Contrast examinations
Contrast examinations
Barium sulphate

ADVANTAGE

- Excellent opacification
- Good mucosal coating
- Inert

DISADVANTAGE

- Impaction
- Peritonitis (leakage)
Barium studies

- **Barium swallow**: examination of esophagus
- **Barium meal**: examination of stomach and duodenum
- **Barium follow through**: examination of jejunum and ileum
- **Barium enema**: examination of large bowel
Contrast examination
Gastrografin

ADVANTAGE

- Safe if leaked into the peritoneum

DISADVANTAGE

- Less radio-opaque
- Hypertonic
- Irritant to lungs
Cotrast examination
Technical considerations

- Fluoroscopic control
- Double-contrast
- Smooth muscle relaxant
- Peristalsis is trasitory
Terms used in reporting contrast examinations:

- Mucosal pattern
- Filling defect
- Stricture
- Ulceration
Fig. 1 (b) Barium meal demonstration of the elongated narrowed pyloric canal (black arrow) of hypertrophic pyloric stenosis.
THE ESOPHAGUS
Plain films

- Limited value
- Normal esophagus not appear
- **Role in**
- Dilated esophagus (achalasia)
- Foreign body
- Assessment of NGT
Barium Swallow

- The standard contrast examination of the esophagus (CT&MRI limited to esophageal ca)
- **Indications of Ba swallow:**
  - 1. swallowing disorders
  - 2. Oesophageal strictures
  - 3. Assessing reflux.
Esophageal Strictures

- Where is the stricture?
- What is its shape?
- How long is it?
- Is there a soft tissue mass?
Carcinoma of the esophagus

- irregular stricture
- shouldered edges
- several centimeters
- A soft tissue mass may be visible.
- smooth, tapered narrowing
- at the lower end of oesophagus
- +/- oesophageal dilatation
- absent peristaltic waves
- food residue.
- The lungs may show consolidation & bronchiectasis (due to aspiration).
- The stomach bubble is usually absent.
Peptic strictures

- found at the lower oesophagus
- + hiatus hernia & reflux
- are characteristically short
- have smooth outline with tapered ends.
FIGURE 52.4. Peptic Stricture. The beaklike narrowing of the distal esophagus (arrow) caused by gastroesophageal reflux and stricture mimics achalasia.
Corrosive strictures

- Long strictures begin at the level of aortic arch.
- It is usually smooth with tapered ends.
- May be irregular.
Filling defects:

- **intramural** filling defects
  - Lieomyoma.
  - Carcinoma

- **Extramural** filling defects
  - E.g. Ca bronchus,
  - mediastinal LAP
  - aortic aneurysm.
  - An anomalous right subclavian artery.

- **Intraluminal** filling defects e.g. food
Dilatation:

- obstruction & visible stricture e.g. achalasia.
- Disease of smooth muscle e.g. scleroderma.
Varices:

Appears as lucent, tortuous, wormlike filling defects on barium swallow which distorts the mucosal pattern.
Web:

- Thin shelf like projection
- Cervical oesophagus.
- It can be isolated finding
- Or as part Plummer-Vinson syndrome
Diverticulae:

- Are saccular outpouchings
- Intrathoracic
- asympyomatic
Zenker's diverticulum

- important
- in the cervical esophagus
- behind the oesophagus
- can displace or compress the oesophagus.
A plain abdominal film will show air in the bowel (if there is a fistula between the trachea & oesophagus)

The diagnosis is made by passing a tube that holds up or coils in a blind ending pouch.

Contrast examination may be dangerous in cases of spillage to the trachea.
**FIGURE 52.2. Tracheoesophageal Fistula.** The trachea (T) and esophagus (E) are connected by a fistula (arrow).
1. Barium meal:
2. Barium swallow
3. Barium enema:
4. Barium follow through

a) examination of esophagus
b) examination of stomach and duodenum
c) examination of jejunum and ileum
d) examination of large bowel