Weird GI: The approach to unusual findings in endoscopy

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Disclosures

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Weird?

1: of, relating to, or caused by witchcraft or the supernatural: magical

2: of strange or extraordinary character: odd, fantastic

• — weird·ly adverb
• — weird·ness noun

Objectives

1. List potential uncommon gastrointestinal luminal findings.

2. Identify equipment needs and patient preparation.

3. Identify the role of the GI endoscopy nurse and/or assistant in the management of equipment and/or accessories.
BE ALERT!!
EXPECT THE UNEXPECTED
Case study 1

• 25 yo male with sudden onset dysphagia and incessant saliva drooling 6 hours ago.
• Was eating a Philly cheesesteak and fries.
• Similar episodes in the past that resolved either spontaneously or via self-induced emesis.
• Anxious and constantly spitting. Examination was unremarkable – no stridor or wheezing.
• Xray of the neck and chest were normal.
Ingested foreign bodies and food impactions

- Common problem.
- 80% or more ingested FB’s will pass spontaneously.
- Death from FB ingestion is rare.
- Majority of FB ingestions occur in children between 6 months and 6 years of age.
- In adults, FB ingestion (non-food) is usually associated with mental illness, developmental disorders, alcohol intoxication and prisoners seeking secondary gain.
Ingested foreign bodies and food impactions

- Food bolus impaction often have underlying esophageal pathology:
  1. Peptic esophageal stricture.
  2. Schatzki’s ring.
  3. Esophageal web.
  4. Achalasia.
  5. Eosinophilic esophagitis.
Ingested foreign bodies and food impactions

Areas of physiologic narrowing in the esophagus
Ingested foreign bodies and food impactions

SIGNS & SYMPTOMS

• Acute dysphagia or inability to swallow saliva, neck pain, choking, refusal to eat, vomiting, drooling, wheezing, blood-stained saliva or respiratory distress.

• THINK PERFORATION: neck, chest or abdominal tenderness, subcutaneous emphysema (crepitus), tachypnea, cyanosis, and hypotension.
Ingested foreign bodies and food impactions

Radiographs

- Identify true FB’s and free mediastinal air or peritoneal air.
- Fish/chicken bones, wood, plastic, glass and thin metal objects may not be seen.
- Avoid contrast studies because of risk of aspiration and can compromise endoscopy.
Ingested foreign bodies and food impactions

Endoscopic management

• First reported in 1937 using a rigid endoscope.
• Flexible endoscopy has become the procedure of choice since the 1970’s.
• Rigid endoscopy is favored for impacted proximal FB’s impacted at the UES or hypopharynx – allows protection of the airway without an overtube.
• Success rates ranged from 84% to 98.8%
• Complications directly related to endoscopy are rare.
Ingested foreign bodies and food impactions

**TABLE 2. Timing of endoscopy for ingested foreign bodies**

<table>
<thead>
<tr>
<th>Emergent endoscopy</th>
<th>Urgent endoscopy</th>
<th>Nonurgent endoscopy</th>
</tr>
</thead>
<tbody>
<tr>
<td>Patients with esophageal obstruction (i.e., unable to manage secretions)</td>
<td>Esophageal foreign objects that are not sharp-pointed</td>
<td>Coins in the esophagus may be observed for 12-24 hours before endoscopic removal in an asymptomatic patient</td>
</tr>
<tr>
<td>Disk batteries in the esophagus</td>
<td>Esophageal food impaction in patients without complete obstruction</td>
<td>Objects in the stomach with diameter &gt;2.5 cm</td>
</tr>
<tr>
<td>Sharp-pointed objects in the esophagus</td>
<td>Sharp-pointed objects in the stomach or duodenum</td>
<td>Disk batteries and cylindrical batteries that are in the stomach of patients without signs of GI injury may be observed for as long as 48 hours. Batteries remaining in the stomach longer than 48 hours should be removed.</td>
</tr>
</tbody>
</table>
Ingested foreign bodies and food impactions

Management Pearls

• Secure airway and ventilation.
• Consider endotracheal intubation and general anesthesia for proximal esophageal FB ingestion.
• Review imaging studies and repeat if several hours have passed.
• Test retrieval equipment on the duplicated FB to determine which device is best suited.
Management Pearls

• Atropine to decrease oropharyngeal secretions.
• Glucagon to reduce motility when capturing FB’s in the stomach and duodenum.
• Enzymatic digestion (Papain) of meat impaction is contraindicated and dangerous.
• Most important: COMMUNICATE, COMMUNICATE AND COMMUNICATE.
# Retrieval Devices

<table>
<thead>
<tr>
<th>Retrieval Devices</th>
<th>Roth Net® Platinum® Food bolus retrieval net</th>
<th>Roth Net® maxi retrieval net</th>
<th>Roth Net® mini retrieval net</th>
</tr>
</thead>
<tbody>
<tr>
<td>Larger blunt object removal (AA battery..)</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Smaller blunt object removal (buttons, coins..)</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Long object removal (spoon, toothbrush..)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sharp-pointed object removal (toothpicks, bones, paperclips..)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Disk battery removal</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Food bolus removal</td>
<td>✓</td>
<td></td>
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</tr>
</tbody>
</table>
Protection: Overtubes

- Protects against mucosal injury and aspiration.
- Conduit for repeated scope insertion and withdrawal.
- Should be inserted over a scope or bougie.
- Generous lubrication inside and out.
- Resistance to passage warrants reassessment.
Case study 1
Dx: Eosinophilic esophagitis
Food bolus impaction

- “Steakhouse syndrome”
- Most common FB in adults.
- High incidence of underlying pathology (>75%).
- “Push technique” found to be 97% effective without perforations in 2 large published series.
- En bloc versus Piecemeal removal.
- Concomittant use of Glucagon IV with EGD is safe and an acceptable option.
True Foreign Bodies

Short-blunt objects

- Endoscopic removal if > 2.5 cm or if in the stomach for more than 3 weeks.
- Coins in the distal esophagus can be observed for 12-24 hours if patient asymptomatic.
- Device: Forceps, Snare or Net.
True Foreign Bodies

Long objects

• Toothbrush and eating utensils.
• > 6 cm require endoscopic removal.
• Use of a long (> 45 cm) overtube that extends into the stomach is highly recommended.
• Consider “trapping” FB inside overtube and withdraw the entire unit in one motion.
True Foreign Bodies

Sharp-pointed objects

• Medical emergency

• Complication rate as high as 35%.

• Orient FB with its point trailing during extraction.

• Preferably use an overtube or a protector hood.

• Surgery if FB fails to progress or pass after 3 days.
True Foreign Bodies

Batteries

• Emergent removal indicated when in the esophagus.
• Retrieval not needed if beyond esophagus unless with signs of GI tract injury.
• Large diameter (> 20 mm) in stomach for > 2 days require removal.

Narcotic packets

• “Body packers.” Radiographically evident.
• Endoscopic removal is contraindicated because of the risk of rupture or leakage that may be fatal.
• Surgical intervention if packets fail to progress.
Narcotic packets
Rectal Foreign Bodies

- Exclusion of perforation prior to and after retrieval is mandatory.
- Lithotomy position preferred to allow abdominal pressure.
- Perianal nerve block or spinal anesthetic recommended.
- Surgery for failed retrieval, ischemia or perforation.
Parasites

- Trichuris (Whipworm)
- Ascaris (Roundworm)
- Enterobius (Pinworm)
- Anisakis (Herring worm)
Bezoar

- Tightly packed mass of undigested matter.
- Medical therapy: Saline lavage, Mucomyst, Papain, Pineapple juice.
- Endoscopic therapy: Water jet, Dormia basket, Mechanical lithotriptor, Direct injection with enzymatic solution, Laser.
- Surgery: Trichobezoars (hair).
Summary

• Weird stuff happens: Expect the unexpected.
• Know your enemy: History and type of FB.
• Establish: Emergent, Urgent, Nonurgent.
• Protect patient: Aspiration, Perforation, Obstruction.
• Inventory: Tools, devices, meds, enzyme solutions.
• Teamwork: Communication, training & practice.