

GI Foreign Bodies

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A mother brings her 3 yo child in for a fall. On exam the child is well appearing, active, and based upon the history you consider significant trauma highly unlikely. The mother reports that even after the fall he continued to be his wild self. She jokes as she walks out the door, that just two days ago she caught him swallowing coins without any negative effects. Your response is to:

- a) Recommend she monitor his stools for coins
- b) Laugh in agreement, noting that most ingested foreign objects pass without concern and that no further evaluation is necessary
- c) Perform a barium swallow to rule out any adverse effects on esophageal motility
- d) Order a full series of AP and lateral radiographs of neck, chest and abdomen

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a) Recommend she monitor his stools for coins

Coins are relatively benign: They are not sharp, and tend to be less than 5cm/2cm so they are expected to be able to pass the pylorus and through the GI tract. Part of daily surveillance may be watching for passage in the stool. Unfortunately, any foreign body without progression for 24hrs can cause localized inflammation leading to transmural erosion, perforation or fistulae.

40% of foreign bodies are asymptomatic regardless of location.

Find the foreign body.

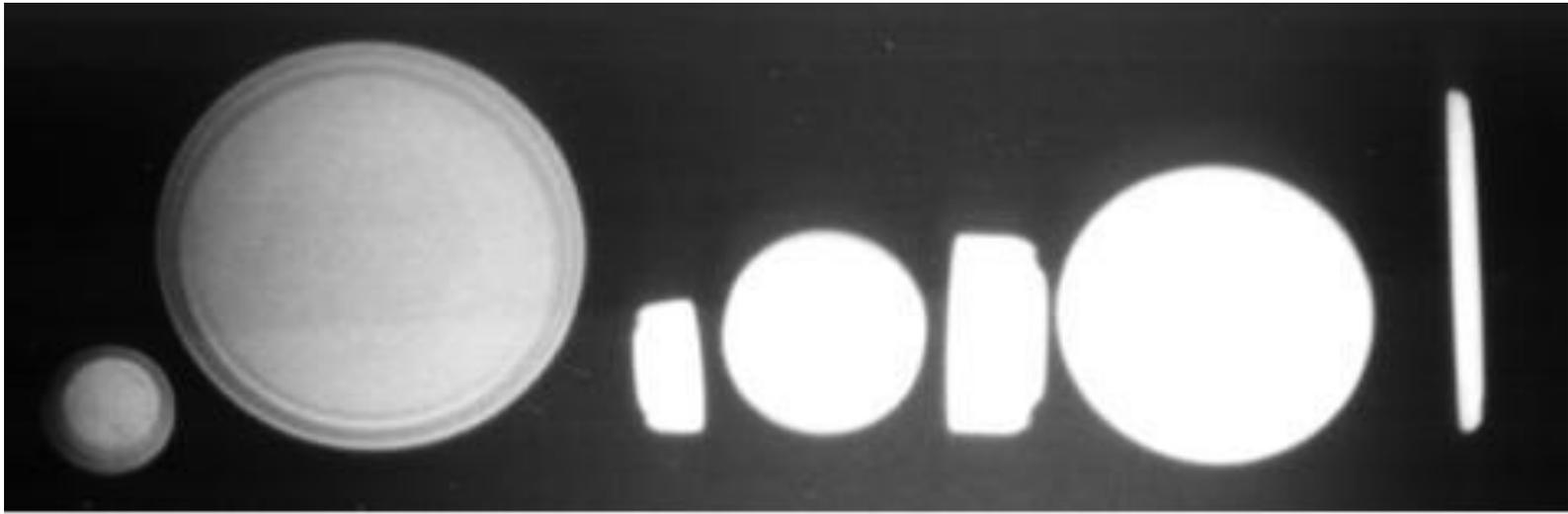


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b) Most foreign bodies are thought to pass through the digestive tract without complication, however as in a), it is our job to make certain this has happened and prevent complications.

In addition it is important to distinguish disk batteries from coins.





c) Perform a barium swallow to rule out any adverse effects on esophageal motility

Use of contrast (particularly barium) prior to endoscopy is discouraged in the assessment of foreign bodies because it may obscure visualization with endoscopy.

Contrast may also be aspirated if there is esophageal obstruction.

If unable to visualize objects using x-ray, endoscopy may be used.

MRI may be used for non-metallic radiolucent items.

d) Order a full series of AP and lateral radiographs of neck, chest and abdomen

After stabilizing ABC's

A full series of AP and lateral radiographs of neck, chest and abdomen should be performed if there is concern for retained foreign body to localize for removal or to monitor for passage.

For benign foreign bodies serial imaging is performed every week to make certain the FB is progressing through the digestive tract.

Weekly imaging may be performed for batteries past the stomach.

Sharp objects beyond the stomach warrant daily radiographs.

Multiple magnets beyond the stomach radiographs every 4-6hrs.

A mother presents to the ED noting that her 5 yo said he needed a “power up” and swallowed a battery three hours ago. She says it was a tiny watch battery. She thinks that because it is small it is less likely to cause problems than a full sized battery. Her main concern is that she has heard that batteries contain chemicals that might hurt him in the long run if they are absorbed in his intestines. His vitals and physical exam are completely normal. You perform a full series of AP and lateral radiographs of neck, chest and abdomen and note the battery is in the esophagus. You next:

- a) Reassure her that the battery is indeed small and watchful waiting is appropriate as it is unlikely to cause an obstruction and is unlikely to contain a significant amount of harmful chemicals
- b) Immediately order syrup of ipecac to induce vomiting as you wish to prevent the battery from reaching the intestines
- c) Use a catheter and fluoroscopy to immediately remove the battery
- d) Consult GI for endoscopic removal of the battery and make surgery aware in case further surgical intervention becomes necessary

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- d) **Consult GI for endoscopic removal of the battery and make surgery aware in case further surgical intervention becomes necessary**

a) Reassure her that the battery is indeed small and watchful waiting is appropriate as it is unlikely to cause an obstruction and is unlikely to contain a significant amount of harmful chemicals

Absorption injuries from heavy metals mercury or lithium are very rare. Mercury is thought to be converted to a less absorbable form through a reaction with the iron released from the battery casing.

Of greater concern:

Caustic injury to tissues may occur with release of battery sodium or potassium hydroxide contents.

Most injury is thought to occur as the battery discharges through the mucosa causing liquefaction and necrosis.

b) Immediately order syrup of ipecac to induce vomiting as you wish to prevent the battery from reaching the intestines

Induction of vomiting is not thought to be effective in projecting batteries out of the digestive tract and increases aspiration risk.

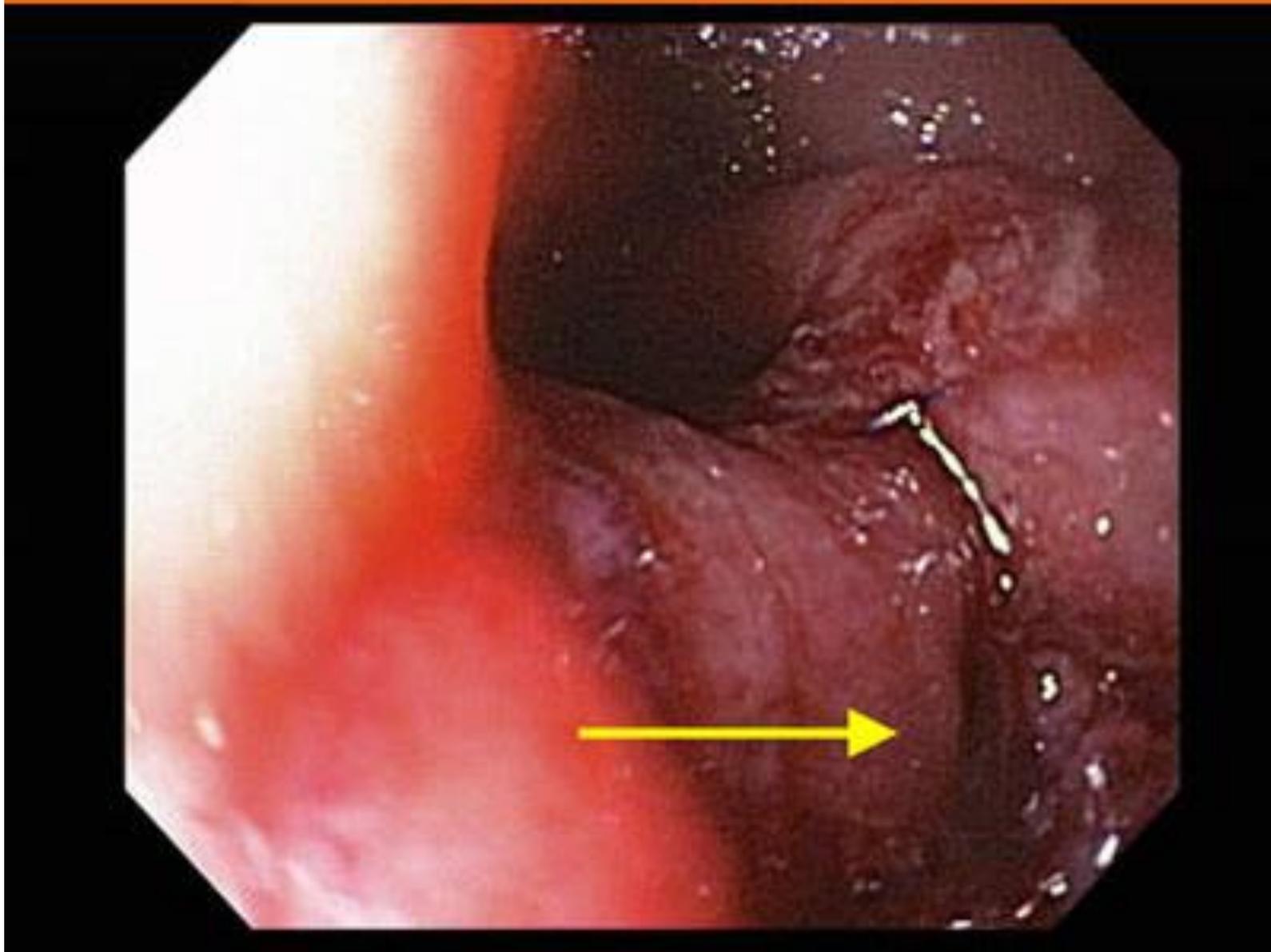
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Endoscopic removal of foreign bodies is preferred as it allows visualization of mucosal damage that may have occurred.

Bougienage

Foley Catheter

Are no longer considered desirable methods.



d) Consult GI for endoscopic removal of the battery and make surgery aware in case further surgical intervention becomes necessary

An In vitro study suggested that after 1hr necrosis may occur, 2hrs ulceration, and 8hrs perforation.

Visceral compromise may require endoscopic or surgical repair and may not be evident using other methods of foreign body removal.

Narrowest points in the GI tract:

the cricopharyngeus muscle in the proximal esophagus (where the cricoid ring impinges on the esophagus, most common area of retention), the aortic arch in midesophagus, and the lower esophageal sphincter

Main Idea: Find and identify the object

- Objects that seem mechanically dangerous, are – remove them
- Objects that cause significant symptoms - remove
- Damage is most likely to occur in the esophagus, for most objects, once past the pylorus the risks are small
- For magnets, really big things, or sharp things, once past the pylorus there is still some danger; if they get stuck or start causing problems surgery will probably be required to remove them
- The more time an object is in the patient the more likely it is to cause damage; Disk batteries and sharp objects can cause damage very quickly; IF a benign object is LODGED >24hrs or unknown duration REMOVE PROMPTLY
- Removing objects non-endoscopically overlooks damage to the esophagus

References

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