Foreign Body Oesophagus

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Pathophysiology

- Oropharynx is well innervated, and patients can typically localize oropharyngeal foreign bodies. Scratches or abrasions to the mucosal surface of the oropharynx can create a foreign body sensation.
- Oesophagus is a tubular structure approximately 20-25 cm in length. Patients can usually localize foreign bodies in the upper esophagus but localize them poorly in the lower two thirds of the structure.
- Oesophagus has 3 areas of narrowing
  - Upper esophageal sphincter (UES) → cricopharyngeus
  - Crossover of the aorta
  - Lower esophageal sphincter (LES)
- Predisposing factors → Structural abnormalities of the esophagus, including strictures, webs, diverticula, and malignancies, motor disturbances such as scleroderma, diffuse esophageal spasm, or achalasia
- After reaching the stomach, a foreign body has greater than a 90% chance of passage

Epidemiology

Sex → Children same; Adults M>F

Age

(1) Children
   - 75-80% of patients
   - 18-48 mths most common
   - Coins, buttons, marbles, crayons
   - Site of entrapment → 75% at UES
(2) Adults
   - Food boluses, chicken or fish bones, fruit seeds, dentures, or toothpicks
   - Site of entrapment → 70 % at LES

History

- Oropharyngeal foreign bodies
  - Foreign body sensation, especially after eating chicken or fish
  - Variable degrees of discomfort, inability to swallow or handle secretions
  - Rarely, patients may have airway compromise, typically in delayed presentations with subsequent infection or perforation.
  - Patients can usually localize the foreign body sensation in the oropharynx.
- Esophageal foreign bodies
  - Present acutely, with a history of ingestion
  - Vague discomfort in epigastrium suggests that foreign body is entrapped at LES
  - Dysphagia
  - Classic adult presentation → alcohol, eating meat or fish → foreign body sensation
  - Gagging, vomiting, and neck or throat pain
  - Children history less clear → parents give history, child swallowed
  - Occasionally chronic esophageal foreign bodies → poor feeding; irritability; failure to thrive; fever; stridor or pulmonary symptoms, such as repetitive pneumonias from aspiration → Large esophageal foreign bodies at UES stridor
Physical
- Examination of oropharynx, neck, chest
- Occasionally, a foreign body in the oropharynx can be visualized and removed
- Stridor in large FB at UES
- Complete obstructions can cause drooling and the inability to swallow.
- Delayed presentations may be accompanied by signs of infection (pneumonitis)
- IDL

D/d
- Esophageal Perforation, Rupture and Tears
- Foreign Bodies, Trachea
- Mediastinitis
- Retropharyngeal Abscess

Investigations
- Radiography → CXR PA & lat view
- Barium swallow
  - Nonopaque foreign bodies
  - Can be done with cotton balls → fibres get stuck e.g. in case of fish bone
  - Contraindicated if perforation suspected
- Upper GI fibreoptic endoscopy / Rigid oesphagoscopy
  - If the history is clear, proceed to endoscopy; if unclear, CT scanning may be used to confirm the presence of the foreign body before endoscopy
- CT scanning → modality of choice to locate non radiopaque foreign objects in the oropharynx or oesophagus, suspected perforation or abscess

Management
- Unstable condition
  - Airway compromise
  - Drooling
  - Inability to tolerate fluids
  - Evidence of sepsis or perforation
  - Active bleeding
  - Airway management → ETT or tracheostomy might be required
  - Drooling → repeated suctioning
  - IV line
  - Once stabilized → investigations

- Patients in a stable condition
  - Oropharyngeal → IDL / FOL
  - Radiographically localize radiopaque objects
  - If sharp, elongated (>5 cm in esophagus) → endoscopy
  - Sharp objects (pins, razor blades) urgent endoscopy & removal
  - Smaller blunt objects (coins, marbles) → usually transit GI tract without difficulty → follow radiographically
  - Techniques of removal
    - Rigid esophagoscope & forceps
    - Fogarty balloon catheter
    - Bougienage
      - Smooth esophageal foreign bodies, such as coins, lodged at the LES
      - Advanced into stomach by bougienage
    - Relaxation of the lower esophageal sphincter
- 1-2 mg of glucagon intravenously (0.02-0.03 mg/kg in children, not to exceed 0.5 mg) followed by ingestion of E-Z Gas (Sodium bicarbonate, citric acid, and simethicone) mixed with 240 mL of water
- Nitrates, such as sublingual nitroglycerin and nifedipine

Follow Up
- For adults with resolved esophageal foreign bodies, referral to a gastroenterologist in 24-72 hours is mandatory because a large percentage of these patients have underlying structural abnormalities, including malignancies, and follow-up endoscopy is needed.
- In children with resolved esophageal foreign bodies, no follow-up is needed

Complications
- Oropharynx - Esophageal or pharyngeal scratches, abrasions, lacerations, or perforations; foreign body sensation may persist, retropharyngeal abscess; soft-tissue infection or abscess
- Esophageal foreign bodies - Mucosal scratches or abrasions; esophageal necrosis; retropharyngeal abscess; esophageal stricture; esophageal perforation

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