College of Health and Medical Technologies
Department of Radiology Technologies

Barium Anema

2 nd stage

LECTUER 5

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MSc Radiographic Imaging

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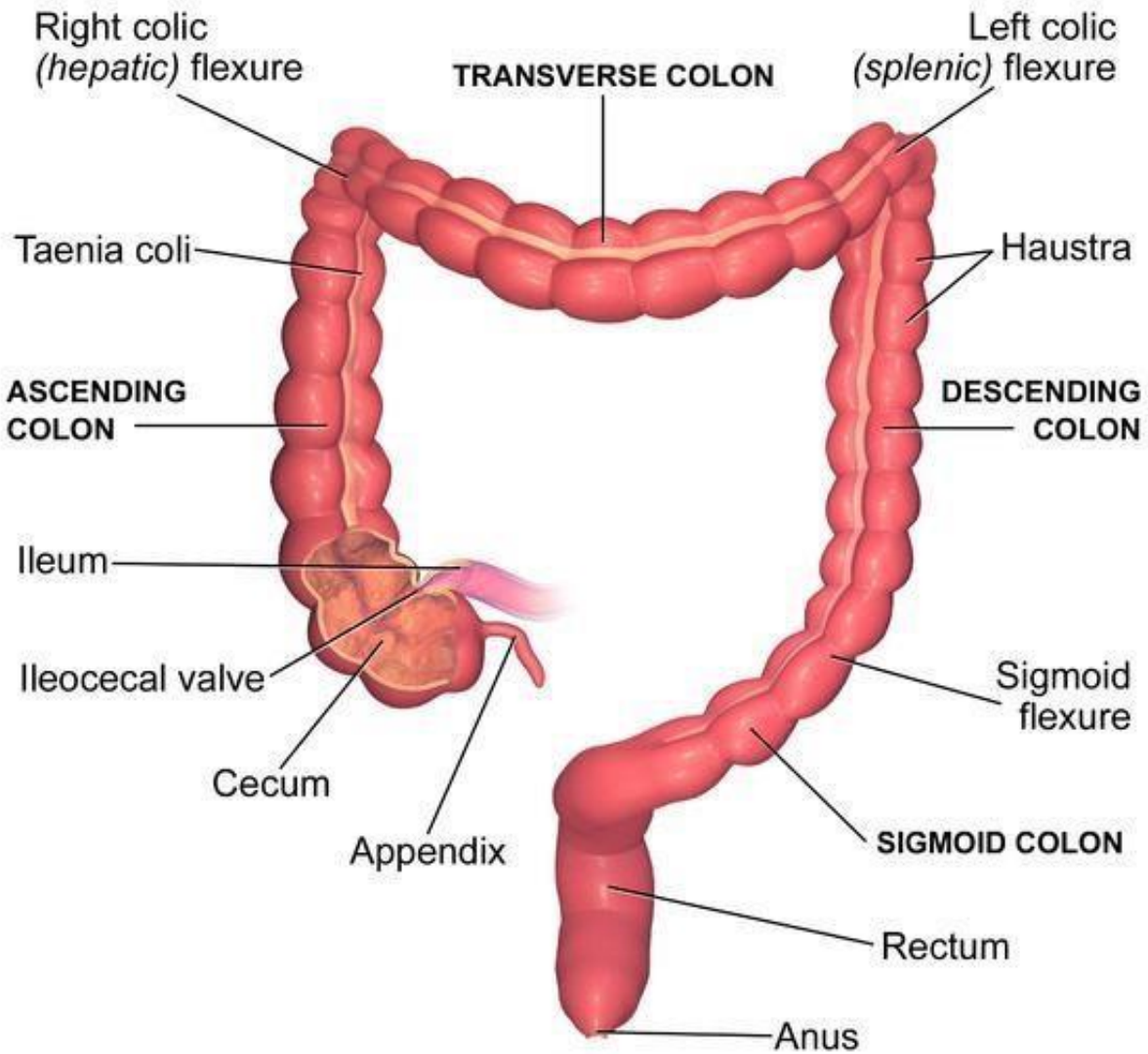
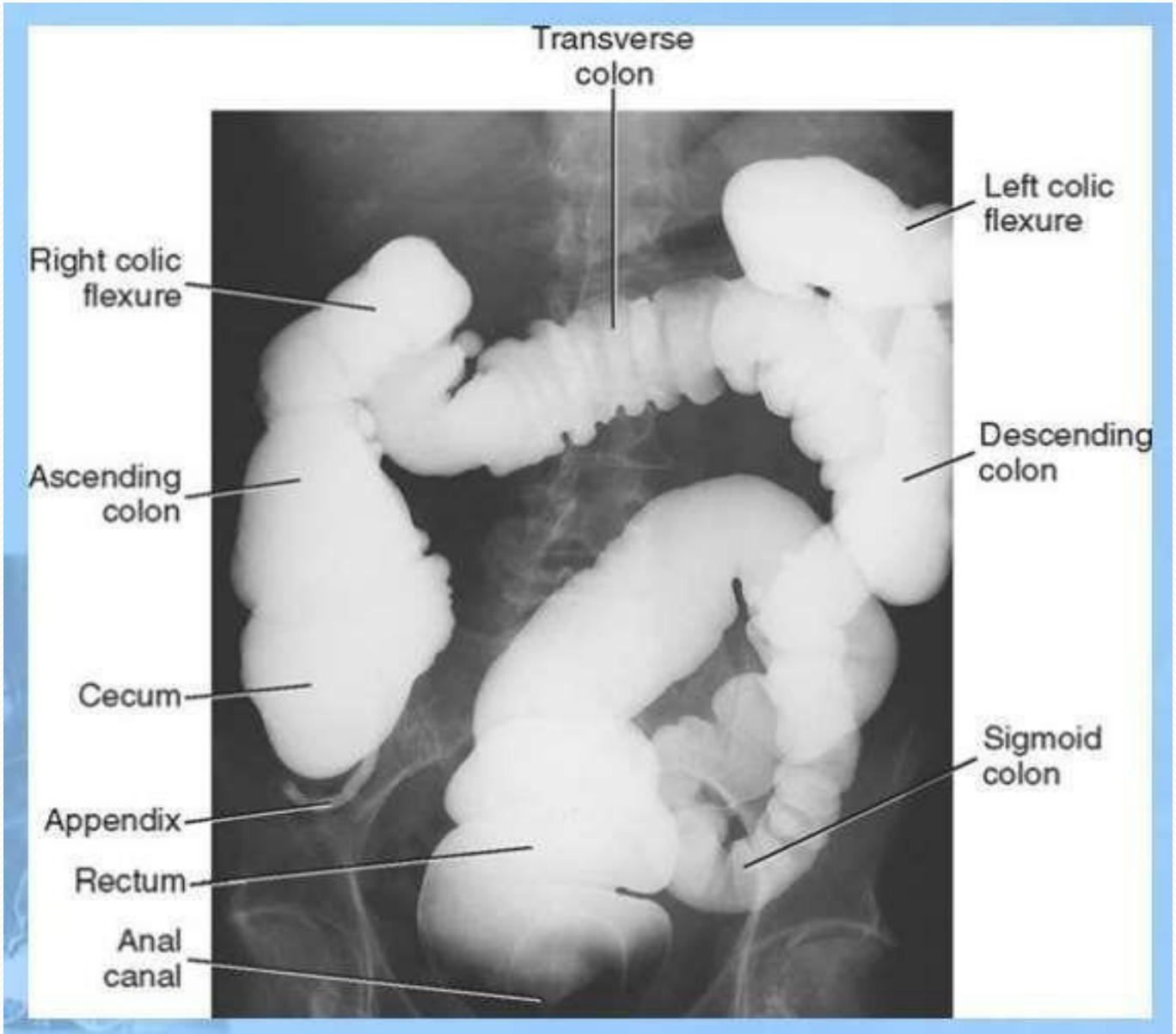


The Large Intestine


Transverse colon
Left colic flexure
Right colic flexure
Descending colon
Ascending colon
Cecum
Sigmoid colon
Appendix
Rectum
Anal canal

Indications

1. Rectal bleeding
2. History of carcinoma or polyp
3. Demonstration of sinuses or fistulas.
4. Patient with severe diverticulosis, polyposis or diarrhea.
5. Presence of obstruction.
6. Reduction of an intussusception.

Contraindications

1. Toxic megacolon (severe dilatation)
2. inflammatory colon disease
3. Recent biopsy
4. Incomplete bowel preparation
5. Patient frailty.

patient preparation

For 3 days prior to examination

Low-residue diet (low fiber), should not have any fatty fried foods nor vegetables & fruits.

On the day prior to examination

Fluids only

Purgative like Castor Oil (30 ml) or Bisacodyl (-15 20mg)

Bowel wash.

Pass the tube beyond the rectosigmoid junction and infuse about 1.5-2 litres of fluid allowing evacuation. repeat this till efflux is clear of any fecal matter.

Preparation of the Patient should not be done in

1. Diarrhoea.
2. Total obstruction.
3. Paralytic ileus.
4. Children less than 8 yrs. of age.

.. Methods

Double contrast – the method of choice to demonstrate mucosal pattern.

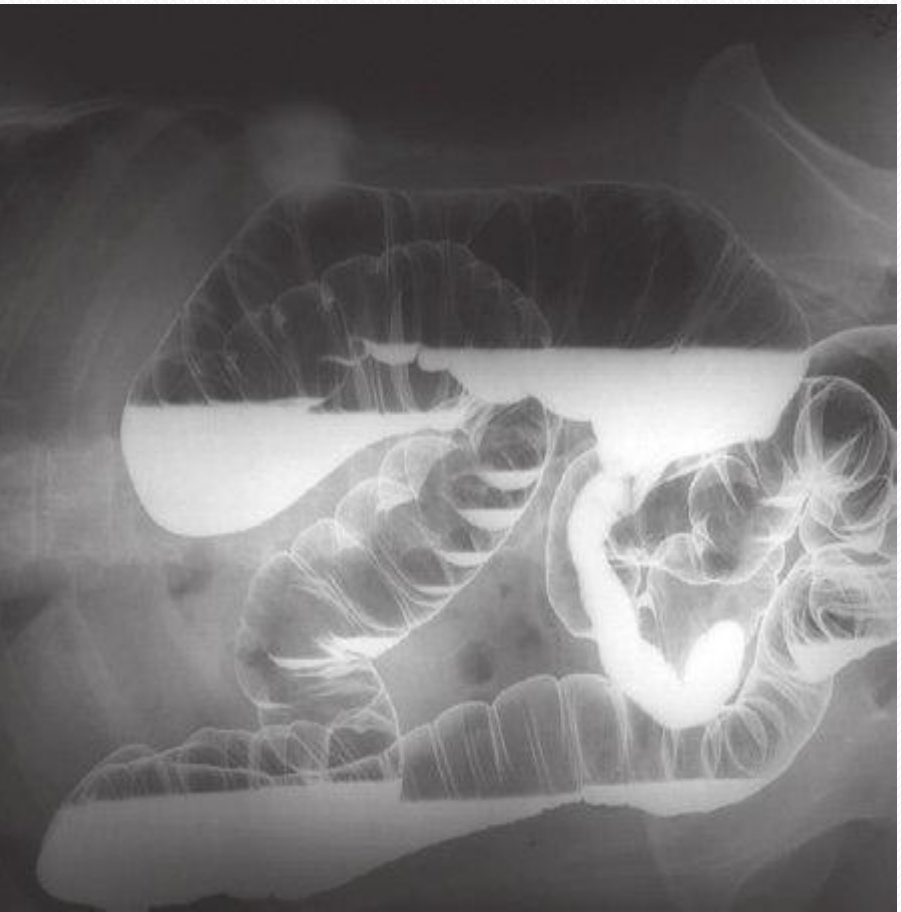
Single contrast – uses:

*localization of an obstructing colonic lesion (use water-soluble contrast)

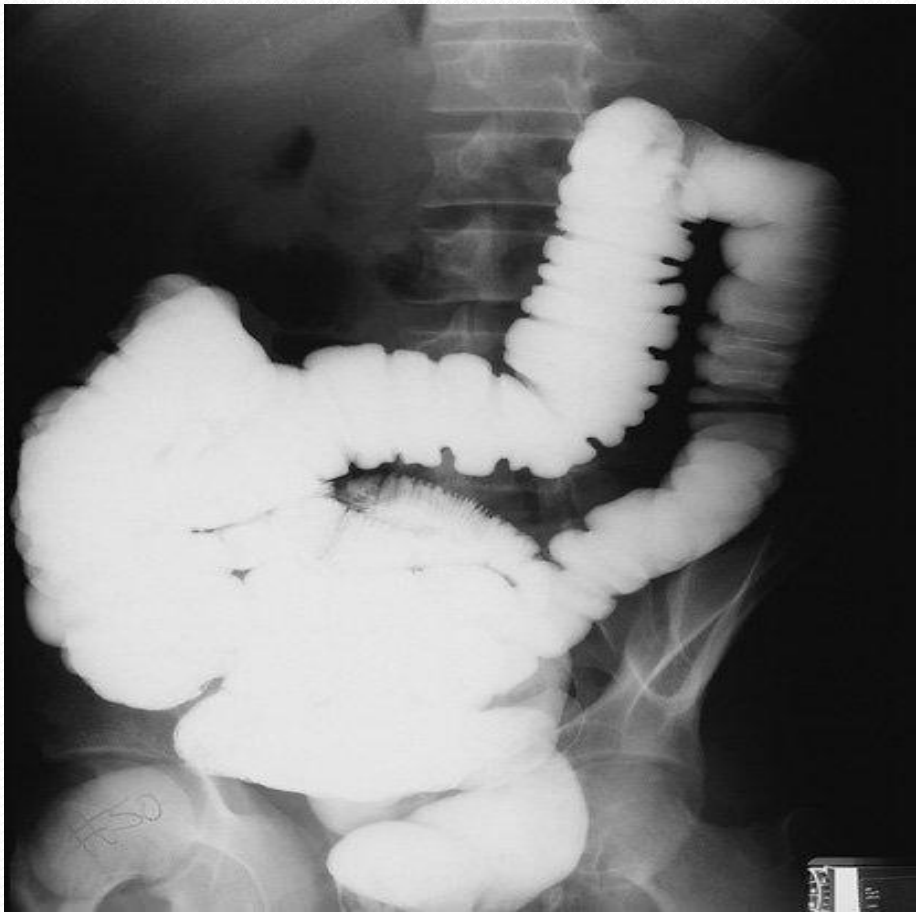
*children – not necessary to demonstrate mucosal pattern

*reduction of an intussusception

Double contrast



Single contrast



Contrast media

- Barium sulfate is the most common type of positive-contrast medium used for the barium enema.
- The concentration of the barium sulfate suspension varies according to the study performed.
- A standard mixture used for single-contrast barium enemas is between 15% and 25% (w/v.)
- The thicker barium used for double-contrast barium enemas between 75% and 95% or greater. Plus air or Co2 as negative contrast

Technique steps

1. The patient lies on their **left lateral side**, and the catheter is inserted gently into the rectum.
2. Connections are made to the barium reservoir and the hand pump for injecting air.
3. The infusion of barium is started & Intermittent fluoroscopic screening is required to check the progress of the barium

Air pump and enema container

Left lateral position for cath tip insertion

Starting procedure

4. When barium reach the splenic flexure turn the patient to **prone position..**

Contrast will run through transverse colon to the hepatic flexure and stopped when it tips into the right colon.

5. Gentle puffs of air may be needed to encourage the barium to flow. The patient rolls onto their **right and quickly onto their back.**

6. The catheter tube(that contain barium) is occluded and air is gently pumped into the bowel to produce the double- contrast effect.

As soon as the barium reflux across ileocaecal junction takes place, the tube is clamped and ileocaecal spot films are exposed.

CO_2 gas has been shown to reduce the incidence of severe, post enema pain so, preferred on room air

After the examination has been completed, most of the barium can be drained back into the bag by lowering the system to below tabletop level. The entire bag and tubing are disposed of after a single use

X –ray views taken

All films taken on expiration

All films (14 x 17 inch) except rectum views (10 x12 inch) in size ..

KVP. should be used on adults110
KVP .should be used on infants 90

1.Scout film

plain radiograph of the abdomen area

Central ray at the level of the L4 or the iliac crest.

40inch SID [source-image distance[

Respiration is suspended during expiration

2. AP or PA (recto sigmoid area)

- Patient supine or prone
- Viewing rectum and sigmoid
- Central Ray: PA 30 degree caudally, AP 30 degree cephalic
- "40 SID

3.AP (Single Contrast)

An Entire colon filled with contrast media should be Demonstrated

CR is at the level of the L4 or at the level of the iliac crest

4.AP Double Contrast:

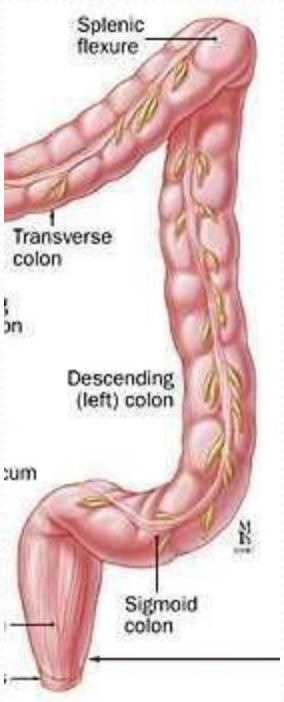
Patient lies in a supine Position

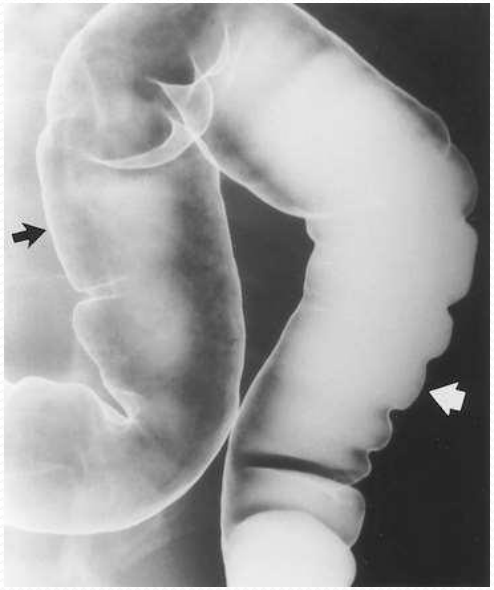
An Entire colon filled with positive and negative contrast media should be demonstrated

CR is at the level of the L4 or at the level of the iliac crest

5.RPO Position

- Instruct the patient to lie on his right side making an angulation of 35-45deg
- It is taken primarily to demonstrate the Left Colic(splenic) flexure and dscending colon should be visualized.
- CR is at the level of the L4 or at the level of the iliac crest





5.LPO Position

- It is taken to demonstrate the right colic (hepatic) flexure.
- CR is at the level of the L4 or at the level of the iliac crest

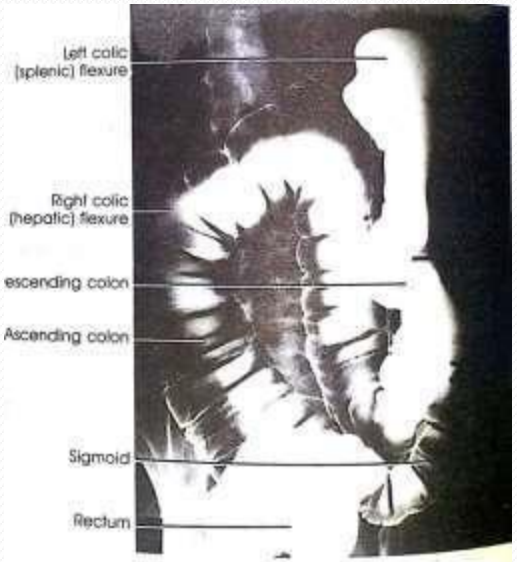


Fig. 17-114. Double-contrast LPO position (left AP oblique).

6.Right & left Lateral Decubitus

Best demonstrate the "up" medial and lateral sides of the ascending and descending colon with CR at level of L4 or iliac crest…

7.Post evacuation film

is taken after the procedure is done and patient evacuate his bowel..

Called **mucosal relief film**

Polyposis and diverticulosis can be better visualized on post-evacuation films.

AP post evacuation

Complications

- Perforation of the bowel.
- Venous intravasation of barium
- Bacterimea
- Constipation

Fluid should be forced and laxatives should be used after The procedure .

.. Pathological conditions

- Colonic Diverticulosis

- Ulcerative colitis
- Lead pipe colon


THANKS