



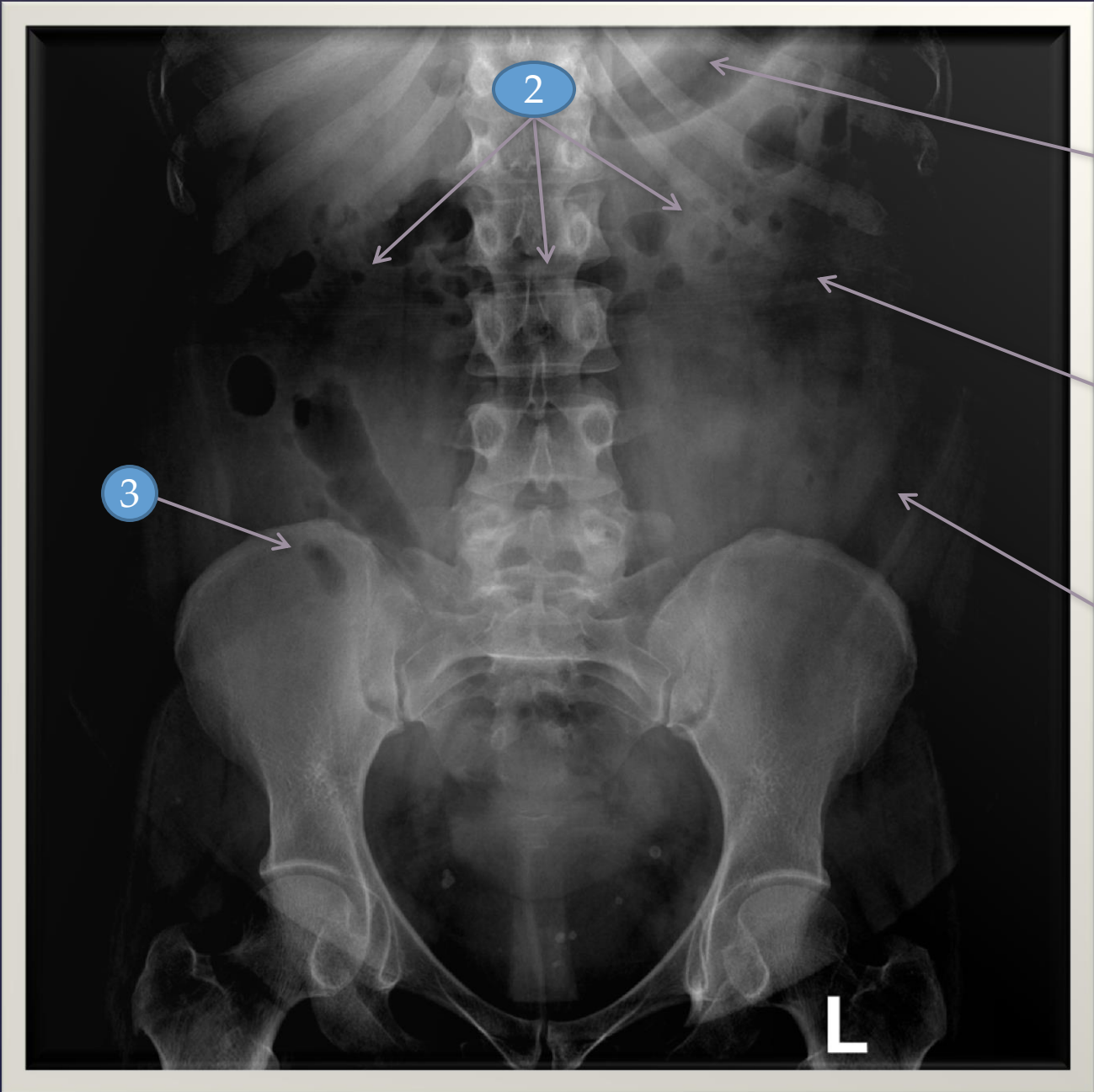


**RADIOLOGICAL
ANATOMY OF THE LARGE
AND SMALL BOWEL**

Imaging modalities

- Plain abdominal film 
- Barium/contrast studies 
- Ultrasound
- Computed tomography (CT) 
- Magnetic resonance imaging (MRI) 
- Radionuclide imaging / PET
- Angiography/interventional radiology



2

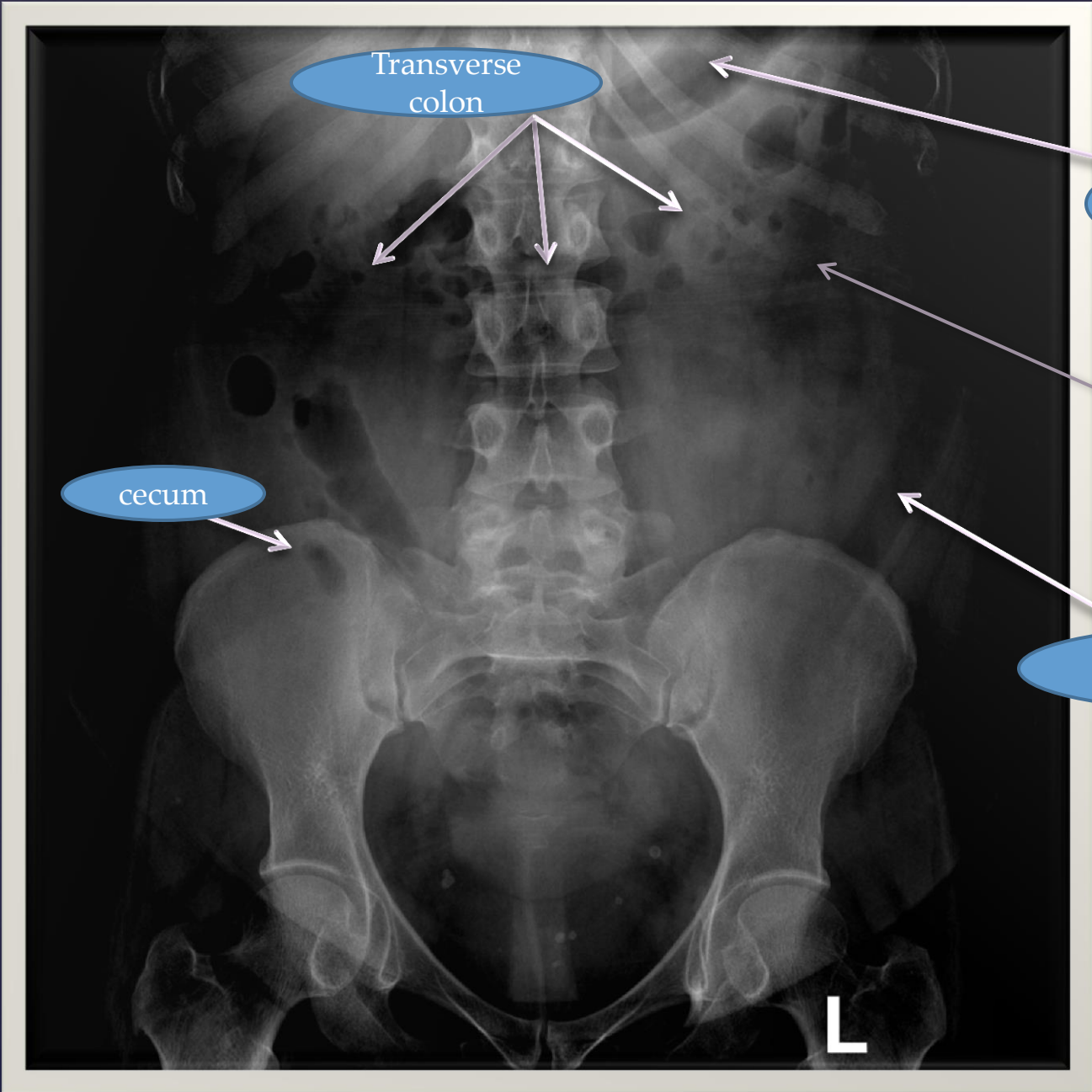
1

3

5

4

L



Transverse colon

stomach

Small bowel

cecum

Descending colon

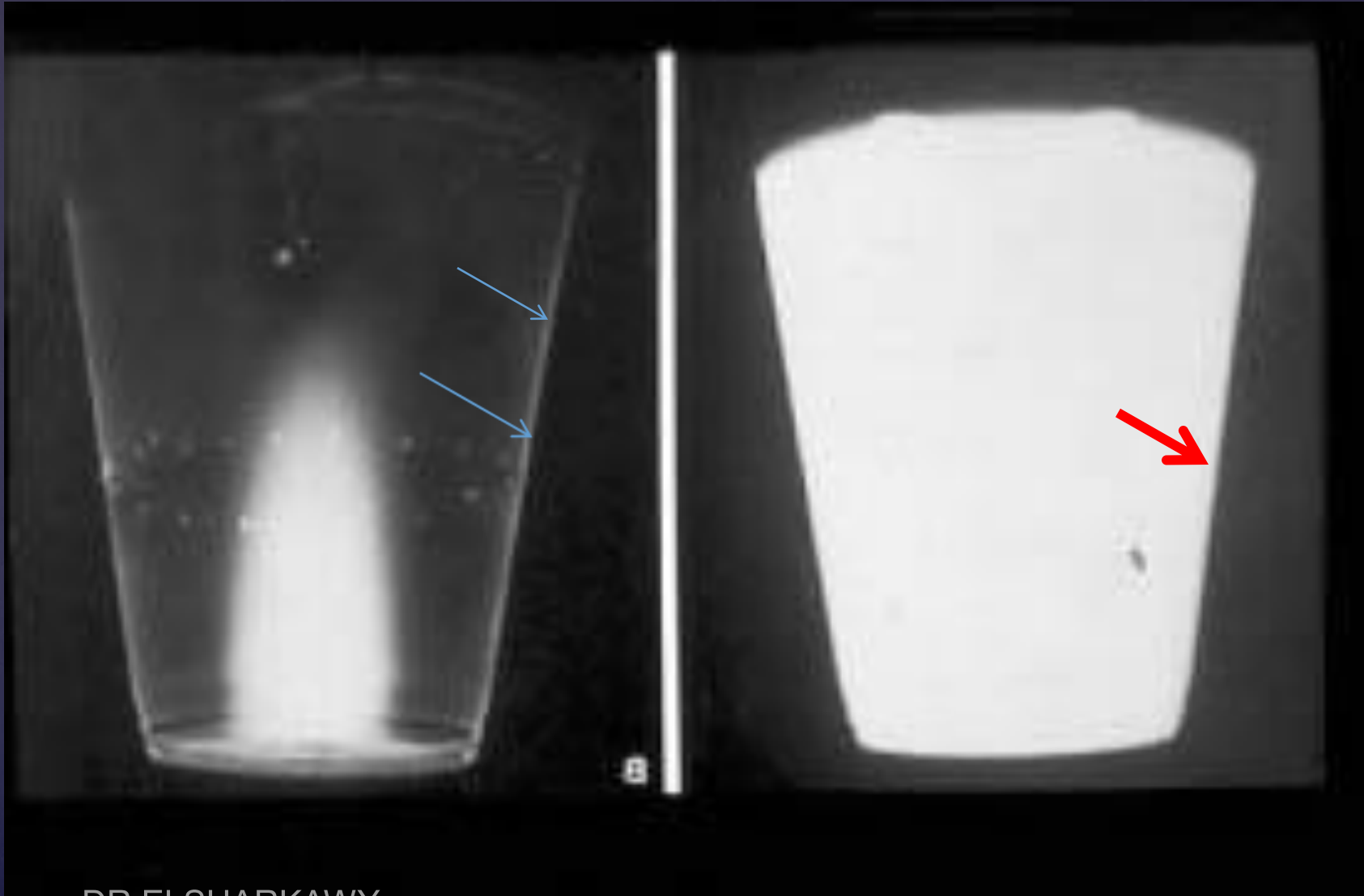
L

- ⌘ 1. SINGLE CONTRAST STUDY
- ⌘ 2. DOUBLE CONTRAST STUDY

TECHNIQUE

DR ELSHARKAWY

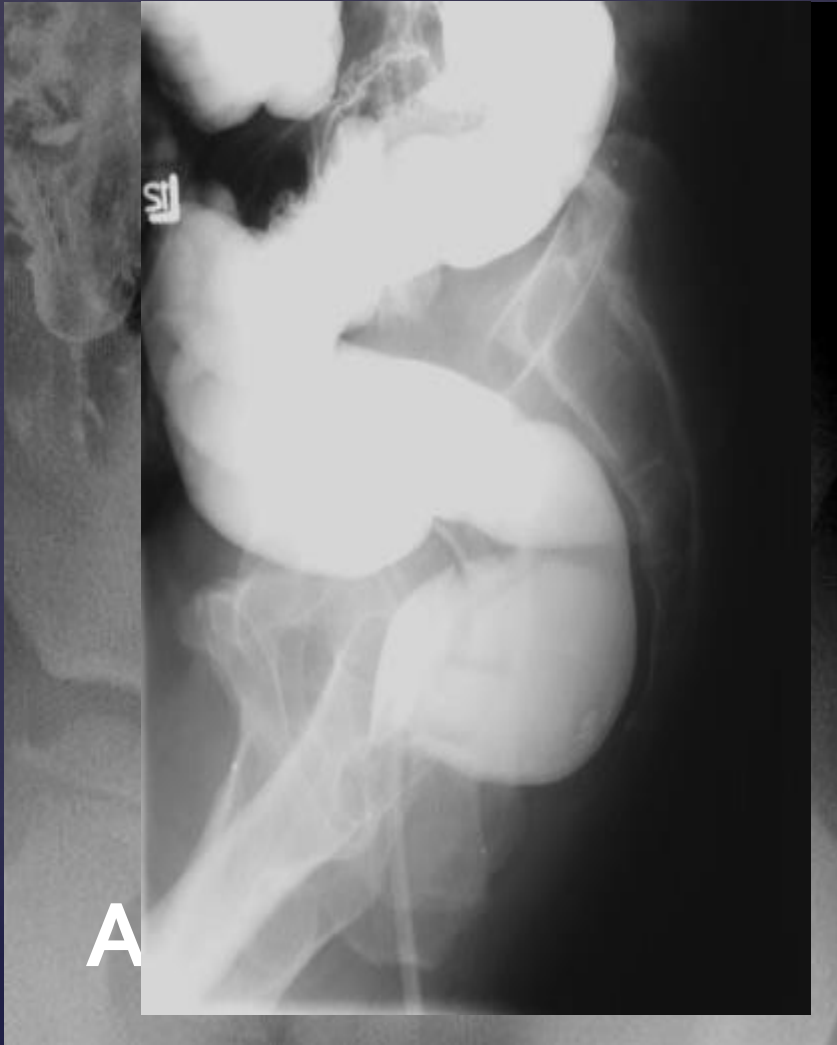
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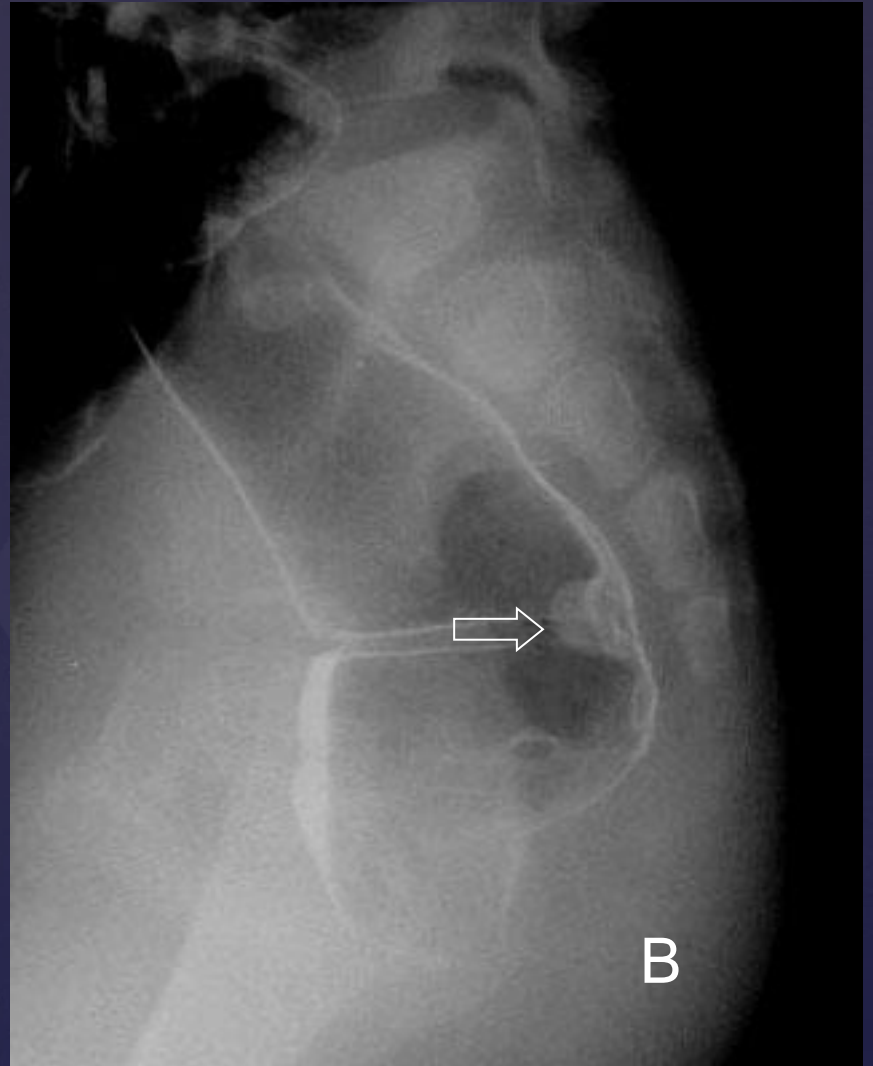
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Polyp



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Barium Studies of the GI Tract

Barium enema

Barium liquid is instilled into the large intestine through the anus



Radiologic view of barium enema

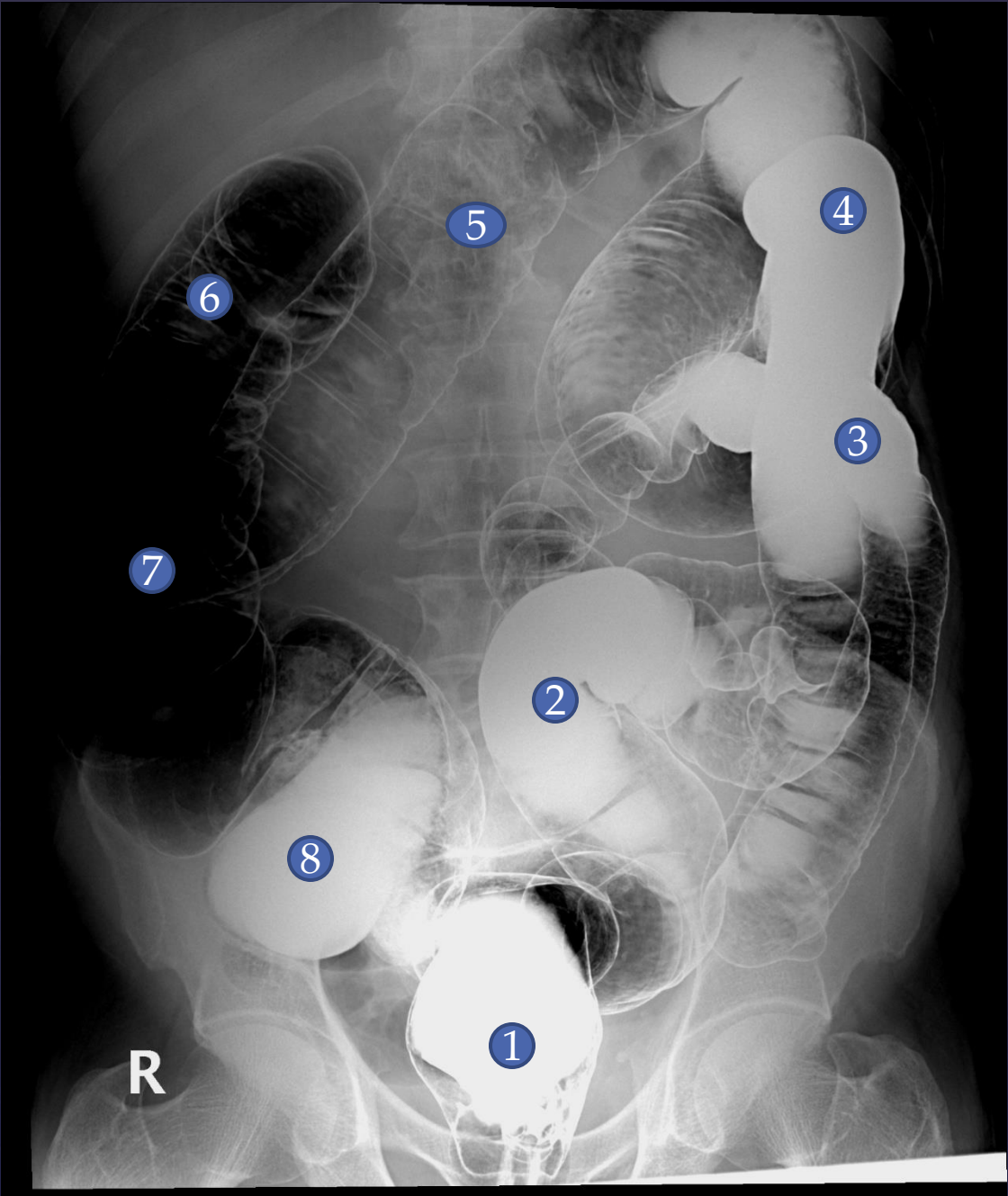


Large intestine

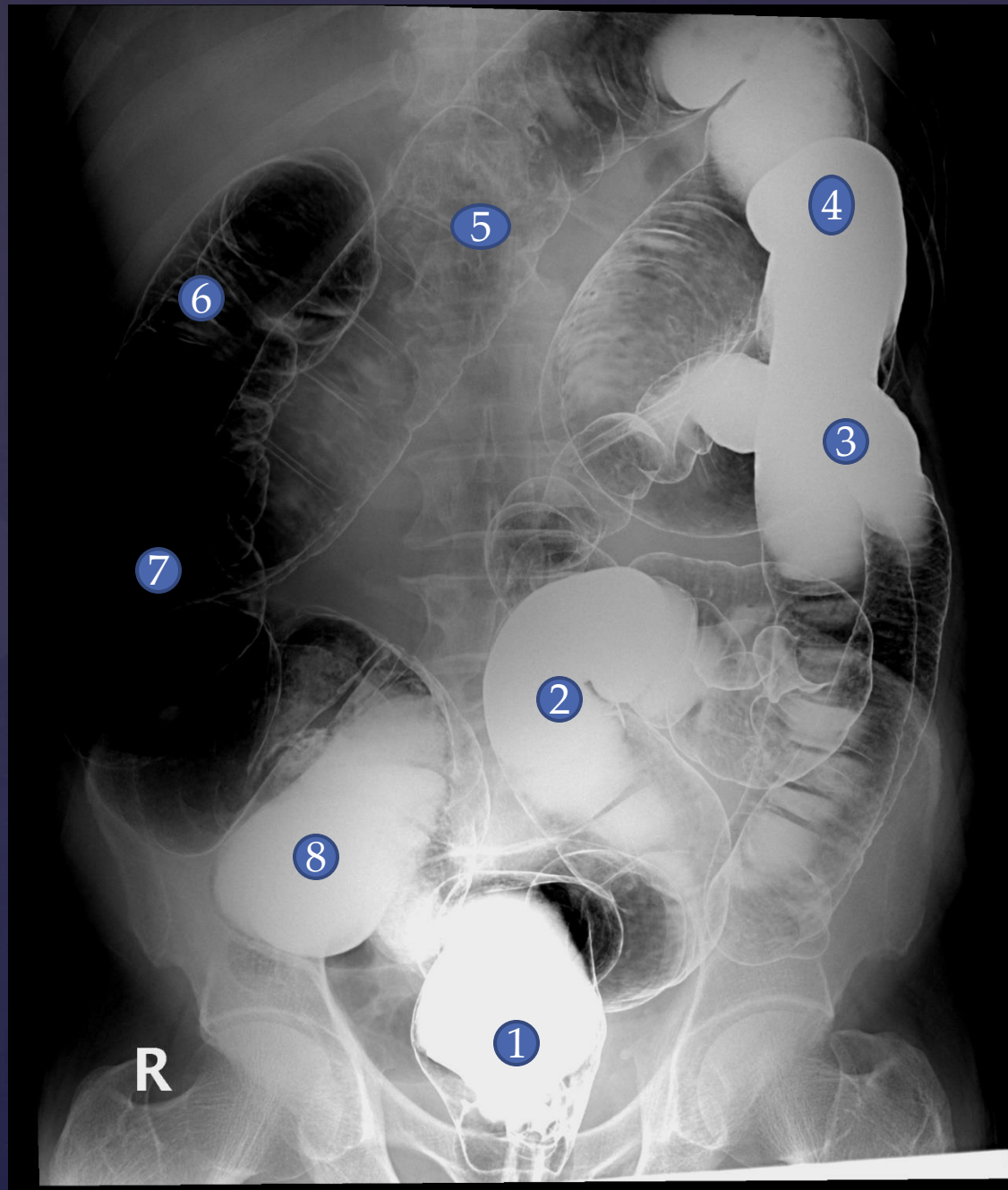
Anus

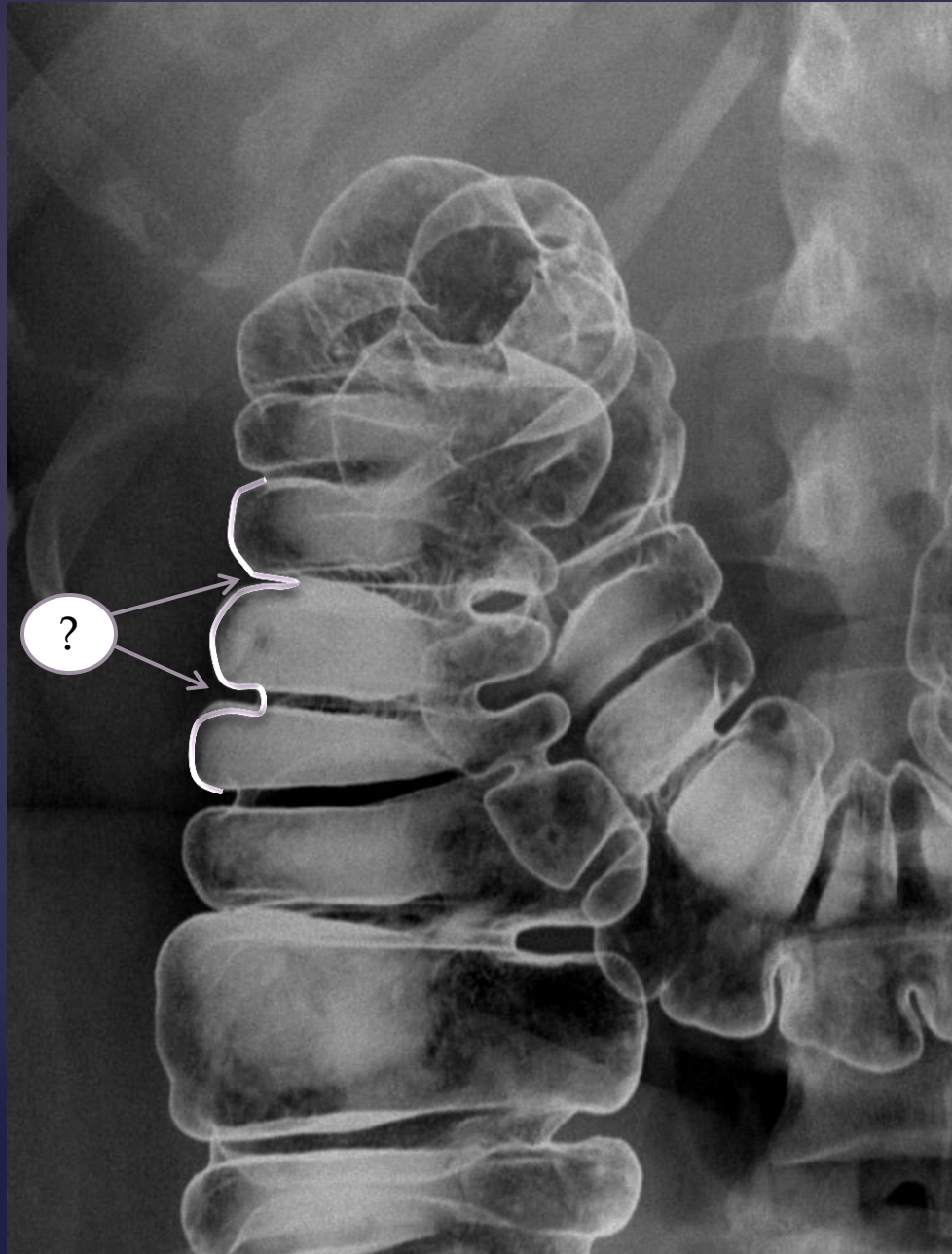
Endoscope



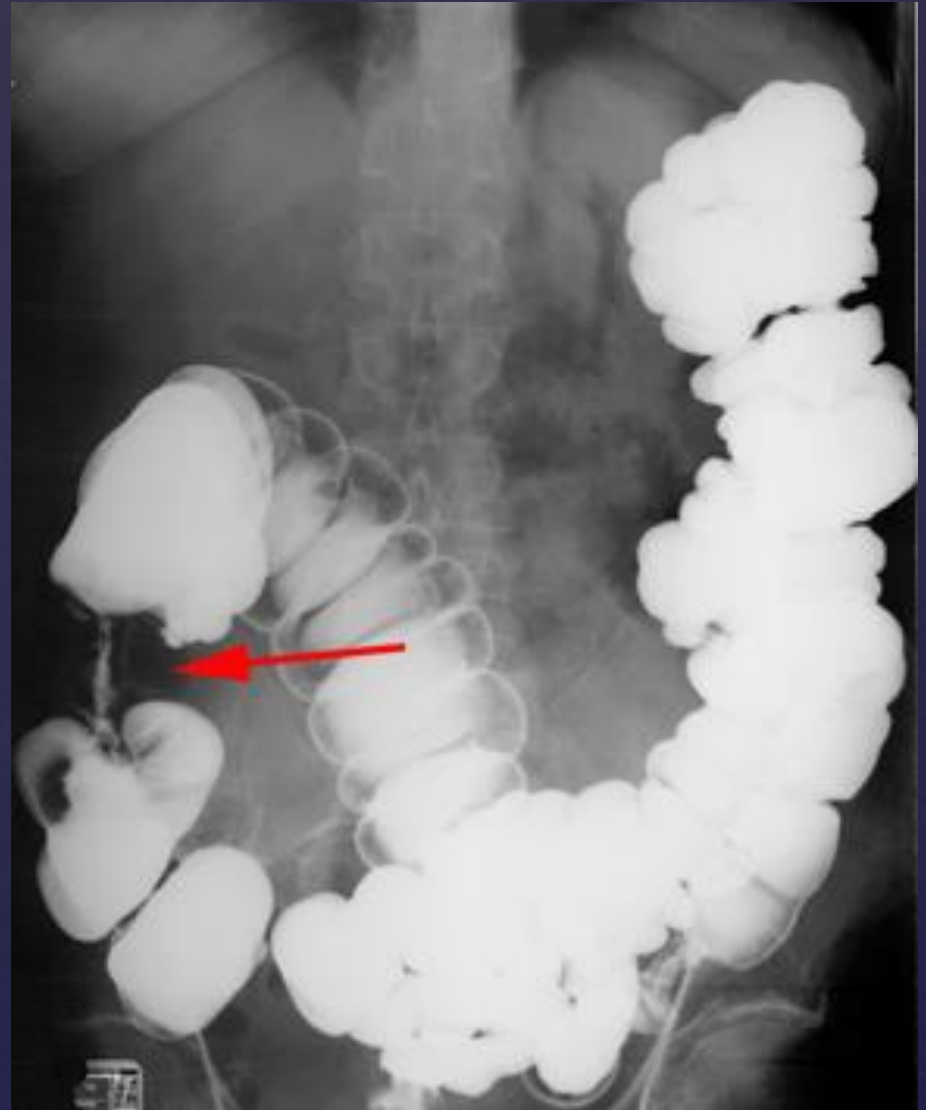


1. Rectum
2. Sigmoid colon
3. Descending colon
4. Splenic flexure
5. Transverse colon
6. Hepatic flexure
7. Ascending colon
8. cecum



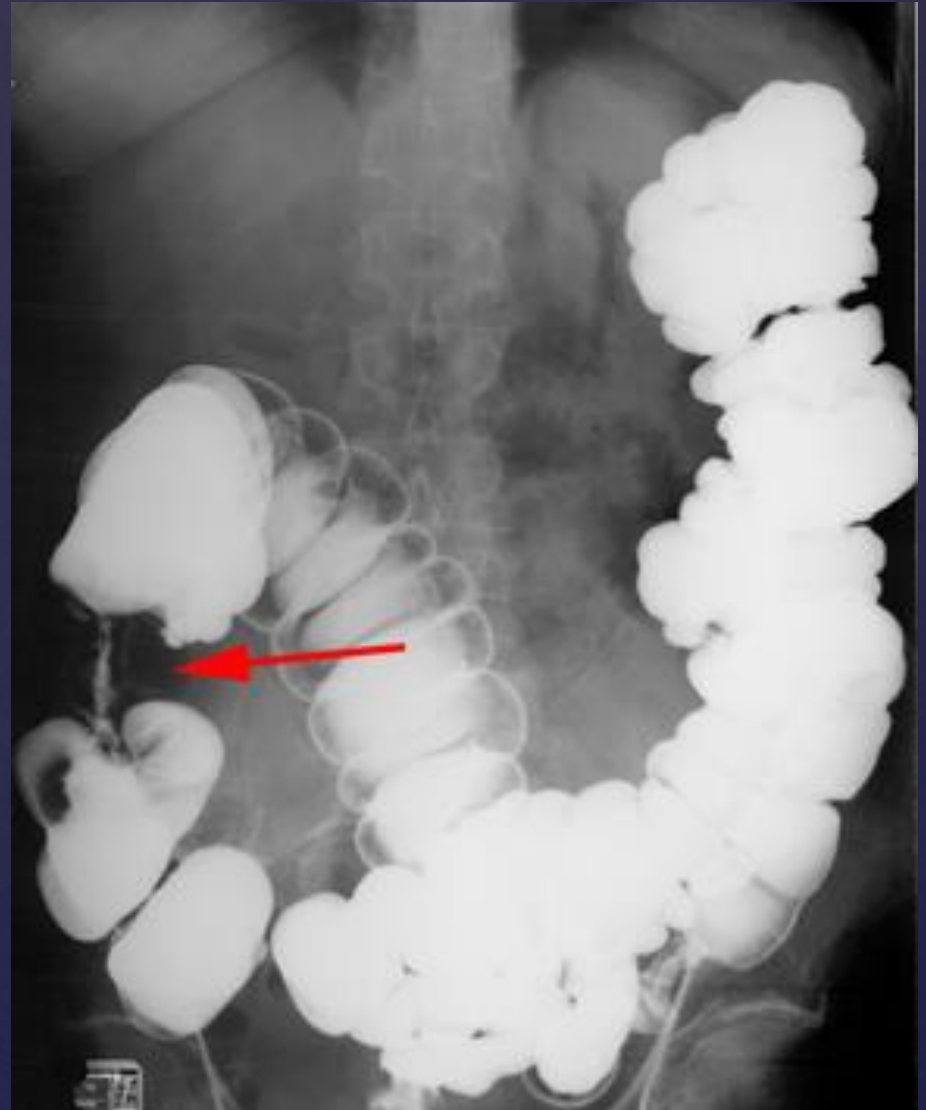


Is this study normal or abnormal? And why?

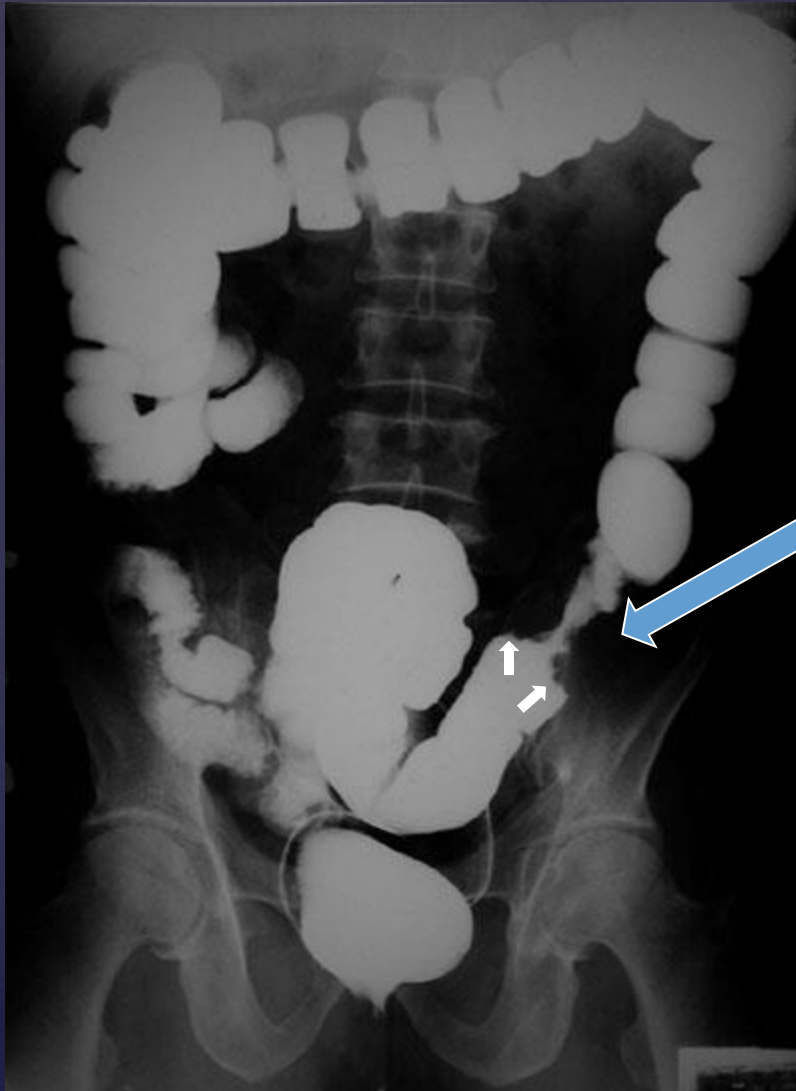


Abnormal study

Colon Cancer
(apple core sign)



Colonic Carcinoma



Annular Carcinoma
with shelf-like
margin

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Normal



Abnormal

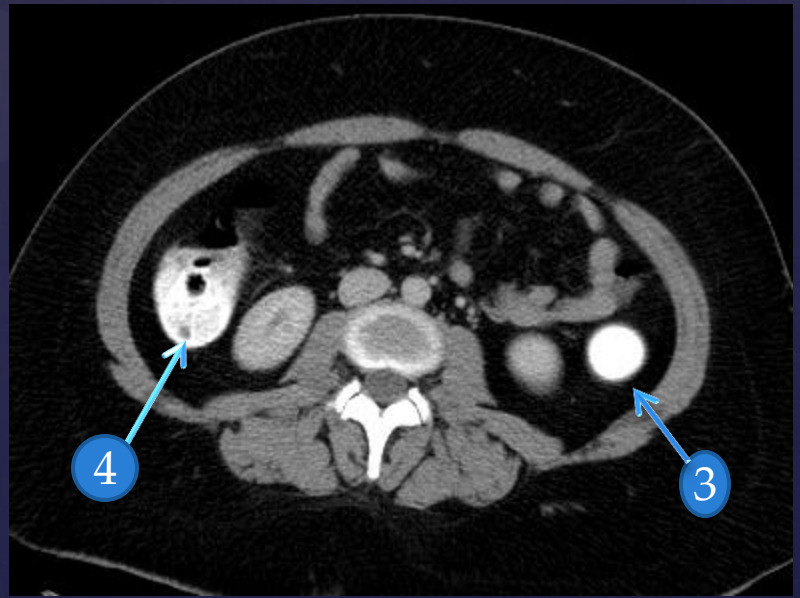
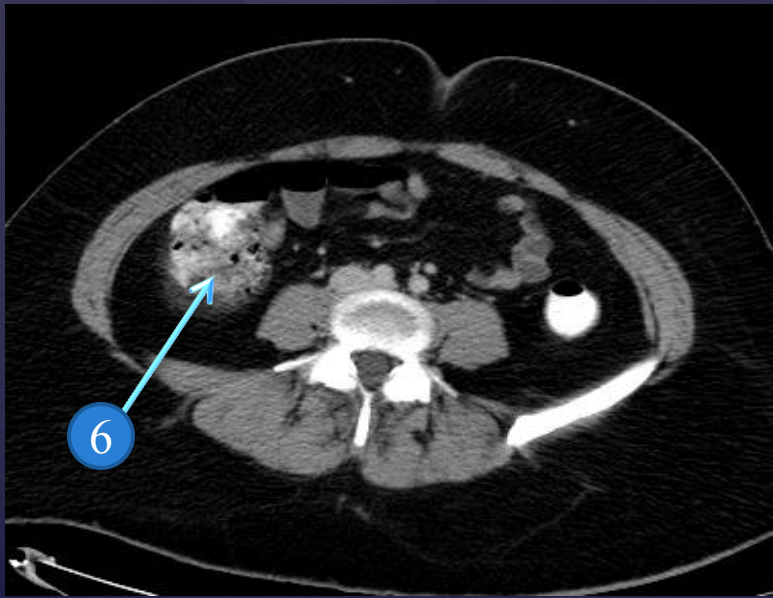
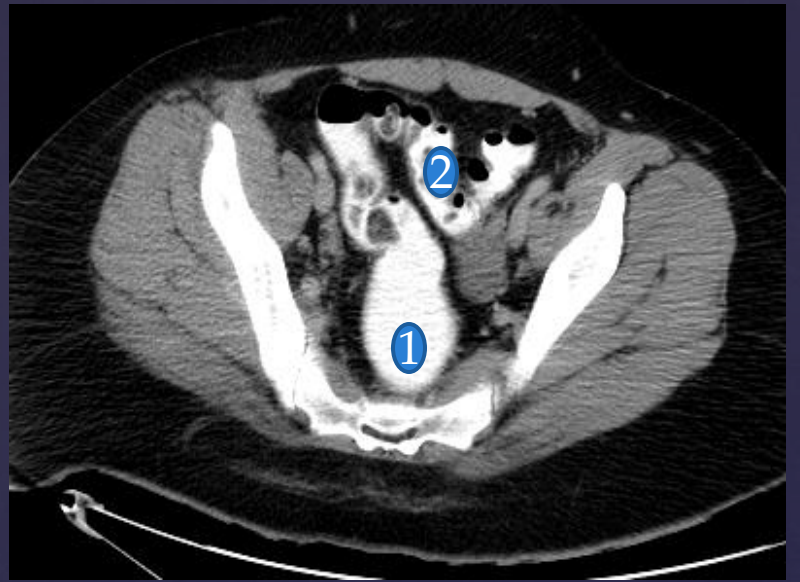
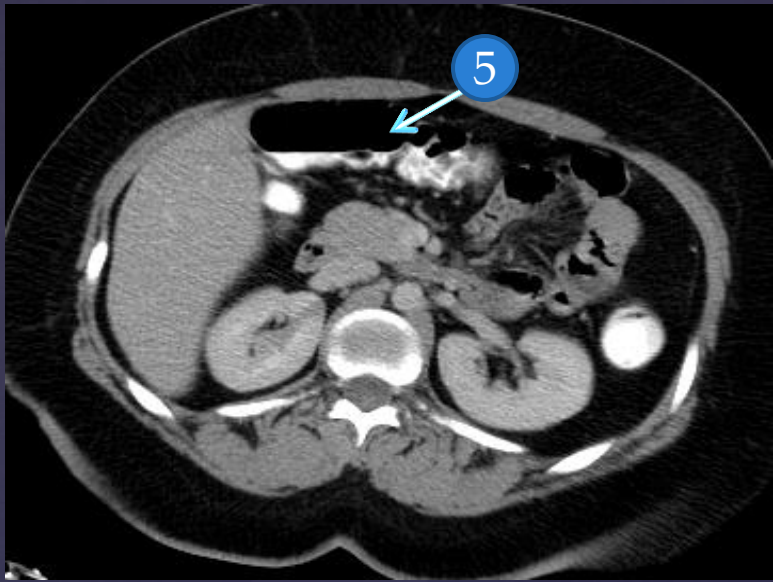
abnormal study ✓

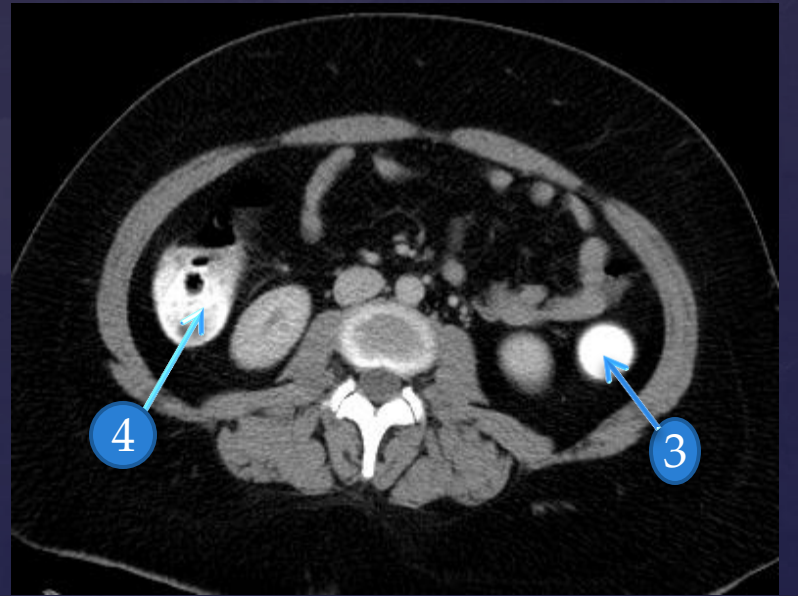
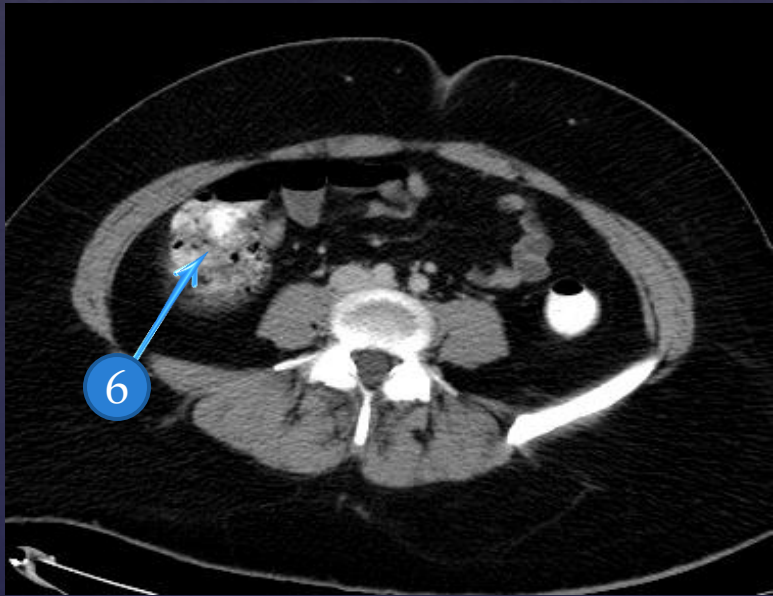
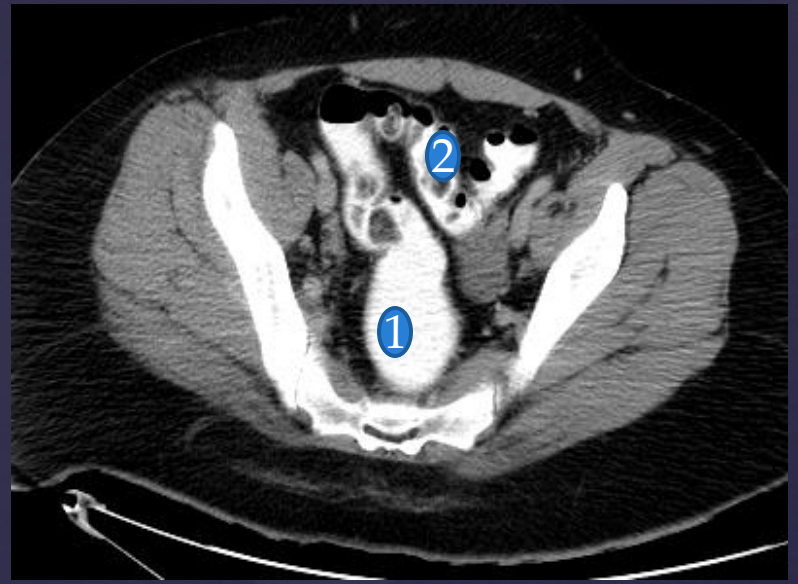
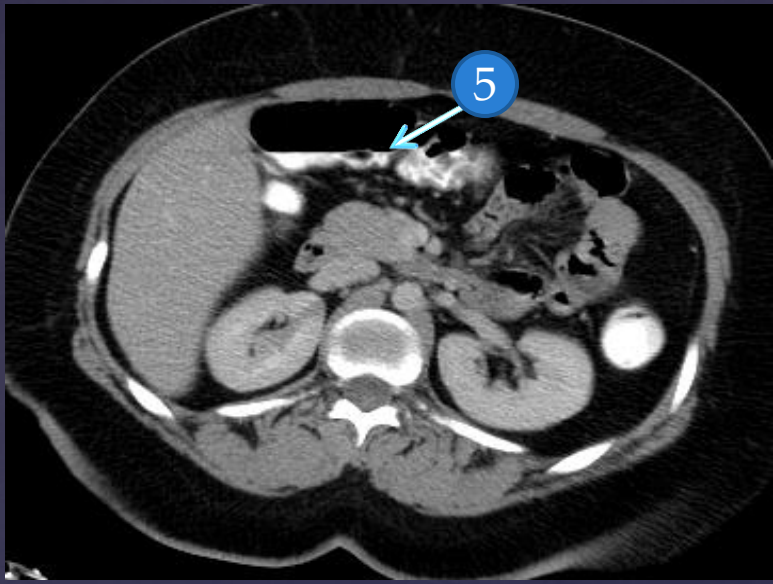
normal ✗

Ulcerative colitis

- Feature-less colon (lead pipe appearance)







1- Rectum

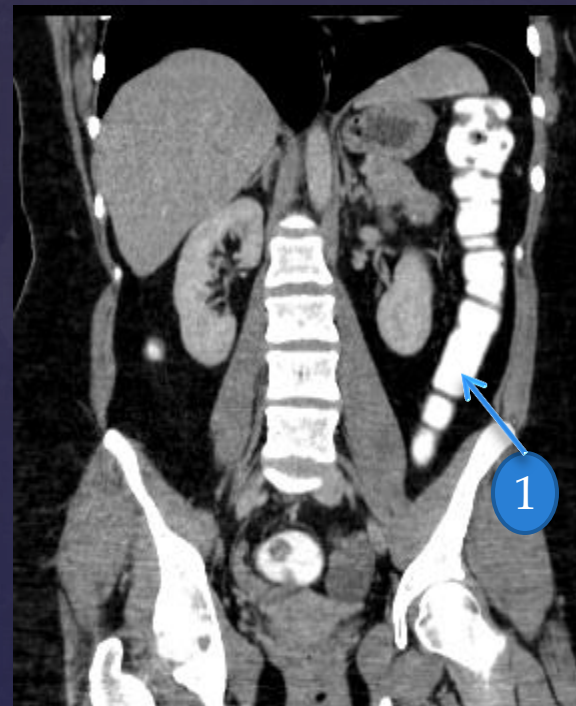
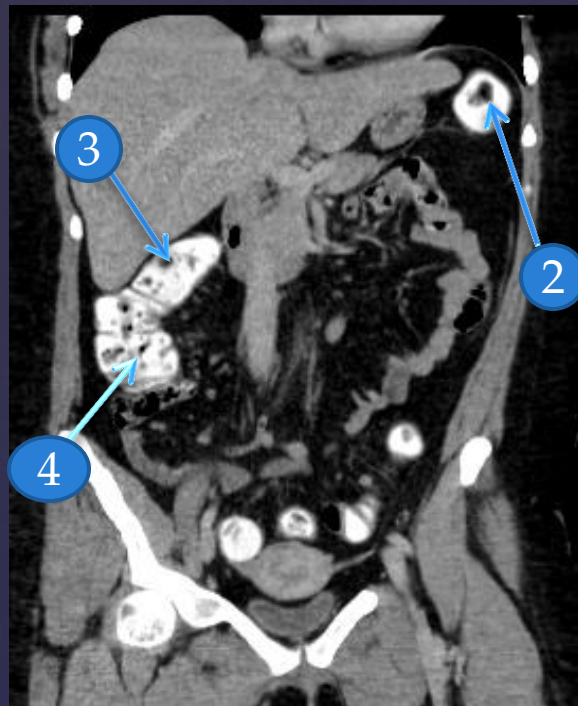
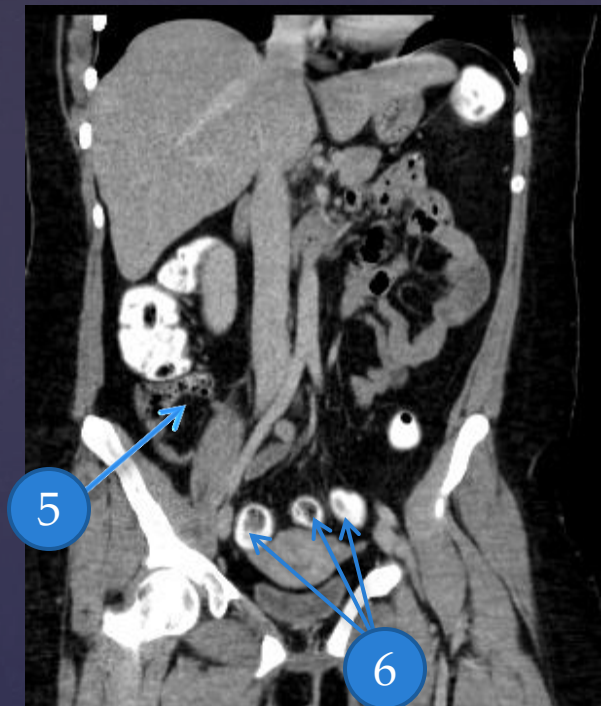
2-Sigmoid colon

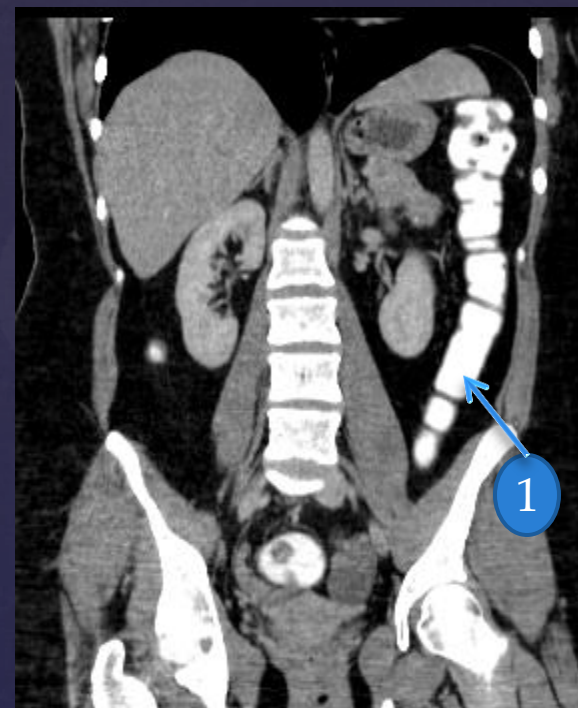
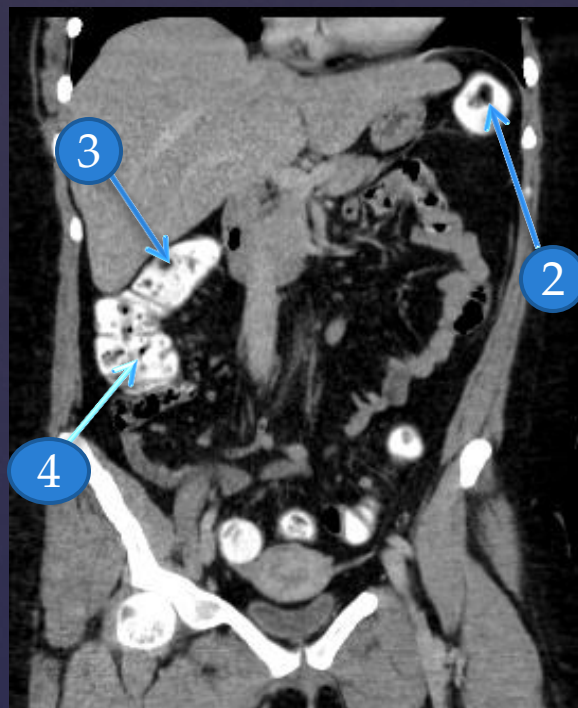
3-Descending colon

4-Ascending colon

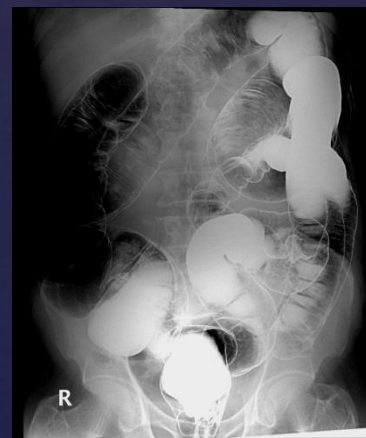
5-Transverse colon

6-Cecum





1. Descending colon
2. Splenic flexure
3. Hepatic flexure
4. Ascending colon
5. cecum
6. Sigmoid colon



What is the diagnosis?



Sigmoid
cancer



Small bowel imaging

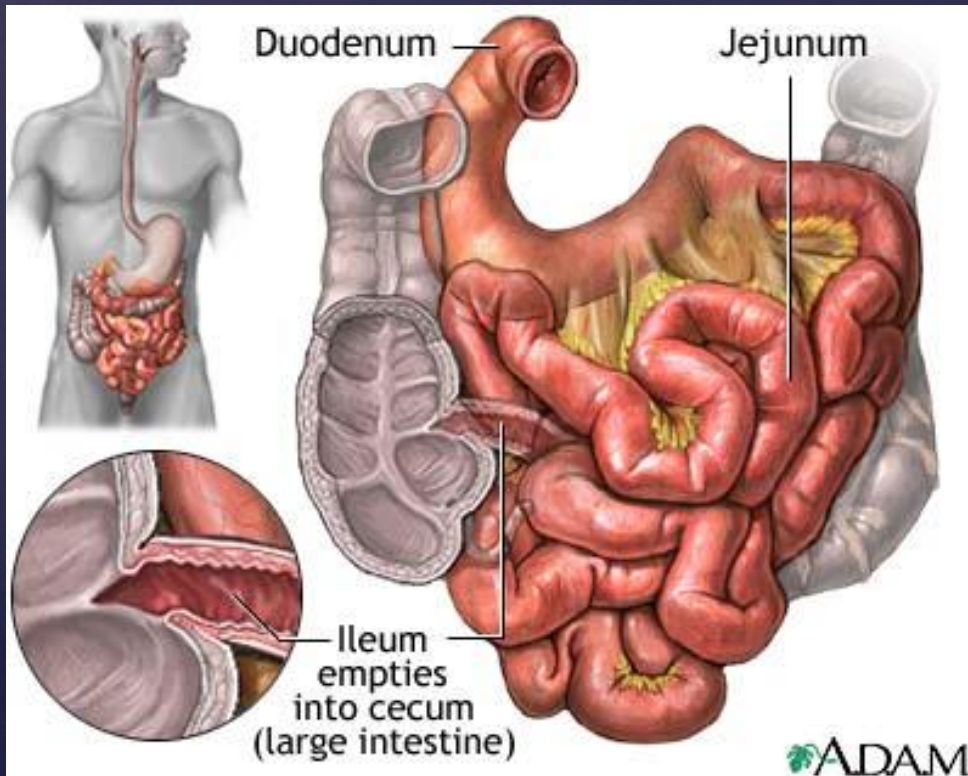
& The small intestine is one of the most difficult areas to study radio graphically in the gastro-intestinal tract; yet, & satisfactory examinations are needed to give the maximum definition of every inch of the intestine .

Small bowel imaging

Barium Studies of the GI Tract

Small bowel follow-through

- The passage of the barium through the esophagus, stomach, and small intestine is monitored on the fluoroscope.
- The test usually takes around three to six hours.



Normal small bowel follow through.

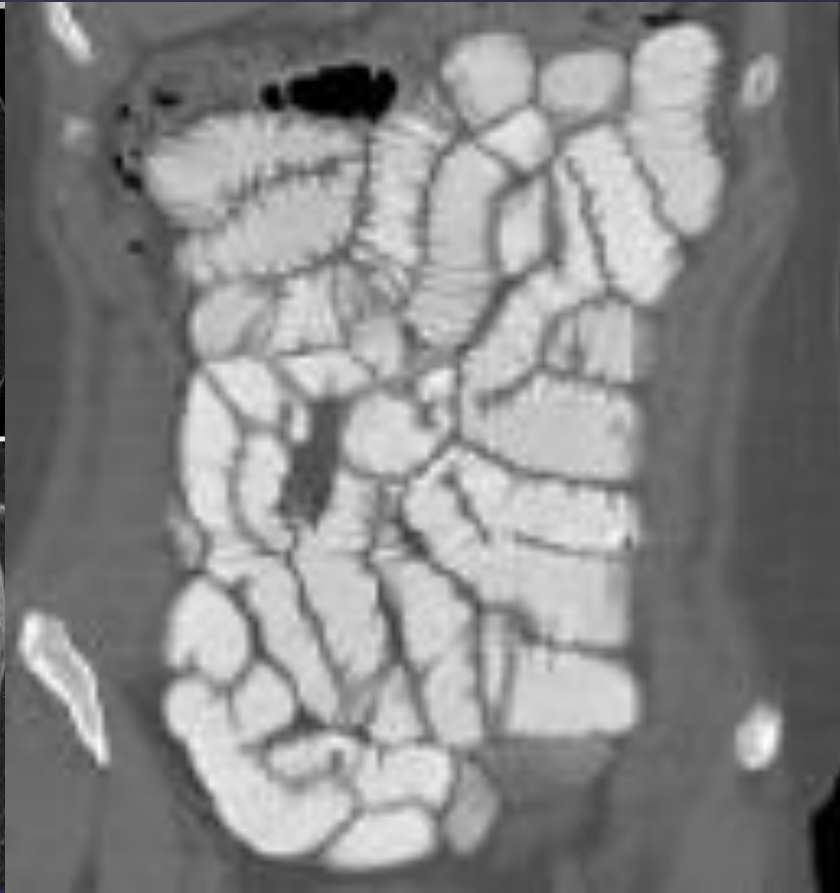
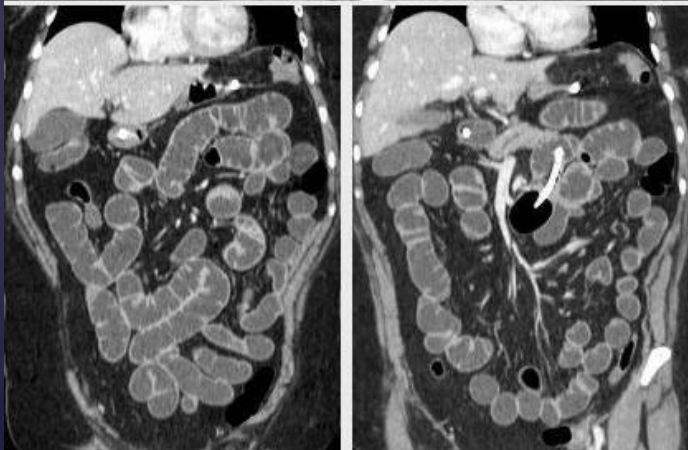
1 Normal enteroclysis and CT enteroclysis examinations.

a The small bowel is distended on the double contrast enteroclysis, providing exquisite **detail of the normal mucosa**.

b CT enteroclysis. Coronal reconstruction MDCT image from a normal CTE study . Note the small-bowel distention and mucosal detail produced by the large volume of positive contrast medium used for enteroclysis



NEUTRAL vs. POSITIVE



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ELS



Coronal true MRI (FISP) image demonstrating the small bowel along its entire length. The use of an isosmotic water solution as an intraluminal contrast agent results in homogeneous opacification of the bowel lumen.

Magnetic resonance imaging evaluation of small intestinal Crohn's disease Nicholas C. Gourtsoyiannis* MD, Nickolas Papanikolaou MSc, Apostolos Karantanas MD

Research Clinical Gastroenterology Vol. 20, No. 1, pp. 137–156, 2006

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THANKS