Ingestion of foreign bodies (FB)

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See also: foreign bodies, hand held metal detector protocol

Background

- Most ingested foreign bodies are harmless and pass through the GI tract uneventfully
- Radio-opaque foreign bodies such as metal or some types of bone can be visualised on XR
- Most metal objects can be detected by a metal detector.
- Paper / wood / plastic objects may not be visualised

Hazardous objects such as
- Button batteries and other batteries
- Sharp objects, especially if long >6cm or wide >2cm
- Magnets e.g. fake tongue piercings / neodymium magnets
- Very large objects / filled balloons

Can cause life-threatening injuries such as:
1. Obstruction above the gastro-oesophageal junction, the narrowest part of the GI tract
2. Bowel perforation / rupture
3. Erosion from leaked battery contents or electrical currents discharged from button batteries leading to perforation or aorto-oesophageal fistula or trachea-oesophageal fistula.

Assessment

Symptoms and signs associated with FB in oesophagus:
- Dysphagia
- Food refusal
- Drooling / gagging
- Vomiting / haematemesis
- Sensation of FB / chest pain / sore throat
- Stridor / cough

Management

1. Non-hazardous, ingested foreign bodies
2. Hazardous, ingested foreign bodies
Non-hazardous ingested foreign bodies

Is FB radio-opaque or metallic?

YES

Metal detector
neck / chest / abdomen

FB below diaphragm or no FB

Tolerating food and no worrying symptoms?

YES

XR chest +/- abdomen +/- neck

Refer to ENT or Paediatric Surgery**
Likely admit for endoscopy under GA

NO

Refer to ENT or Paediatric Surgery**

NO or unsure

Did child cough or display any symptoms of respiratory problems since ingestion?

NO

Tolerating food and no worrying symptoms?

YES

Consider CXR and refer to ENT

FB above diaphragm or metal detector test equivocal

Tolerating food and no worrying symptoms?

YES

**Upper oesophagus: refer ENT

**Lower oesophagus: refer Paediatric Surgery

Discharge home with reassurance.

DO NOT instruct parents to inspect faeces for FB

Clinical / radiological review if becomes symptomatic

Safety net:
1. Vomiting or haematemesis
2. Abdominal pain
3. PR bleeding

Do not send home a child who is coughing, choking or refusing to eat / drink after a suspected ingestion

Radio-opaque fish bones: Cod, haddock, cole, gurnard, lemon sole, monk fish, grey mullet, red snapper
Hazardous ingested foreign bodies

Consult with ToxBase / Poisons unit urgently if child has ingested batteries or magnets

Hazardous foreign body

CXR
If not seen or symptoms dictate, consider AXR +/- lateral soft tissue neck XR

Upper oesophagus
Refer ENT
Keep NBM
Admit for endoscopy under GA

Lower oesophagus and stomach
Refer Paediatric Surgery
Decision will be made whether to allow to eat and re-XR in 24 hours, or remove immediately

XR is needed for all battery ingestions as the battery may be missed on a metal detector test

Button batteries
- Ingestion of button batteries can cause serious harm and death.
- Severe tissue damage results from a build-up of sodium hydroxide as a result of the electrical current discharged from the battery (not leaking of contents as is often thought).
- Tissue burns, often in the oesophagus, can cause fistulisation into major blood vessels, resulting in catastrophic haemorrhage.
- Symptoms suggestive include haematemesis, haemoptysis, and respiratory difficulties.
- Can manifest up to 28 days after ingestion.

Urgent referral to ENT or Paediatric Surgery is mandated if button battery ingestion has occurred or is suspected. Consider this in all children presenting with haematemesis.
Other types of batteries

- Less dangerous than button batteries but may leak from dissolution of seal in gastric acid. They can also attach to intestinal mucosa and cause erosion and perforation.

Neodymium magnets and fake tongue piercing magnets

- Extremely powerful magnetic attractions, widely available.
- Usually small in size and round in shape. Brand names include BuckyBalls™ and Neocube™
- When more than one magnet is swallowed, the magnetic force can bring two pieces of intestine tightly together, leading to bowel perforation, blockage or severe infection.

If two or more magnets have been swallowed, urgent referral for endoscopy under GA is necessary.