- In addition, lateral films are extremely helpful and will discriminate it from a coin.

- Esophageal coins should be removed within 24 hours on ingestion to reduce the risk of significant esophageal injury or erosion into neighboring structures.

- As with other esophageal impactions, if the patient is acutely symptomatic, unable to manage secretions, or with respiratory or other concerning symptoms, emergent removal is indicated
- Otherwise, removal can be delayed up to 12 to 24 hours.

- If the timing of coin ingestion is unknown or otherwise suspected to have been prolonged (>24 hours), urgent endoscopic removal in the operating room with involvement of the local surgery team should be considered.

- Gastric coins can generally be managed expectantly, unless overt GI symptoms are noted.

- In asymptomatic patients, parents should be instructed to monitor the stools for passage of the coin and serial x-rays obtained every 1 to 2 weeks until clearance can be documented.

Other facilities for coin removal

- Data on the use of glucagon are equivocal at best and use of glucagon is not generally recommended.

- Use of a Foley catheter under fluoroscopic guidance

Drug body packing

- Drugs (aggregated iron pills, cocaine) may have to be surgically removed;
- Initial management can include oral polyethylene glycol lavage. Drug body packing (heroin, cocaine) is usually seen on kidneys- ureters-bladder or CT imaging and often pass without incident.
- Endoscopic procedures may rupture the material causing severe toxicity.
- Surgery is indicated if toxicity develops or if the packages fail to progress or if there are signs of obstruction.


Thanks for your attention
Any Question???