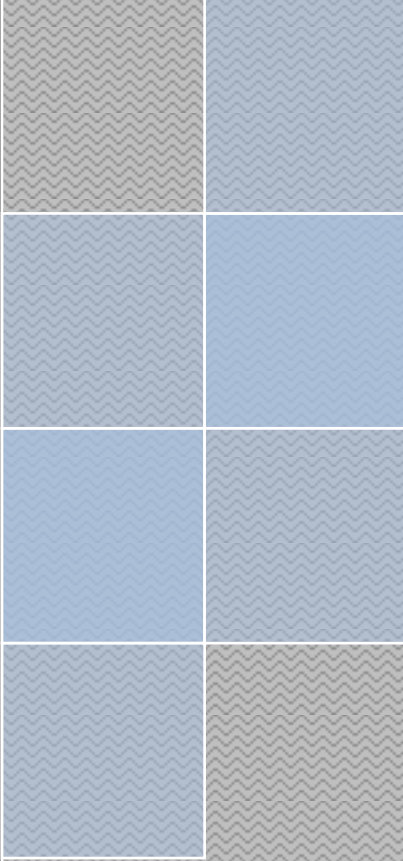




Done by: Mohammed Alghammas



Method	Advantages	Disadvantages
X-Ray	Widely available Cheap Excellent in diagnosing free air in the abdomen Good in diagnosing bowel obstruction & stones/calcifications	Radiation Poor soft tissue details
Fluoroscopy	Available Relatively cheap Excellent in evaluation the bowel lumen and mucosa	Radiation Poor in evaluating extra luminal pathologies
CT scan	Available Short scan time Much more soft tissue and bone details Excellent in diagnosing extra-luminal lesions Excellent in diagnosing the cause of bowel obstruction	Radiation Some times need intra venous contrast (renal disease) Relatively expensive
MRI	Relatively safe in pregnancy (no radiation) Give much more soft tissue details Excellent in diagnosing abdominal solid organ lesion: liver, spleen, kidneys	Expensive Long scanning time Sensitive to motion

Method	Indications	Contraindications
X-Ray	Abdominal pain Masses Trauma Stones Bowel obstruction Foreign body Supportive lines	Pregnancy
Fluoroscopy	Abdominal pain Gastroesophageal reflux disease GERD Inflammatory bowel diseases IBD Masses Post surgical, leak Assessing the mucosal outline	Pregnancy Bowel obstruction Bowel perforation
CT scan	Abdominal pain Trauma Bowel obstruction cause Diagnosis of intra-abdominal masses	Pregnancy No IV contrast in renal failure Unstable patients (severe trauma/ICU)
MRI	Abdominal solid organ masses IBD	uncooperative patients Early pregnancy No IV contrast renal failure

Abnormal X-Ray:

Color	Abnormality
White	Bone and calcification
Grey	soft tissue
Black	air

Fluroscopy: (very imp)

Organ	Dye
Esophagus	Barium swallow
Stomach	Barium meal
Small bowel	Barium follow through
Large bowel	Barium enema

In X-Ray:

Dilated bowel loops+Air fluid levels=Bowel obstruction

Air outside the bowel = Pneumoperitonium

In Fluroscopy:

Projection in the stomach (ulcer)

60 years old male patient comes with narrowing of colon and bleeding you will see

Apple core appearance = Colon malignancy (very very imp)

In MRI:

Bowel wall thickening = IBD