Single contrast examination: Only filling with barium.

Double contrast examination: Introducing gas producing substance (powder, pills or carbonated beverage); Smooth muscle relaxants are used

Advantages:
• small lesions aren't obscured
• more clear visualization of the mucosa.

Filling defects: Absolute/relative radiolucency
  • Intraluminal - food
  • Intramural - leiomyoma
  • Extramural - LN-intact mucosa

Stricture:
  • DDx peristalsis
  • Shouldering → malignancy

Ulcer:

Other imaging:
A. Ultrasound:
  • Intra-abdominal fluid
  • Appendicitis
  • intussusception

B. CT:
  • Filling defect; ulcer; stricture
  • Full width of wall
  • Staging

C. BE easier than CT

D. MRI
  • Peristalsis
  • GI contrast
**Ba Swallow**

**Technique**

*Normal:*
- 3/4 parallel straight lines
- Impressions
- peristalsis
- tertiary contractions

*Abnormal:*
- **Stricture:** ca.; peptic; achalasia corrosive
  
<table>
<thead>
<tr>
<th>Site</th>
<th>shape</th>
<th>length</th>
<th>soft tissue mass</th>
</tr>
</thead>
</table>

*** Plain film role in the esophagus; Mainly detection of foreign bodies, Or detection of pneummediastinum

Peptic stricture

Invariably associated with:
- Achalasia
- Corrosive stricture

Gastroesophageal reflux & Hiatus hernia

Usually smooth
- Can be irregular
- Starts at level of aortic arch
Intramural Filling defect
Commonest benign- leiomyoma
Malignant ca.

| Aberrant subclavian a. |
| Short smooth |
| Behind the esophagus |

| Exr. Compression |
| Displacement |
| Obtuse angle with the wall |
| from one side |

**Dilatation of esophagus:**
- Obstruction
- Non obstructive dilatation: scleroderma

| Impacted food bolus |
| Esophageal varices: |
| Tortous worm like filling |
| defects in the lower ½ |

| Web, Thin, Shelf like |
| From the anterior wall |
| Of cervical esophagus |

| Esophageal Zenkers |
| diverticulum |
| Post & to LT in |
| cervical esophagus |
**Esophageal atresia:**
NG tube coiling in the blind pouch
*Oral gastromiro*

**Esophagitis**
Ulceration causing shaggy appearance
May be seen in candidiasis

---

**Barium meal**
- Standard double contrast
- Single in children
- Prepar. Fasting 6hrs
- Greater curve irregular
- Complementary to gastroscopy

---

Carcinoma commonest FD in adults
Irregular
Features of obstruction
Early – DC Ba meal
Diffuse infiltration-linitis plastic

| Lieomyoma, Commonest benign FD
| Smooth outline
| Bulge into & outside the stomach
| Ctz ulcer
Polyps

- Single or multiple
- Often impossible to exclude malignancy

Intraluminal FD: Food, Blood, Bezoar

Benign ulcer
lesser curve
projecting beyond lumen
Folds reaching the margin of ulcer

Fig. 5.29 Malignant ulcer. The ulcer (arrow) does not project from the lumen of the stomach. Note how the mucosal folds do not reach the ulcer crater.

* Healing is the only definite sign of benign ulcer

Localized narrowing

- Infiltrative carcinoma
- Active ulcer
- Chronic ulcer
**Gastric outlet obstruction**
Less than 50% of barium leaves stomach after 4hrs; sometimes still in 24 hours
- Large stomach with food residue

**Adults**
- Chronic DU
- Antral ca.

**Infants**
- Hypertrophic pyloric stenosis

**Diagnosis:**
- Clinical
- Confirmed by US-superseded barium meal
  - Thickened elongated pyloric canal

**Duodenal ulcer**
- Benign
- Majority bulbar
- Postbulbar-ZES

**Hiatus Hernia**
**A.** Sliding commonest
  - Inc ompetent GES-reflux-esophagitis-ulcer-stricture
  - Mostly normal small sliding hernia

**B.** Rolling
  - No reflux
  - May be irreducible

"Please... Look at the PowerPoint file, for images and illustrations couldn’t be printed"