

The Alimentary System

Contrast Medium:

1. Barium
 - Examinations of different parts of the GI tract require different densities of Barium suspension.
 - The escape of Barium into the peritoneal cavity is extremely serious.
 - Complete bowel obstruction is contraindicated.
2. Water-soluble e.g. Gastrografin, Conray
 - Pulmonary edema if aspirated, suspected perforation is contraindicated.

Pharmacological Agents:

1. Buscopan
 - Reduced bowel peristalsis
 - Anticholinergic side-effects 抗膽素激導性的反應 e.g. blurring of vision, tachycardia, etc..
 - It is contraindicated in glaucoma 青光眼 and cardiovascular disease.
2. Glucagon
 - It is expansive.
 - Hypersensitivity reactions.
 - Phaeochromocytoma 親銘細胞瘤 and insulinoma 胰島瘤 are contraindicated.
3. Maxalon
 - Increased gastric peristalsis.
 - Extrapyramidal side-effects.

Barium Swallow

Indications:

1. Dysphagia 嚥物困難
2. Pain
3. Assessment of tracheo-esophageal fistula in children
4. Assessment of heart enlargement
5. Preoperative assessment

Contraindication:

None

CM:

150% w/v (E-Z HD)

Patient preparation:

None

Technique:

- ✓ The patient holds a mouthful of barium solution and is positioned
- ✓ Spot films are taken while asking the patient to swallow the barium solution

Films:

1. RAO
2. RPO
3. Lateral
4. AP

Aftercare:

None

Barium Meal

1. Indications:
2. Dyspepsia 消化不良
3. Weight loss
4. Assessment of site of perforation
5. Gastrointestinal haemorrhage
6. Upper abdominal mass

Contraindications:

Complete large bowel obstruction

CM:

250% w/v (E-Z HD)

Patient preparation:

- ✓ Nil orally for 6 hours
- ✓ Stop smoking on the day of examination, as smoking causes increased gastric motility

Technique:

- A gas-producing agent is swallowed
- The patient then drinks the barium and lying on left side
- The patient is positioned as the desired position and spot films are taken.
- Buscopan etc. is injected as required.

Films:

For the stomach,

1. RAO
2. Supine
3. LAO
4. Left lateral
5. Erect

For the duodenum,

1. Prone with compression
2. RAO
3. LAO
4. Supine
5. Erect

Aftercare:

- Drink more water than usual to avoid barium impaction
- The patient should be warned that his bowel motions will be white for a few days

Barium Follow Through

Indications:

1. Pain
2. Diarrhoea
3. Bleeding
4. Partial obstruction

Contraindications:

1. Complete obstruction
2. Suspected perforation

CM:

100% w/v (E-Z HD)

Patient preparation:

- ✓ A laxative on the evening prior to the examination
- ✓ Maxalon given 20 minutes before the examination (optional)

Preliminary film:

AXR

Technique:

The patient is lying on the right side after bowel has been ingested

Films:

Prone AXR films are taken every 20 minutes during the first hour, and subsequently every 30 minutes until the colon is reached

Aftercare:

Same for barium meal

Barium Enema

Indications:

1. Change in bowel habit
2. Pain
3. Mass
4. Melaena 黑糞症
5. Obstruction

Contraindications:

1. Toxic megacolon 巨結腸
2. Pseudomembranous colitis 假膜性結腸炎
3. Rectal biopsy within the previous 3 days
4. Incomplete bowel preparation
5. Recent barium study

CM:

125% w/v (enema kit)

Patient preparation:

Nil orally 6 hours before the examination

Bowel preparation

Preliminary film:

AXR

Technique:

- The patient lies on the left side on an incontinence sheet
- The enema tube is inserted gently
- Barium is then injected through the tubing and the infusion stops when the barium has reached the splenic flexure
- Air is then pumped gently through the tube
- The patient then lies prone and rolls onto the left and over into an RAO position
- Buscopan is then given

Spot films:

For the rectum and sigmoid colon,

- ✓ RAO
- ✓ Prone
- ✓ LPO
- ✓ Left lateral of the rectum

For the hepatic flexure and splenic flexure,

- ✓ Erect LAO (to open out the splenic flexure)
- ✓ Erect RAO (to open out the hepatic flexure)

Overcouch films:

- ✓ Supine (KUB)
- ✓ Prone (KUB)
- ✓ Prone caudal (CP: midway at the level of 5cm above the PSIS with 45° tube tilting caudally)
- ✓ Cross-table Lateral rectum (CP: midway at the level of 5cm anterior to the sacrum)
- ✓ Both sides decubitus (AXR)
- ✓ Erect (AXR)

Aftercare:

Same for barium meal