

# Radiological of GI system diseases

## Lecture 11

### Objectives

- To know the common GIT pathologies presentation.
- To understand step wise approach in requesting GIT radiology investigations.
- To know common radiologic pathologies in GIT.

#### Color Index:

Main text Males slides Female slides Dr's notes Important Golden note Extra

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Editing File

## » Clinical Signs and symptoms :

- ❖ Dysphagia
- ❖ Odynophagia (pain with swallowing).
- ❖ Regurgitations, it is complicated sometimes with esophagitis or esophageal ulcer  
Note38
- ❖ Vomiting.
- ❖ Age also important (some diseases are common in specific age), a young patient will most likely have achalasia, while older patients will most likely have cancer.
- ❖ Constitutional symptoms (Fever, Night Sweat “ signs of infection”, Weight Loss “ malignancy “).

Age and constitutional symptoms are important for diagnosis,  
for example: 75 y/o => think about malignancy , 15 y/o => think about achalasia

- ❖ Recurrent chest infection (TOF). Some patients present with **tracheoesophageal fistula** and they are susceptible to recurrent infections, also during reflux some food regurge into the pulmonary system (particularly pediatric age group) **Note38**

## » Imaging Modalities :

- Fluoroscopy **“1st choice”** Only one used for the esophagus
- CT helps in diagnosis, staging, and metastasis (but it’s not the study of choice).
- MRI helps in characterization of the lesion (limited role).
- X-ray, Ultrasound, Nuclear medicine and Angiography are not significant

## » Esophageal Strictures :

Stricture means “narrowing of the lumen”. And its description can be either :

- a) Tapering ends with smooth outline → benign
- b) Overhanging edges or shouldering with irregular outline → **malignant**

There's physiological strictures and pathological strictures of the esophagus.

Physiological strictures (doesn't cause dysphagia):

1-Aortic arch(A) 2-Left main bronchus(B) 3-Left atrium(LA)

Left atrium hypertrophy will cause dysphagia

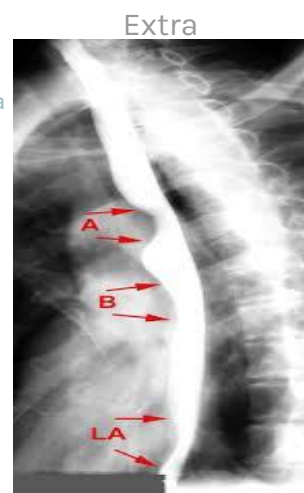
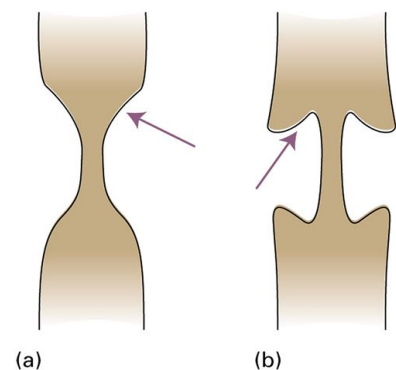
Pathological strictures are divided into two types:

Benign:

- Achalasia
- Peptic esophagitis stricture
- Corrosive esophageal stricture

Malignant:

- Esophageal carcinoma stricture



# Esophagus (Barium swallow)

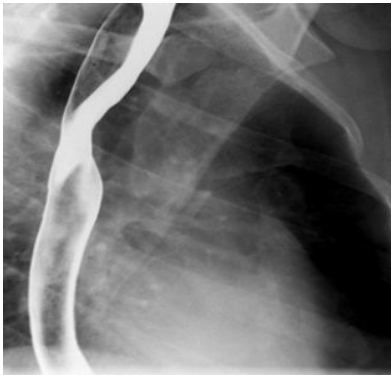
## Normal Study (extra)



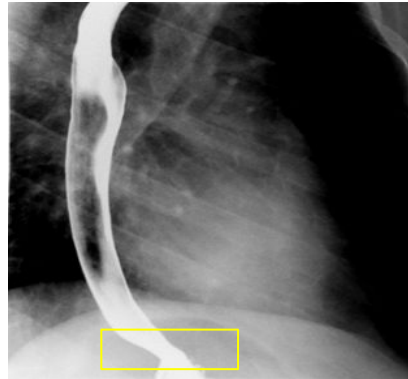
Double contrast (helps in mucosal details)  
- upper esophagus



single contrast  
(helps in gross pathology and anatomy)  
- upper esophagus



Mid esophagus



Lower esophagus  
- Yellow: gastroesophageal junction

For contrasts we have two types

Barium and water soluble (there's too many of them but they just call it water soluble)

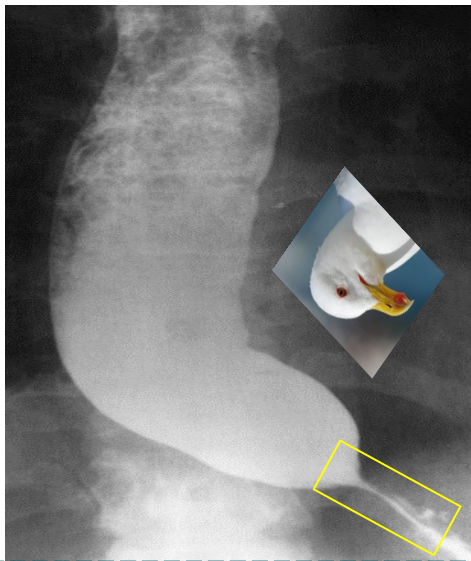
Now barium contrasts are much preferred than the water soluble but in certain circumstances we don't use barium contrast because it's toxic and these circumstances are:

-A tear or a hole in the esophagus or intestine (perforation), a fistula or severe constipation.

For ex:

Patient did an esophageal stent, after the surgery they will do a barium swallow to assess if there's any leakage, what type of contrast will they do?

Water soluble



**Achalasia.** Esophagus is dilated, due to the food residual and contrast (bird beak), tapering in inferior esophagus (rat tail), esophageal wall is smooth.

**Rat tail (yellow)** and **Bird beak** sign indicates achalasia

If "rat tail" involves more than distal esophagus or has irregular contours it raises the possibility of esophageal carcinoma



### Esophageal Carcinoma

Irregular stricture with shouldering (arrow) at the upper end

Short segment of strictures with luminal narrowing **Due to a mass invading the esophageal wall.** Irregular outline. Deep ulceration. Shouldering proximally. **there is always dilatation before any stricture.**

All of these manifestations are of malignant strictures.

## » Dysphagia, Esophageal stricture



Why not esophageal carcinoma?  
Before looking at the image you have to see the patient's history it will mention that the patient ingested harmful chemicals



Peptic stricture is concentric and tend to be distal, unlike esophageal web eccentric and tend to be proximal(cervical) esophagus

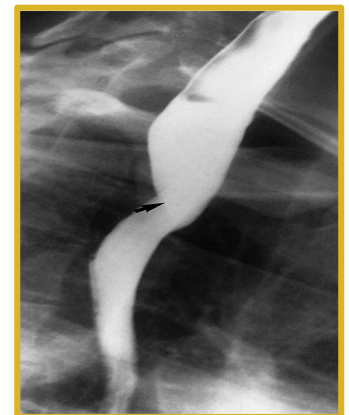
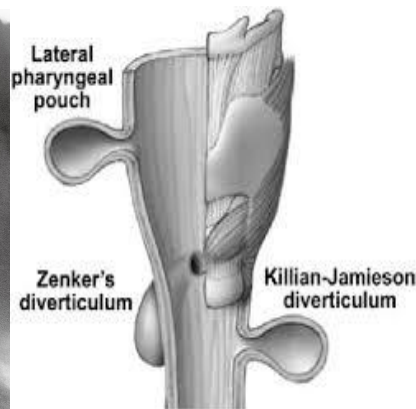
### Corrosive Stricture

Irregular narrowing in the whole esophagus with dilated inflow. **no shouldering** > benign  
\*Corrosive are chemicals like acids or bases.  
The cause of this stricture is due to fibrosis of the esophagus  
Harmful chemicals->esophageal ulceration->heals by fibrosis.

### Peptic stricture:

due to GERD in a patient with **hiatus hernia**. There is smooth narrowing of the mid esophagus we see it in gastroesophageal junction with an ulcer within the stricture (arrow).  
Short segment of stricture and narrowing and Tapering with peptic ulcer (arrow) and smooth outline

## 38 slides (extra)



**Esophageal web.**  
Shelf-like indentation (arrow)  
from the anterior wall of esophagus, **no shouldering**

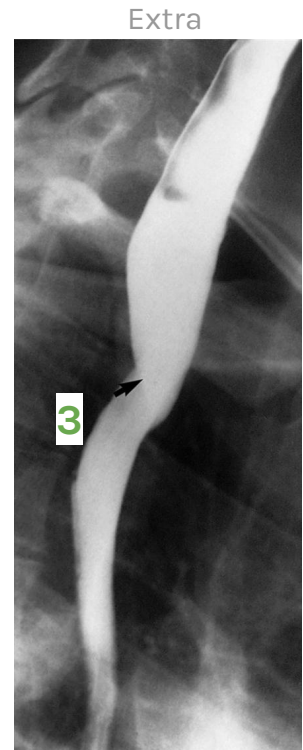
**Esophageal diverticulum** (mucosa bulging outside and filled with contrast), no dilation proximally and normal esophagus  
It can occur in multiple sites in the esophagus

External posterior compression causes narrowing of esophagus due to apparent subclavian artery<sup>1</sup> as it passes behind the esophagus (arrow) anomalous right subclavian artery.

<sup>1</sup>In the reference as well as the golden notes this was said to be a pathology caused by the subclavian artery, but the doctor mentioned it as a normal physiological narrowing caused by the left main bronchus

## » Esophageal impressions (normal)

Physiological impressions  
(indentation):  
1- related to aortic arch  
2- related to atrial enlargement  
3- left main bronchus<sup>1</sup>





## » Clinical signs and symptoms

- ❖ Epigastric pain.
- ❖ Vomiting.
- ❖ Hematemesis.
- ❖ Age is also important (some diseases are common in specific age).
- ❖ Constitutional symptoms (Fever, Night Sweat, Weight Loss).

Age and constitutional symptoms are imp for the diagnosis

## » Imaging Modalities

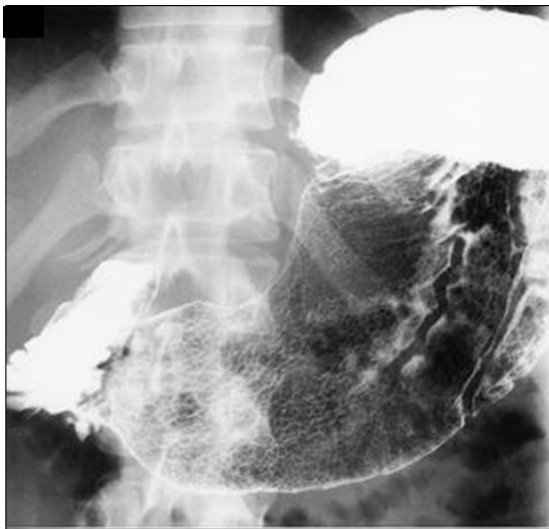
1. CT: best modality esp in acute settings  
(For staging and characterization of the disease and **differential diagnosis** )

The Best 99% sensitive

2. Fluoroscopy (barium meal): now being replaced with endoscopy  
(used to visualize stomach mucosa).
3. X-ray: very limited only helps with specific diagnosis(pneumoperitoneum,obstruction,,)
4. Ultrasound: used in pregnancy and pediatrics
5. MRI
6. NM,Angiography, are not significant

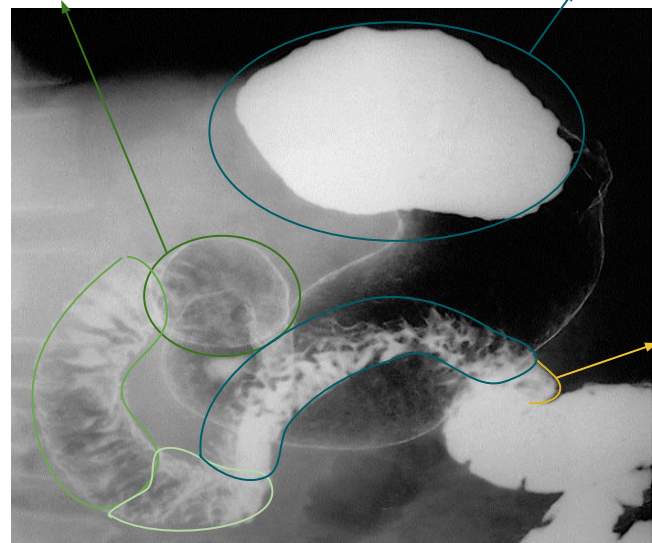
## » Barium meal

### » Normal



Duodenal cap(1st part)

fundus



**Normal Stomach and Duodenum** on double contrast barium meal( gas(CO<sub>2</sub>)+barium sulfate).On this supine view, barium collects in the fundus of the stomach. The body and the antrum of the stomach together with the duodenal cap and loop are coated with barium and distended with gas. Note how the fourth part of the duodenum superimposed on the body of the stomach.

## » peptic ulcer disease (Epigastric pain)

a) In profile the ulcer is seen as an outward projection  
 b) En face (facing forward, out profile) the ulcer appears rounded.

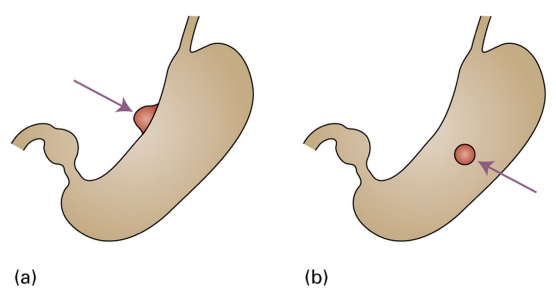
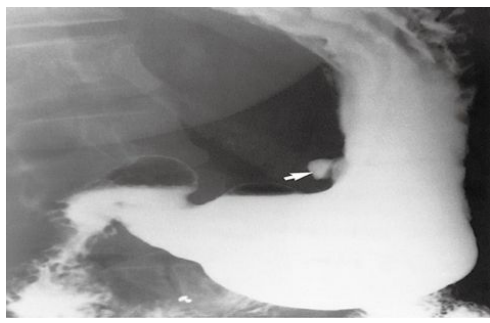


Fig. 6.1 Ulceration. (a) In profile the ulcer is seen as an outward projection (arrow). (b) En face the ulcer appears rounded (arrow).

Barium meal:



Benign ulcer due to its regular lining

**White arrow:** In profile ulcer, **outpouching filled with contrast** in the lesser curve of the stomach (arrow).

**Black arrow:** En face of an ulcer (arrow) is seen as rounded collection of barium, الحفر تدخل فيها الصبغة, and edematous mucosa adjacent to it and directed towards the ulcer

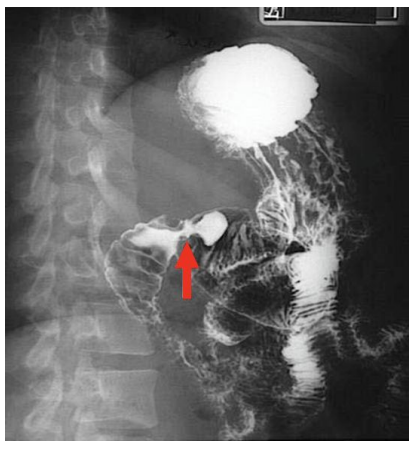
Ulcers -> benign

-> malignant(rare) with irregular edges

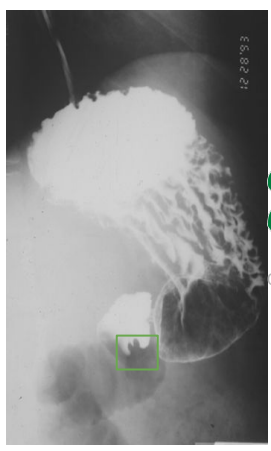
If ulcers were multiple and gastric folds were thickened it might be Zollinger-Ellison syndrome

## » Duodenal ulcer in 38 slides involving the duodenal cap

Barium meal



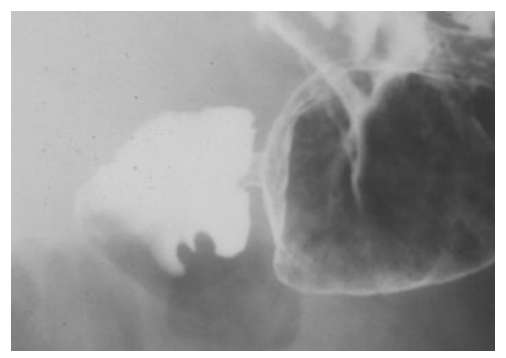
Narrowing, area of contrast pool, mucosal edema (distal gastric antral ulceration)  
 No proximal obstruction



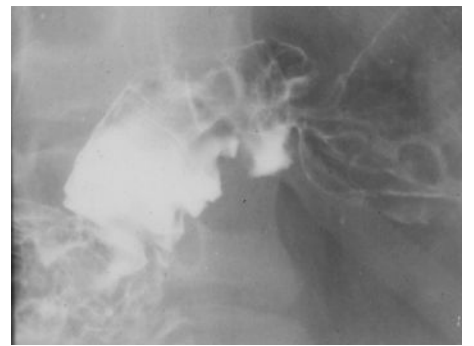
A filling defect within the inferior aspect of the duodenal wall



Cloverleaf appearance



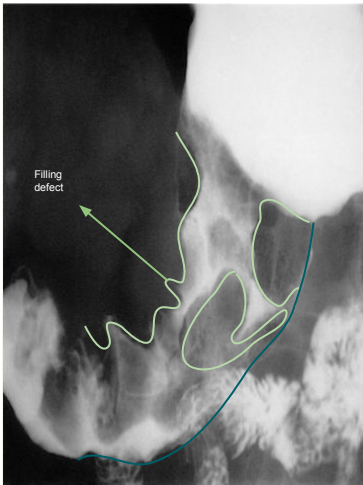
Single contrast study - filling defect



Double contrast study (thickened edematous mucosal fold directed toward the ulceration)

Double contrast has a higher sensitivity

## » (Epigastric pain) Gastric carcinoma Barium meal



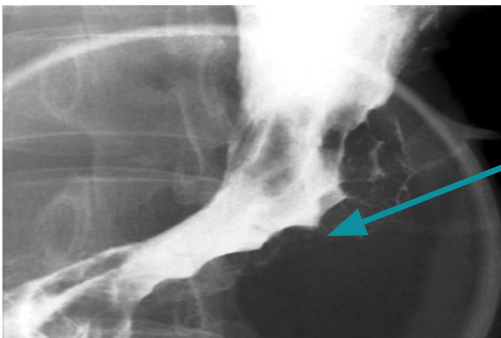
Gastric Carcinoma on barium study there are a number of large filling defects in the antrum and body of the stomach

Thickened mucosal fold and Swelling of the wall That led to filling Defect **Cloud like appearance**, narrowing of gastric lumen with lobulation in the outline (seen in diffuse infiltrative process involving the gastric wall e.g. infiltration by malignancy) lumen with black color indicates **filling defect**-> due to food or foreign body or thickening in the wall.

Causes of this **wall infiltration**:

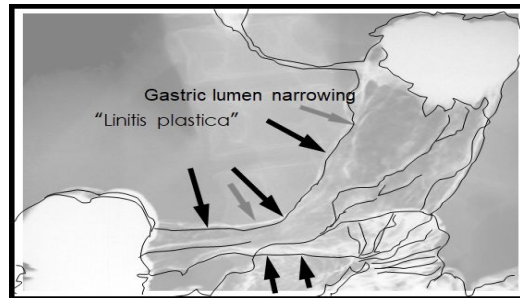
1-cancer in wall 2-malignant metastasis 3-lymphoma

## » Extra



Gastric Carcinoma on Barium study

Black areas (black clouds) are large **filling defects** in the antrum and body of stomach which indicates mucosal abnormality (**infiltration**). The difference between gastric masses and ulcer is that the ulcer will accumulate the contrast in ulcer site which will appear as dense but in case of mass, **the mass will clear the contrast and will appear black**.

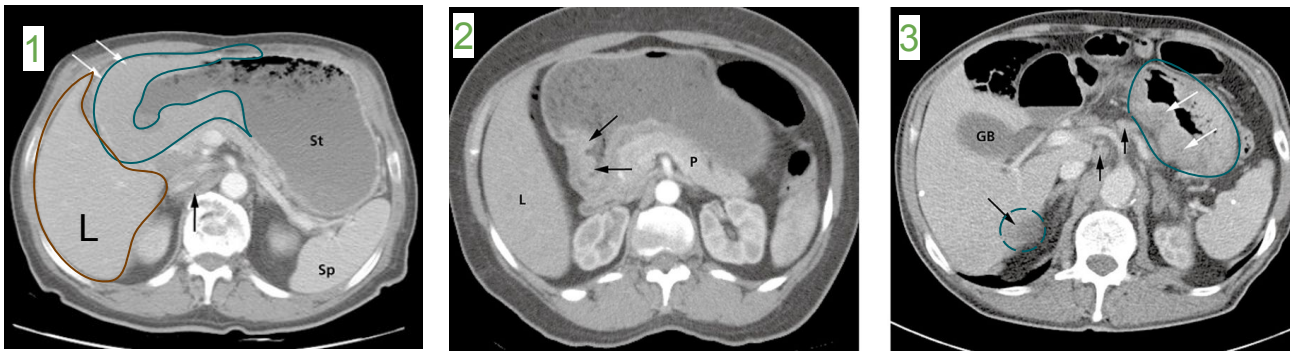


Linitis plastica related to the diffuse gastric luminal narrowing

Nowadays endoscopy is used for diagnosis (more sensitive and specific), we use CT to assess for distant metastasis



## » (Epigastric pain) Gastric carcinoma on CT



Gastric Carcinoma on CT

1- In the first picture (white arrows) indicate wall thickening, and it's what appeared in the barium study as filling defects. **Mass in the gastric antrum**

2- focal ulcer is seen arising in the antrum (arrows)

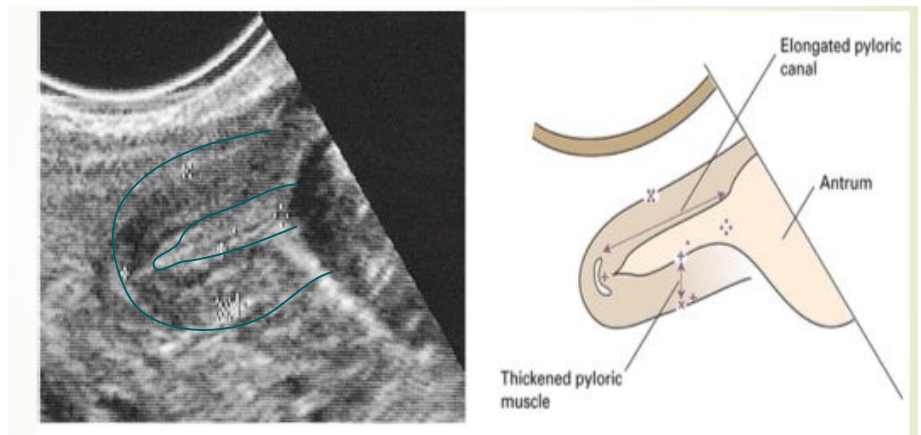
3- In **the third picture**, there is **diffuse thickening of the wall of the stomach** (white arrows), several lymph nodes enlargement (short black arrows in the middle) and a liver metastasis (long black arrow) are also seen. **These thickened walls could be: 1.Primary Gastric Cancer 2.Infiltration 3.Metastasis 4.Lymphoma.** (it is Gastric Carcinoma here) thickened walls and narrowed lumen with different axial levels.

## » Pyloric stenosis

Ultrasound scan in a neonate showing a thickened, elongated pyloric canal

Typical presentation: boy 6 month with projectile vomiting

Pyloric stenosis is one of limited role of US in the GIT



## » Clinical signs and symptoms

- Malabsorption
- Vomiting
- Constitutional symptoms (fever, sweating, weight lose)
- Age (some diseases relate to specific age)
- Surgery(adhesions/hernia)

## » Imaging modalities

- **X-ray** (Bowel obstruction and perforation) best initially.(limited role)
- **Fluoroscopy** (Barium follow through/Small bowel enema). ( play a major role)
- **Ultrasound** (we don't use it because small bowel is filled with gas and US can't read gas). And it's replaced by CT and MRI
- **CT** replacing the fluoroscopy these days. (Play a role)
- **MRI** replacing the Fluoroscopy and CT.
- **Nuclear medicine** > not used.
- **Angiography** > not used.

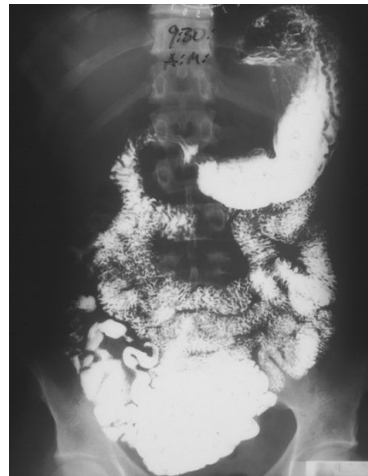
## » Normal

extra



small bowel enema  
extra

extra

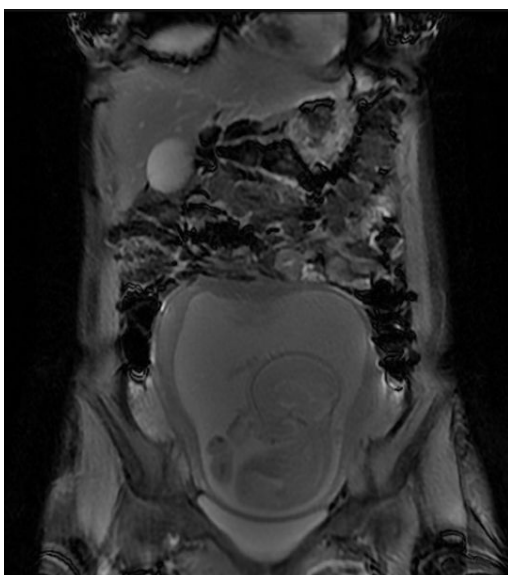


barium meal- follow through

extra

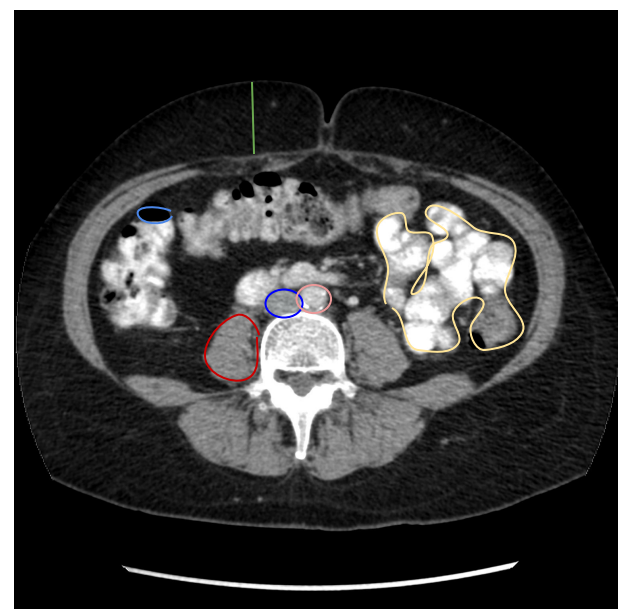


CT scan



←-MRI the small bowel looks like it's vibrating, and that's because the small bowel contracts during imaging a reason why CT>MRI

- Gas in small bowel
- Small bowel filled with contrast
- Right psoas muscle
- Inferior vena cava
- Abdominal aorta(there's atherosclerosis)
- Subcutaneous fat

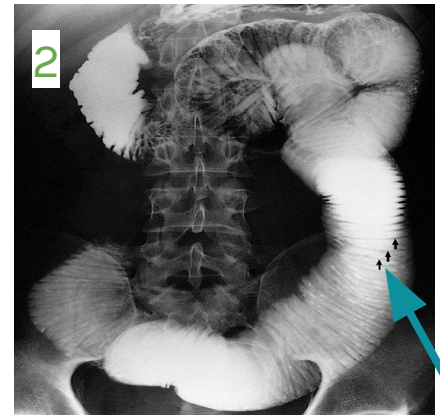
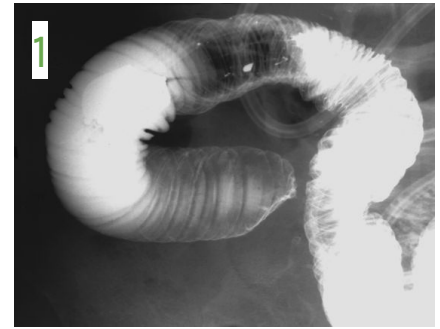


## » Small Bowel obstruction

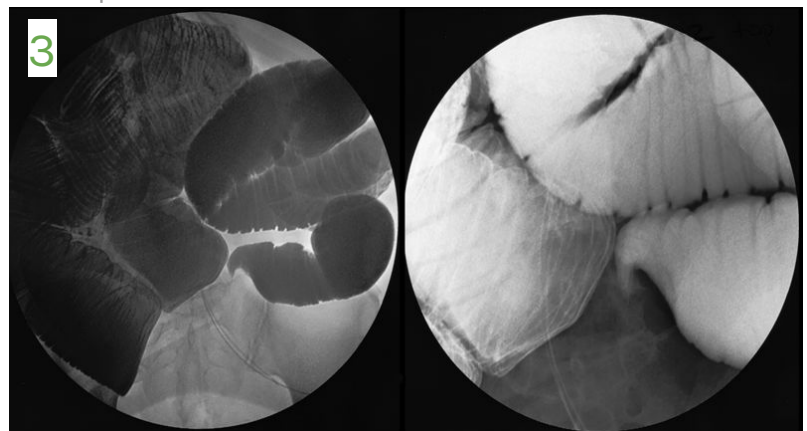
Patient presenting with abdominal pain and distension

Small bowel enema :

- Significant dilation of the small bowel obstruction. The diameter of the wall is greatly increased. The feathery mucosal pattern is lost and the folds appear as thin lines traversing the bowel, known as valvulae conniventes (arrows).
- Picture 2: The signs of small bowel obstruction secondary to adhesion :
  - 1- Dilated small bowel loops proximally
  - 2- Thickened mucosa (valvulae conniventes)
  - 3- Cutoff sign distally
- The diameter of the bowel is greatly increased.
  - (Keep in mind that The upper limit of normal diameter of the bowel is generally accepted as 3cm).



Extra pic.



## Small Bowel obstruction

Patient presents with:

- Nausea, Vomiting
- Cramping abdominal pain
- Obstipation (inability to pass stool)
- Dehydration

## Imaging

- 1-X-ray first choice
- 2-CT
- 3-MRI (can't tolerate radiation)
- 4-Ultrasound
- 5-Fluoroscopy is helpful in partial obstruction and the patient is stable

3-6-9 rule used to identify if there's obstruction or not by measuring the diameter of the lumen

- Small bowel > 3cm
- Large bowel > 6cm
- Cecum > 9cm

We differentiate between small bowel and large bowel via valvulae conniventes

Causes:

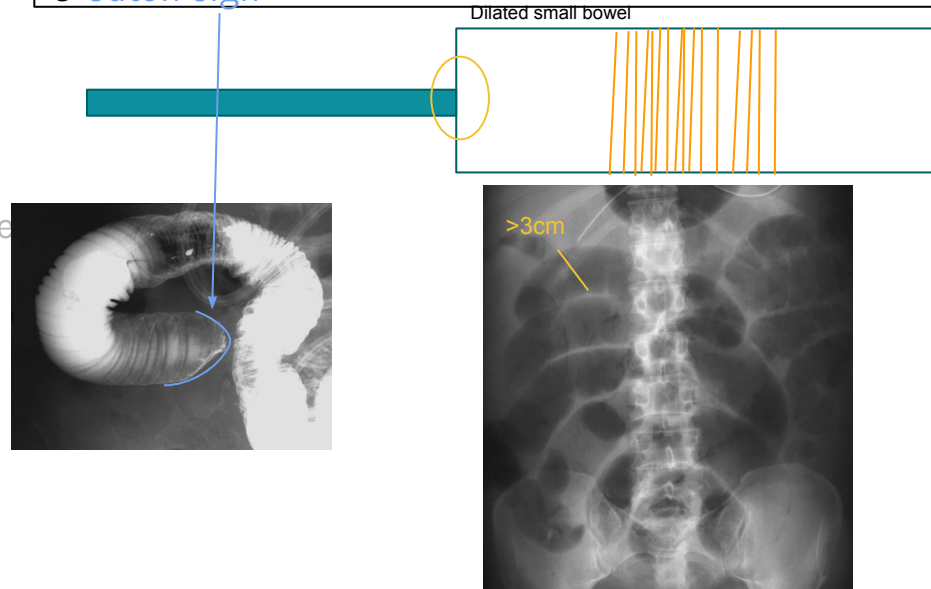
Congenital	Extrinsic
Jejunal atresia	Fibrous adhesions
Ileal atresia or stenosis	Abdominal hernia
-	Masses
-	Endometriosis



Fig. 6.37 Dilatation from small bowel obstruction. The diameter of the bowel is greatly increased. The feathery mucosal pattern is lost and the folds appear as thin lines traversing the bowel, known as valvulae conniventes (arrows).

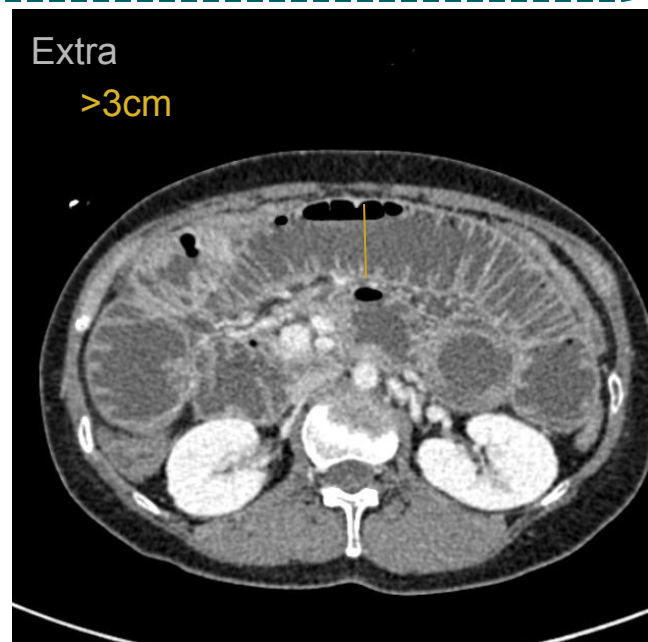
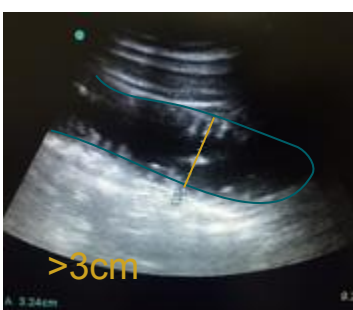
Obstruction secondary to adhesion

- 1- Dilated small bowel (proximal to the obstruction)
- 2- **valvulae conniventes** which are the thin lines (arrows)
- 3- **Cutoff sign**



This is a plain x-ray. We see significantly dilated small bowel loops which centered in the mid-abdomen. Also there is thickened, mucosal folds and edema

Extra

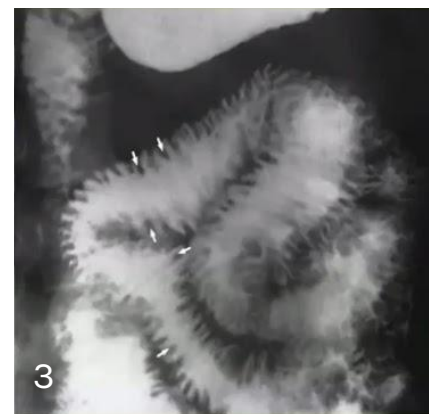
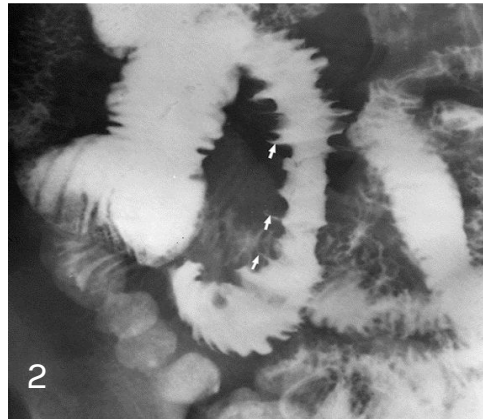
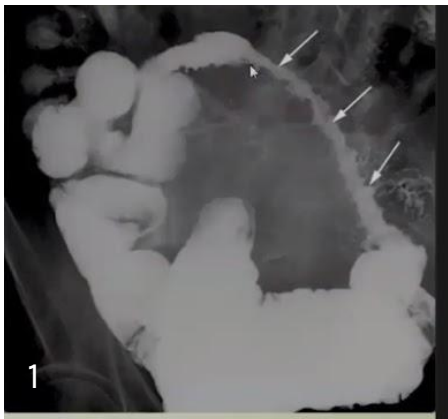
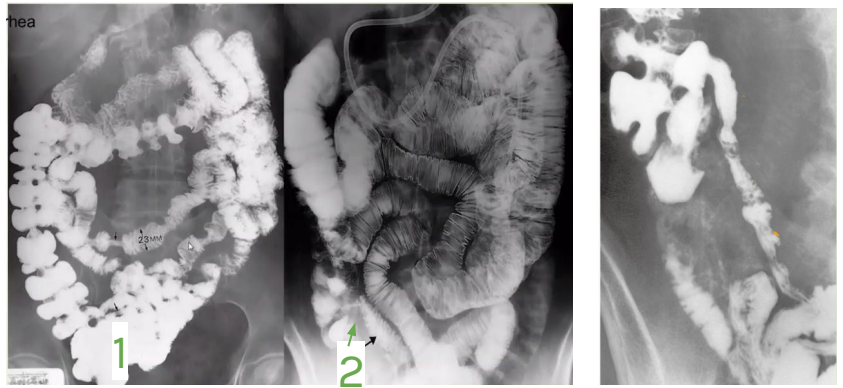




## » Crohn's disease

A patient presenting with Abdominal pain & weight loss and diarrhea

- 1-normal barium follow through
- 2-ileocecal narrowing on enema
- small bowel inflammatory process

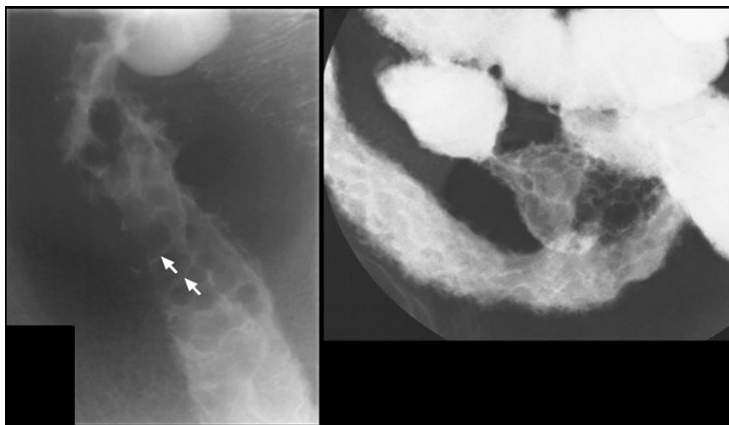


Picture 1: There is a long stricture (arrows) in the ileum due to crohn's and an abdominal mucosal pattern + separation of abnormal segment from other loops of the bowel (loops separation due to fibrofatty proliferation) with thorns rose

picture 2: **Deep Ulceration** abnormal loops of bowel in crohn's disease showing the ulcers as outward projections (arrows). If the erosion extends to submucosa we will see the contrast filling the submucosa (thorns rose) Streak of contrast filing the wall both of these changes are seen in the crohn's disease (cobblestone sing & thorns rose)

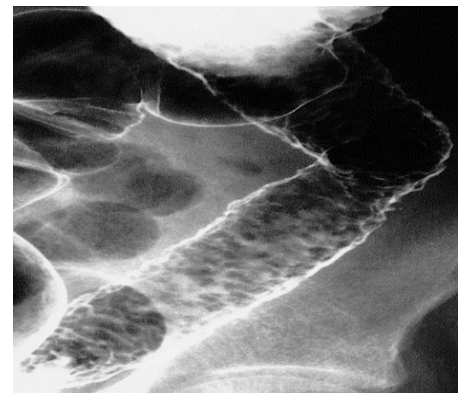
picture 3: mucosal abnormalities with infiltration of the bowel, **thickening of the mucosal folds** Due to infiltration

Extra pics



Cobblestone appearance due to edema of the mucosa

Fibrofatty proliferation with separation of the bowel loops



En-face: (mucosal ulceration the black spots in the picture) small erosions of the mucosal lining (cobblestone sign)  
سطح القمر المبقع

### FINDINGS:

1. Lumen narrowing & multiple stenotic segments (skip lesion)
2. Deep Ulceration with mucosal edema in between → Cobblestone Appearance
3. Bowel loop separation (fibrofatty proliferation)

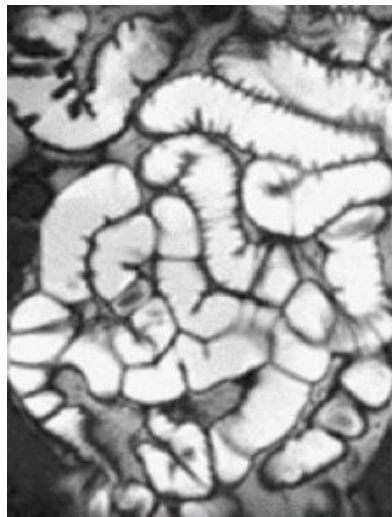
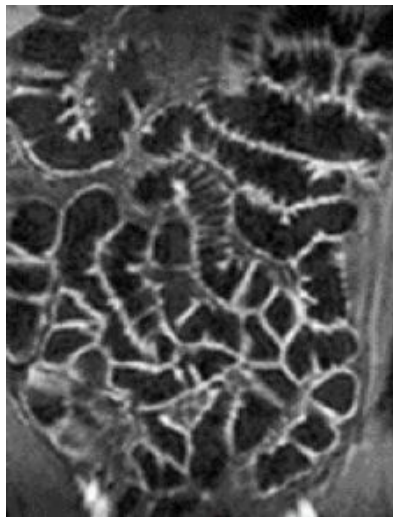
## ⇒ Crohn's disease



CT in the same patient demonstrating **marked Non-uniform thickening with mucosal enhancement** of the abnormal loop of small bowel, with a narrowed lumen due to increased wall thickness (white **arrows**). Several dilated loops of small bowel are also seen (black **arrows**) due to some obstruction at the level of the stricture



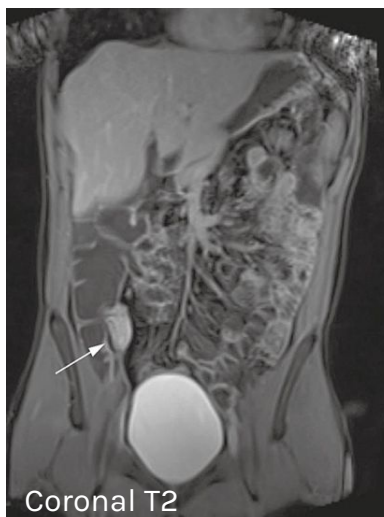
CT scan of the small bowel  
White arrow: significant thickening of the wall this might be seen in Hypoalbuminemia or lymphoma



MRI enterography - normal.

MRI can show the bowel while it is moving so if there is a part that does not move It Means It Is dead

- Mucosal thickening and enhancement involving the Iliocecal junction (arrows), characteristic of Crohn's disease.
- Narrowing of the lumen and thickening in the wall of ileocecal junction are seen by MRI enterography.
- MRI used to evaluate patients with crohn's disease



Coronal T2



Coronal T1

MRI enterography - CD

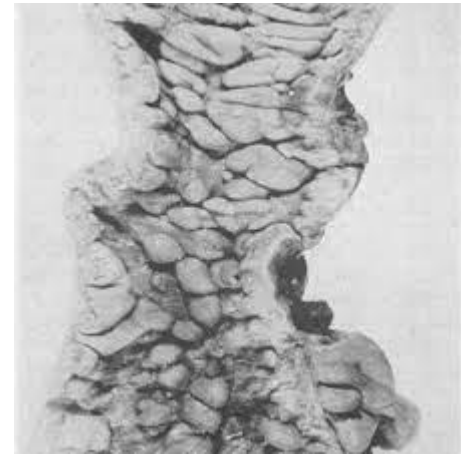
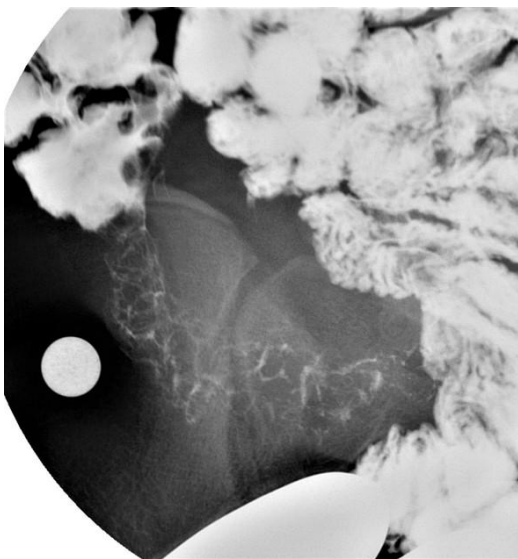
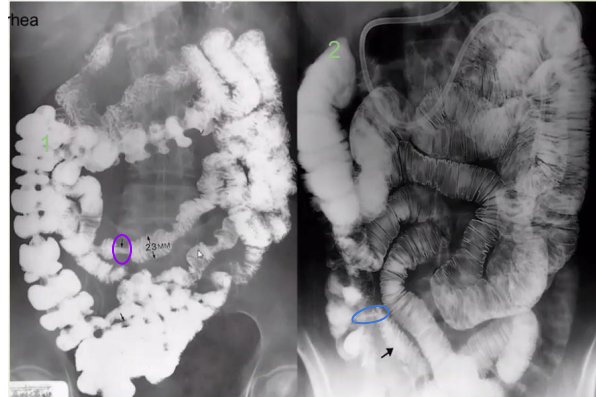


## » Crohn's disease (extra)

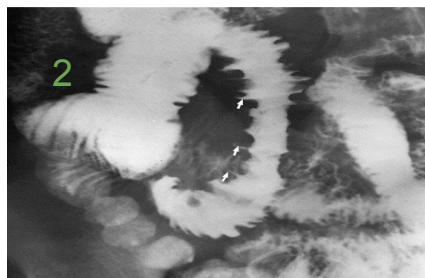
-A patient presenting with Abdominal pain & weight loss and diarrhea  
-occurs anywhere along the GIT

-CT and MRI (89% vs 83% respectively) have better sensitivity than follow through(67-73%)  
-Ultrasound used for diagnosis and follow up(75-94%).

-In this barium follow through we see:  
1-tubular narrowing (circle) due to spasm or stricture, which causes a partial obstruction  
2-ulcers (arrow) and narrowing of terminal part of illum



Longitudinal and circumferential fissures and ulcers separate islands of mucosa, giving it an appearance reminiscent of cobblestones. (its unique to crohn's)



1-Long stricture (arrows) due to crohn's (in this picture the lumen is narrower than the other pictures because here its chronic), it has a rose thorns appearance  
2-Here the ulcers are very deep that it appears as outwards projection (arrows)  
3-the arrows points towards the normal mucus membrane



**Findings:**  
1-narrowed lumen (chronicity)  
2-thorn like appearance  
3-cobblestone appearance (unique to crohn's disease)

The contrast would fill these ulcers and give u, thorn like appearance

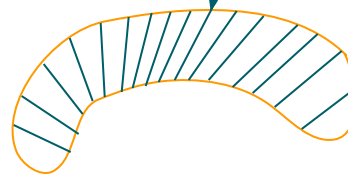
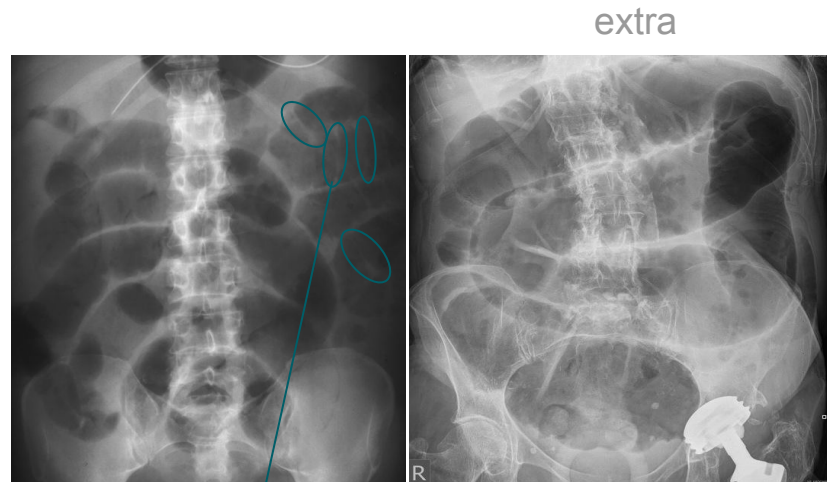
## » Clinical signs and symptoms

- Abdominal Pain.
- Diarrhea.
- Hematochezia
- Vomiting (not always).
- Anal pain and Discharge.
- Age (some diseases related to specific age).
- Constitutional symptoms (Fever, sweating and weight loss).

Age and constitutional symptoms are important for diagnosis,

## » Imaging Modalities

- X-ray: used for obstruction
- Fluoroscopy (barium enema)
- CT
- MRI
- Ultrasound
- NM and Angiography are of not used



Large bowel obstruction, you can differentiate between small bowel and large bowel obstruction by looking if it has **valvulae conniventes** (more visible at the top right area of the left image) which can be found in the small bowels

## » Normal large bowel

Normal appearance of double contrast in the colon and it has normal mucosal lining and Haustration.

Normally, haustration must be seen clearly in ascending and transverse colon. If you do not see Haustra in the descending Colon Don't cry It is Normal

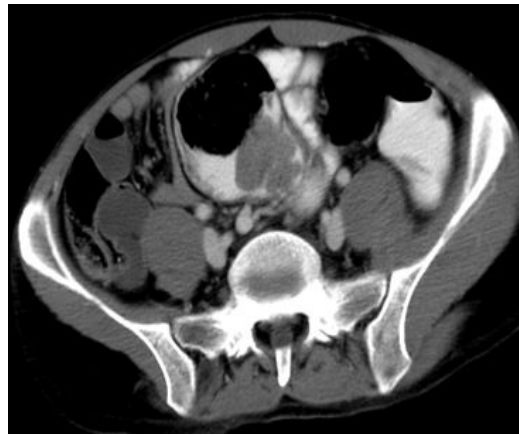
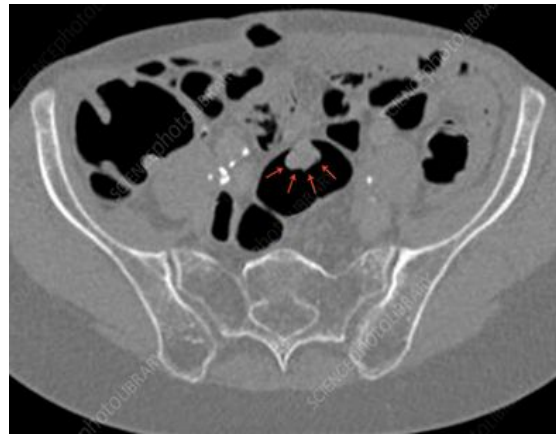


double contrast  
Black ( gas ) + white ( contrast ) = double

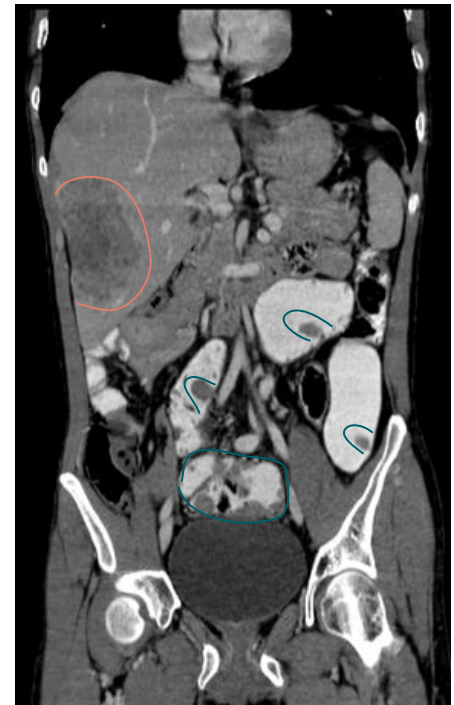
single contrast



## Colonic Polyps (extra)



view the polyp by ct scan



Colonic polyps that metastasize to the liver

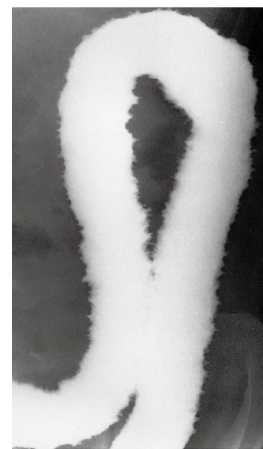
## Ulcerative Colitis

abdominal pain and diarrhea, sometimes bloody

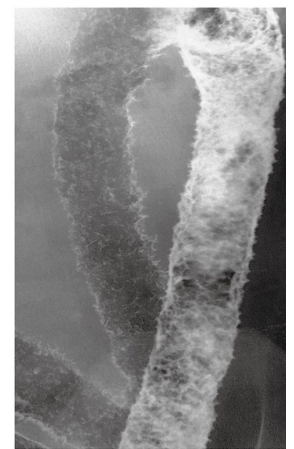
colonic Ulceration → inflammation  
 the ulceration causes the normally smooth outline of the colon to be irregular. **NO HAUSTRA** which indicates ulceration due to repeated episodes of inflammation. ( deep ulceration)  
 Double contrast study shows multiple mucosal black dots represents mucosal ulceration causes the normally smooth outline of the colon to be irregular.

single contrast enema

Double contrast enema



Deep ulceration



Absence of the normal appearance

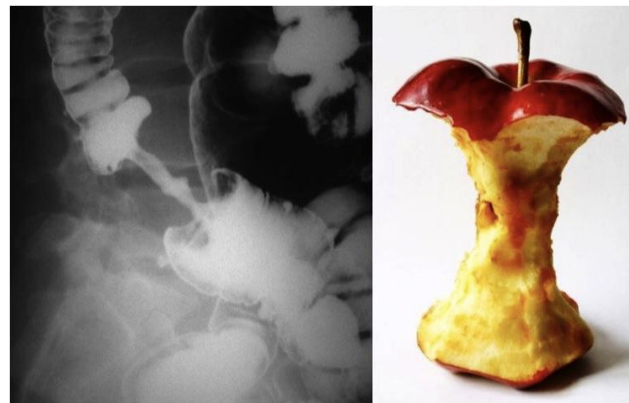
Ulcerative colitis with longstanding disease. We can see clearly the **lead pipe** appearance, and the haustra are lost and the colon becomes narrowed and shortened, coming to a rigid tube. reflux into the ileum through an incompetent ileocecal valve has occurred. No haustra no Function

We know the incompetence of the valve by the backflow of the contrast from the colon into the ileum + NO HAUSTRA.



## » Colon cancer (Apple core sign)

abdominal pain and lower GI bleeding  
colonic Stricture → colonic cancer.  
Short segment with focal narrowing and  
shouldering effect which gives us Apple-core  
appearance **Due to a mass invading the wall**

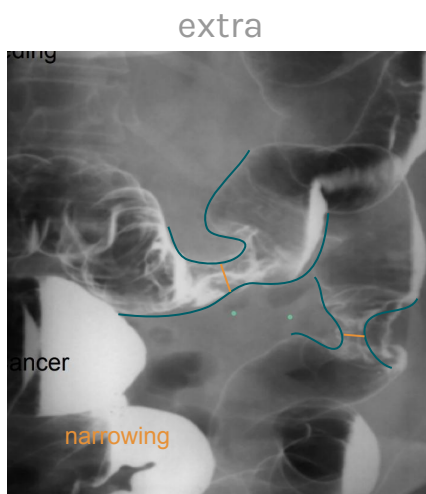
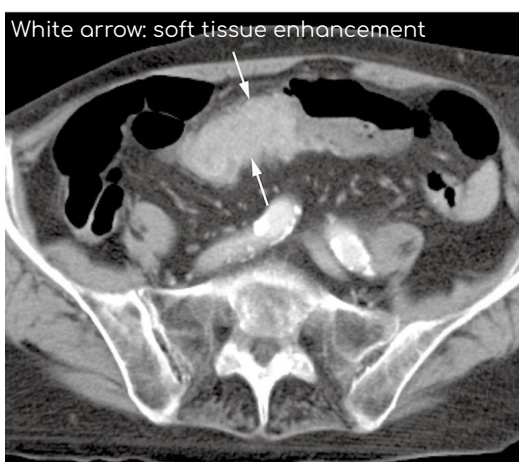


double contrast enema



Barium Enema and coronal CT showing a short, circumferential narrowing in the sigmoid colon (arrows) from carcinoma.

- Barium enema (left image) shows narrowing of the lumen due to presence of soft tissue mass “Apple core sign” = (narrowing + shouldering).
- We can't see the mass in the FLUOROSCOPY (only narrowing) BUT we can see it in the CT.



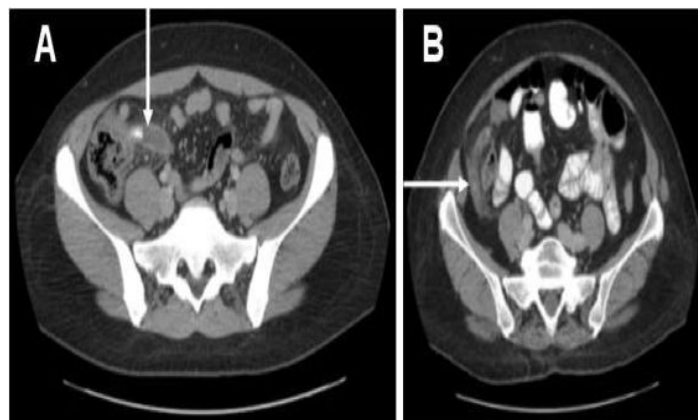
Multiple lesions

Colon carcinoma standard axial CT acquired on thin sections showing a tumor in the transverse colon. (thickened wall, tumor plugging into the lumen)

## » Acute Appendicitis

Right iliac fossa (RIF) pain - Acute Abdomen

- Blind ended tube in right iliac fossa. could present with white spot.
- Enlarged appendix measures **more than 6mm.**
- **Appendicolith** the white spot in the appendix (white arrow in image A), The white arrow points at the appendix.
- The complications of acute appendicitis: **perforation, abscess formation and mass formation.** tient has appendicitis!!!



Appendicitis;  
Longitudinal US demonstrating marked thickening of the wall of the appendix (double head arrows), Fluid is seen within the lumen and surrounding the appendix (white arrow)



- In US there is thickening of the wall (double headed arrow) and we can see appendicolith in the tip of the appendix (single headed arrow).
- CT has higher sensitivity than US is assesing appendix but in situations like (pregnant lady or neonate) we can use US with 60% sensitivity.  
So CT is imp for appendicitis



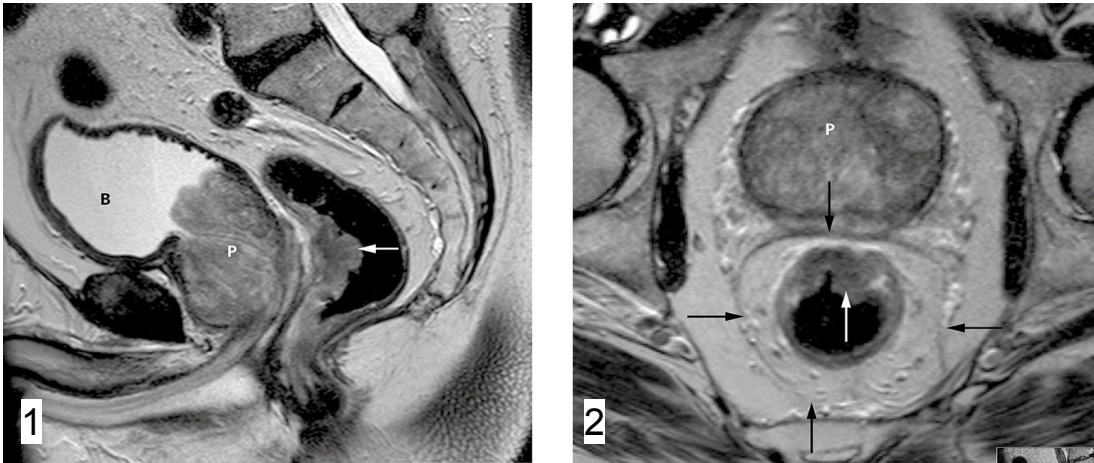
What is the Diagnosis? **Appendicitis.**  
What is the best modality to diagnose ?  
**CT Scan (If it is a pregnant lady or pediatric patient then we do ultrasound).**  
Why Us is not that good?  
Because the appendix place is variable from patient to another Remember we have 5 places



CT scan showing Normal appendix



## » Rectal Carcinoma

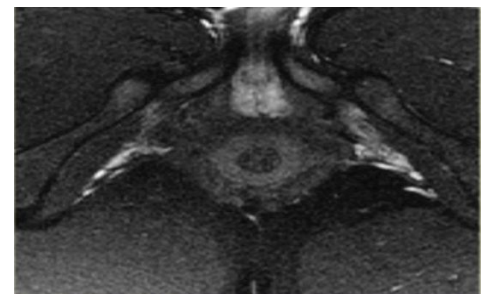
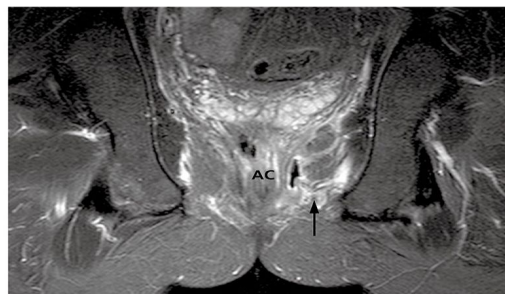
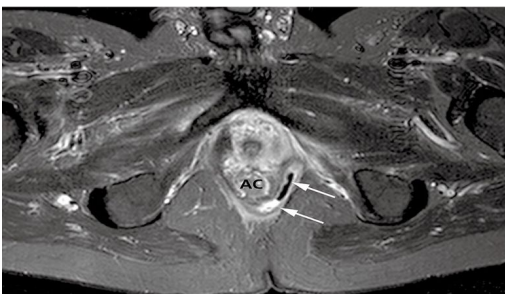


### MRI can help stage Rectal Carcinoma

1. Sagittal T2-weighted image demonstrating a polypoid growth (arrow) arising from the anterior wall of the rectum. Note the benign hyperplasia of the prostate (P) and a slightly trabeculated bladder (B).
  2. Axial image of the same tumor (white arrow). Note the mesorectal fascia (black arrows) encases the mesorectal fat and the rectum.
- Posterior wall of the rectum is normal and in the lumen there is gas.
  - In The anterior wall there is fungating mass (polypoid growth, A fungating lesion is a lesion that fungates, that is, becomes like a fungus in its appearance or growth rate). And because there is fat between the mass and the prostate, the mass is not invading. use MRI to search for lymph nodes metastasis
- So MRI -> for grading tumors  
 CT CAP -> look for metastasis  
 If there's invasion in the layers -> for the treatment we start chemotherapy before surgery.

## » Perianal Fistula

presence of a fistulous tract across/between/adjacent to the anal sphincter and is usually an inflammatory condition



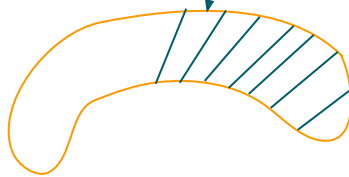
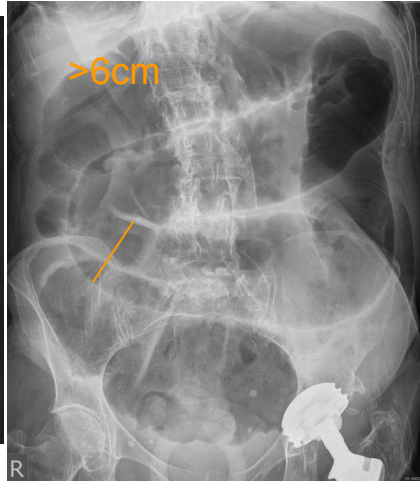
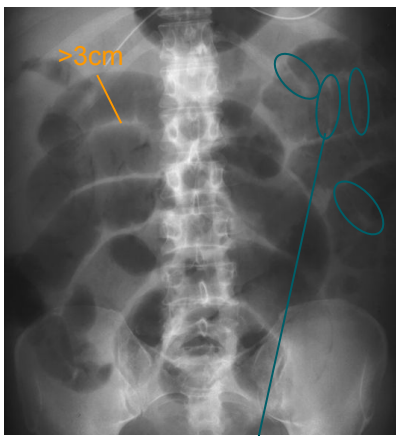
Perianal fistula in crohn's disease. MRI with contrast is the best in perianal disease the only modality to show perianal fistula  
 It managed surgically based on MRI

Normal perianal area



## Large bowel obstruction: (extra)

First choice is x-ray the diameter has to be above 6cm



Large bowel obstruction, you can differentiate between small bowel and large bowel obstruction by looking if it has **valvulae conniventes** (more visible at the top right area of the left image) which can be found in the small bowels



Colonic cutoff sign

As u see in the image there's a sudden abrupt termination of gas within the colon

**Sigmoid volvulus:** large bowel obstruction that occurs when the sigmoid colon twists on its mesentery



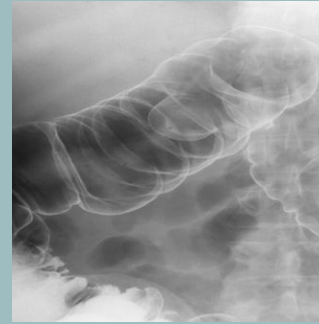
Coffee bean sign



Sign	Indication
Most of esophagus is dilated with <b>food residuals</b> and smooth narrowing at the lower End (bird beak sign)	Achalasia
Mass will clear the contrast and will appear black (filling defects)	Gastric Carcinoma
Cobblestone sign + thorns rose	Crohn's disease
Lead pipe appearance	Ulcerative colitis
<ul style="list-style-type: none"> <li>- Enlarged appendix measures more than 6mm.</li> <li>- marked thickening of the wall of appendix</li> </ul>	Appendicitis
White spot in the appendix	Appendicolith
Apple core sign	Colon cancer

1- what can you see in the picture?

- a. Ulcerative colitis
- b. Colon cancer
- c. Lymphoma
- d. Colonic polyp



2-which one of the following is complication of acute appendicitis

- a. thickening of the wall
- b. abscess formation
- c. Swelling
- d. Bleeding

3-in gastric carcinoma there is diffuse thickening of the wall of the stomach which can be ...?

- a. Primary Gastric Cancer
- b. Infiltration
- c. Metastasis
- d. all

4- 32 years old, female, have peptic ulcer, came with severe abdominal pain, you suspect peptic ulcer perforation. What is the initial test you can order for her?

- a. X-ray
- b. MRI
- c. CT
- d. US

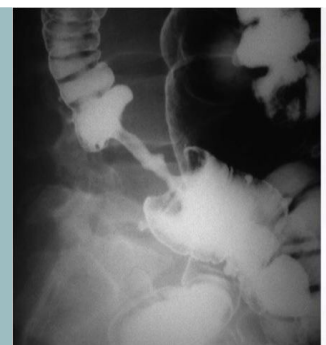
5-Patient with bloody diarrhea and vomiting

- a. Ulcerative colitis
- b. Crohn's disease
- c. Colon cancer
- d. Celiac disease



6- Elderly patient with progressive dysphagia, what is the diagnosis?

- a. Ulcerative colitis
- b. Crohn's disease
- c. Colon cancer
- d. Celiac disease



Special thanks for 38 & 39 teams

Answers  
1)D  
2)B  
3)D  
4) a  
5)a  
6)c