

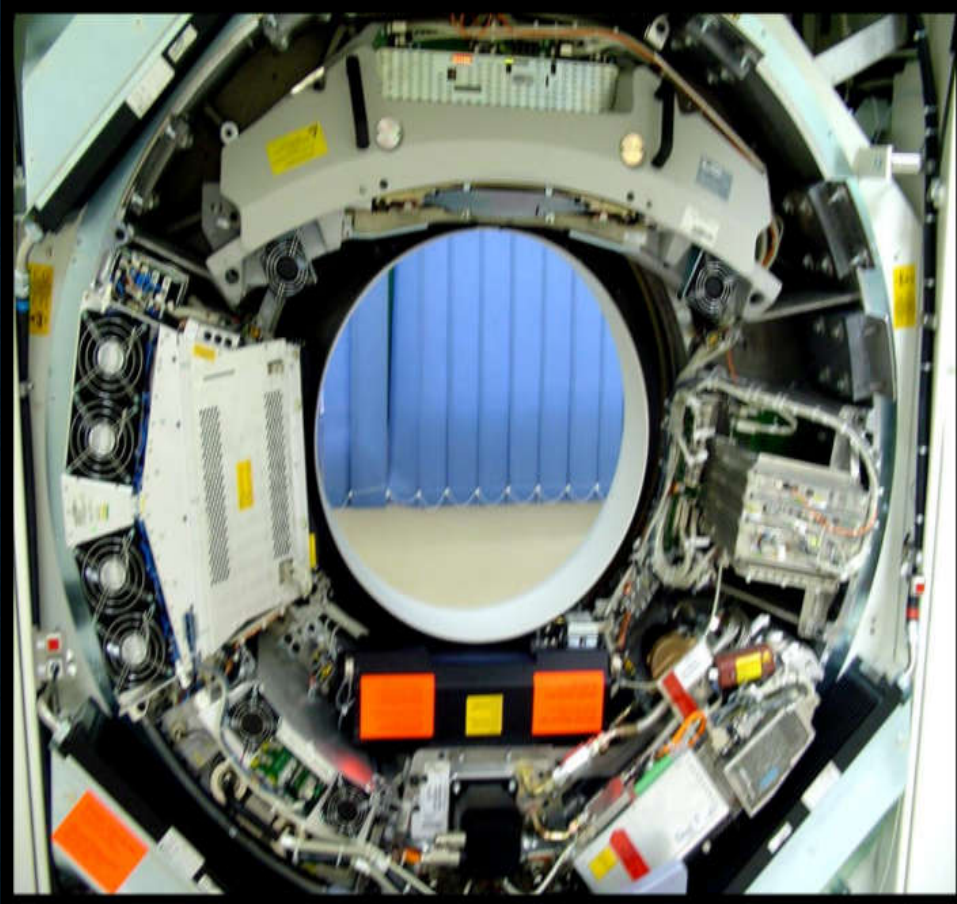
# CT CHEST

By

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**Ass. Lecturer of Radiodiagnosis**  
**Sohag University**

- **Indications**
- **Patient preparation**
- **Patient position (Supine)**
- **Scanogram (Frontal)**





# INDICATIONS

**To assess equivocal plain X-ray findings**

**Staging of lung neoplasms**

**Metastatic workup of extrathoracic malignancies**

**Diagnosis of diffuse lung disease with HRCT**

**Assessment of bronchiectasis**

**Assessment of suspected post-traumatic complications**

**Diagnosis of mediastinal and chest wall lesions**

**Diagnosis of suspected pulmonary embolism**



# PATIENT PREPARATION

**No required preparation unless the patient is going to be sedated or injected with contrast material >>**

## **FASTING FOR 4 - 6 HOURS**

### **Contrast injection**

**50-100ml of water soluble contrast material [urographine, isovist,...] bolus injection**

**10mm sections from lung apex to the  
C/P angles**

**Window setting:**

**Mediastinal window,**

**Lung window,**

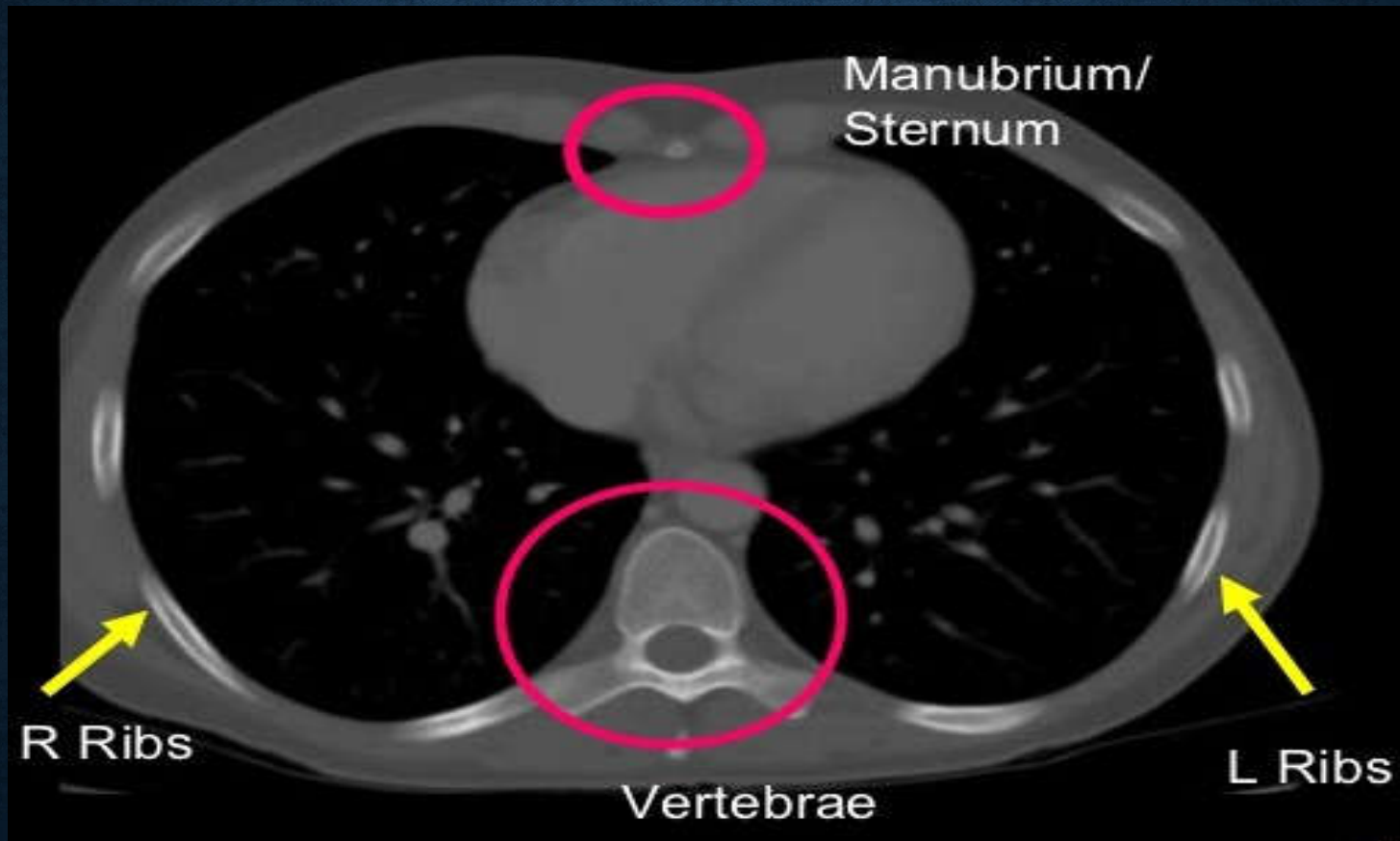
**Bone window?!**





**LUNG WINDOW**

**MEDIASTINAL WINDOW**



## **BONE WINDOW**



# RECONSTRUCTED IMAGES



# SCANNING TECHNIQUES





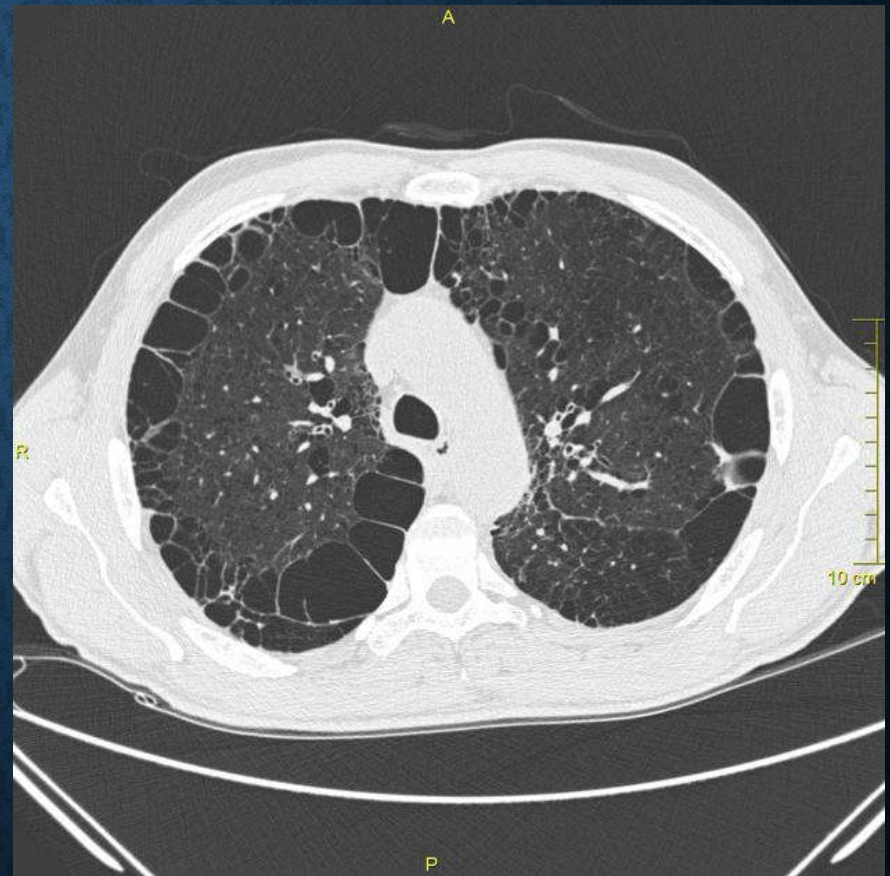
**Standard CT**



**HRCT**

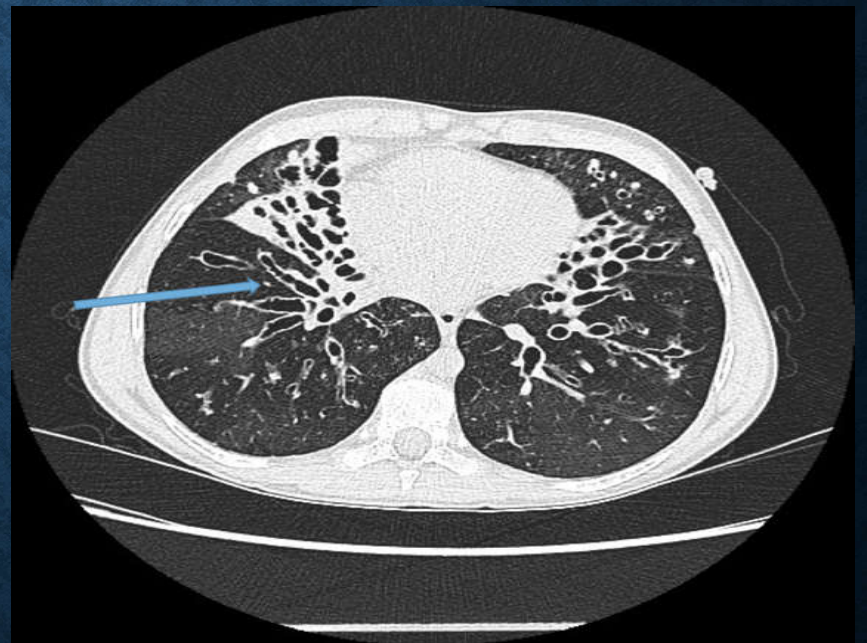
# AIRWAY DISEASES

**EMPHYSEMA/  
EMPHYSAMATOUS  
BULLAE**

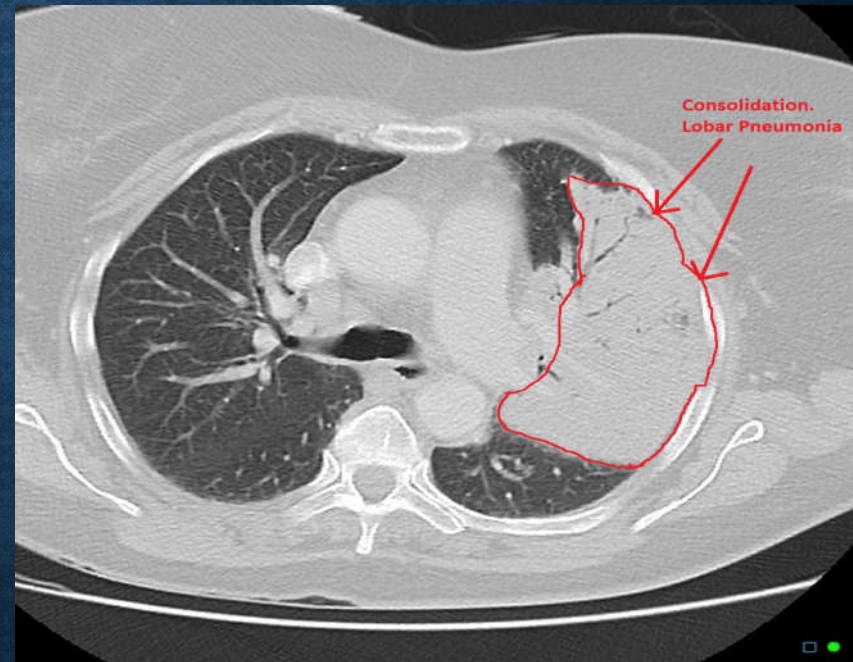
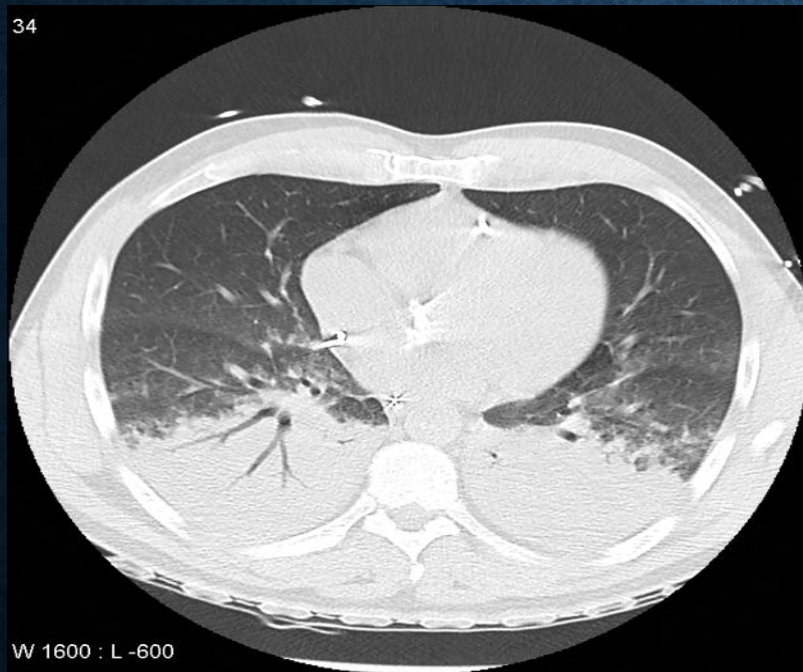




# BRONCHEICTASIS



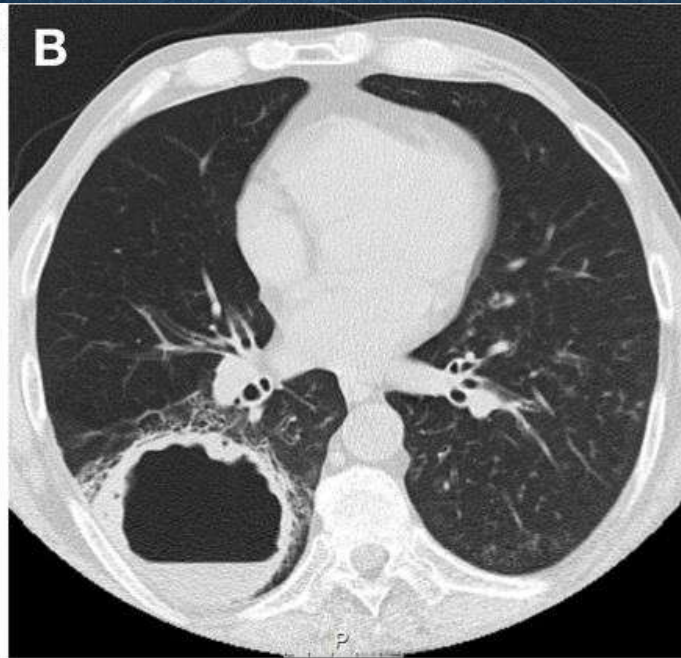
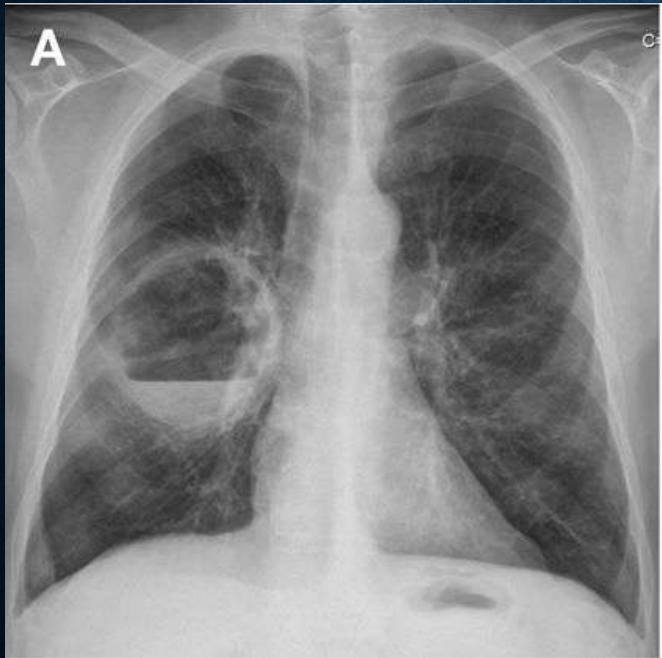
# LUNG DISEASES

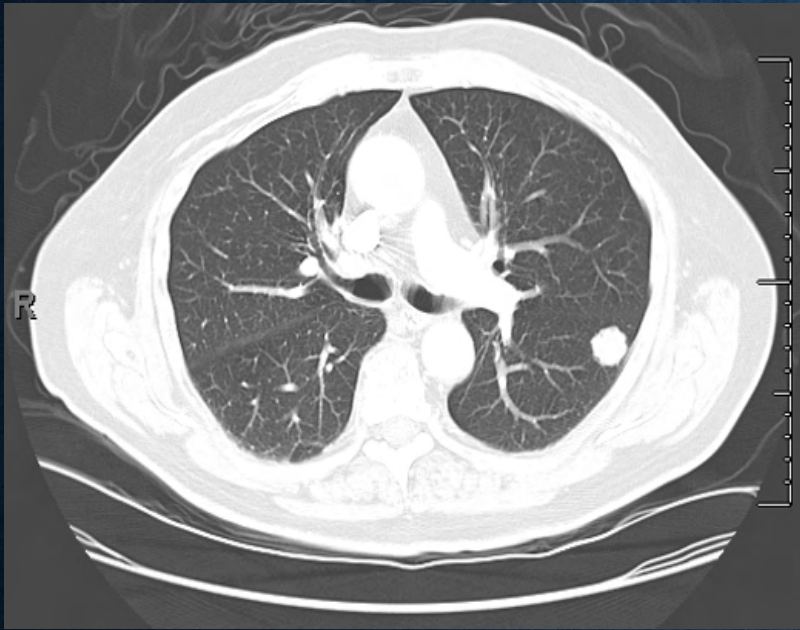


# CONSOLIDATION

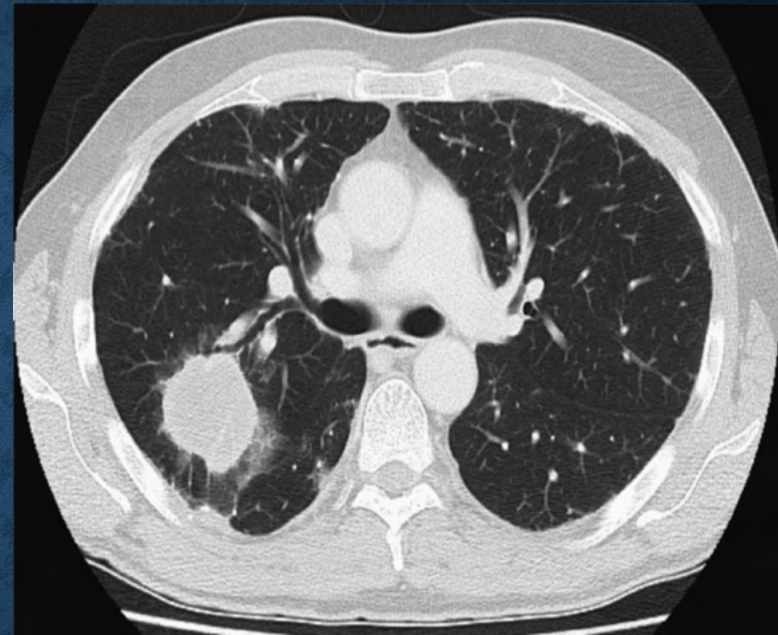


# LUNG ABSCESS





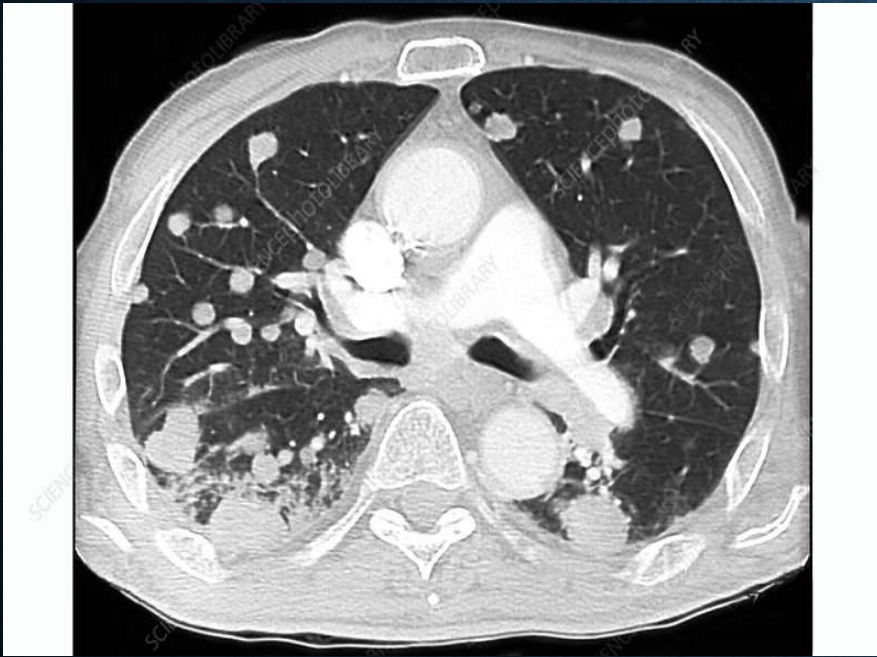
**NODULE**  
**< 3 CM**



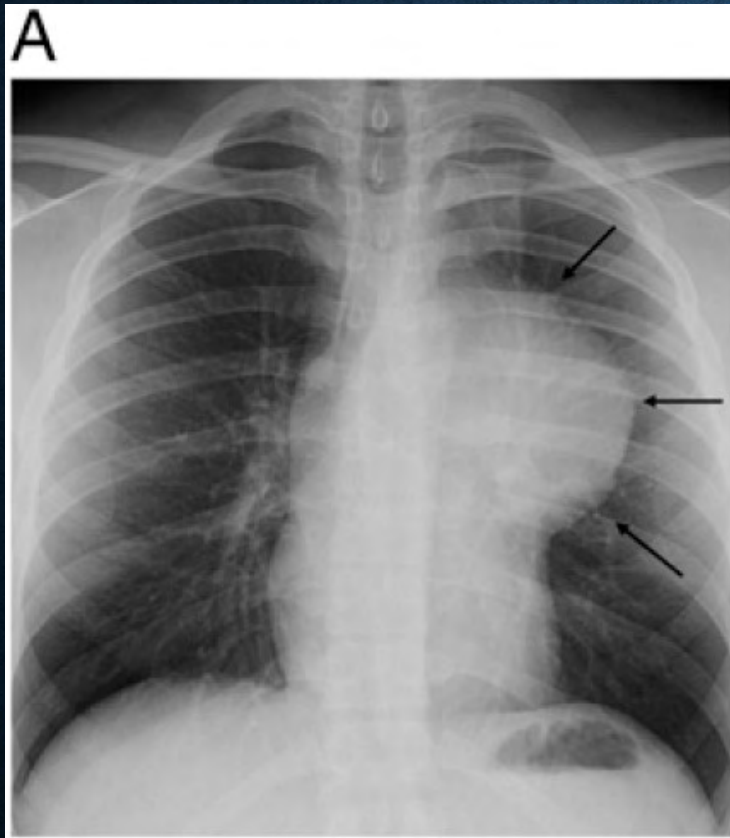
**MASS**  
**> 3 CM**



# PULMONARY METASTASIS



# MEDIASTINAL MASS





# PLEURAL DISEASES

## Pleural Effusion

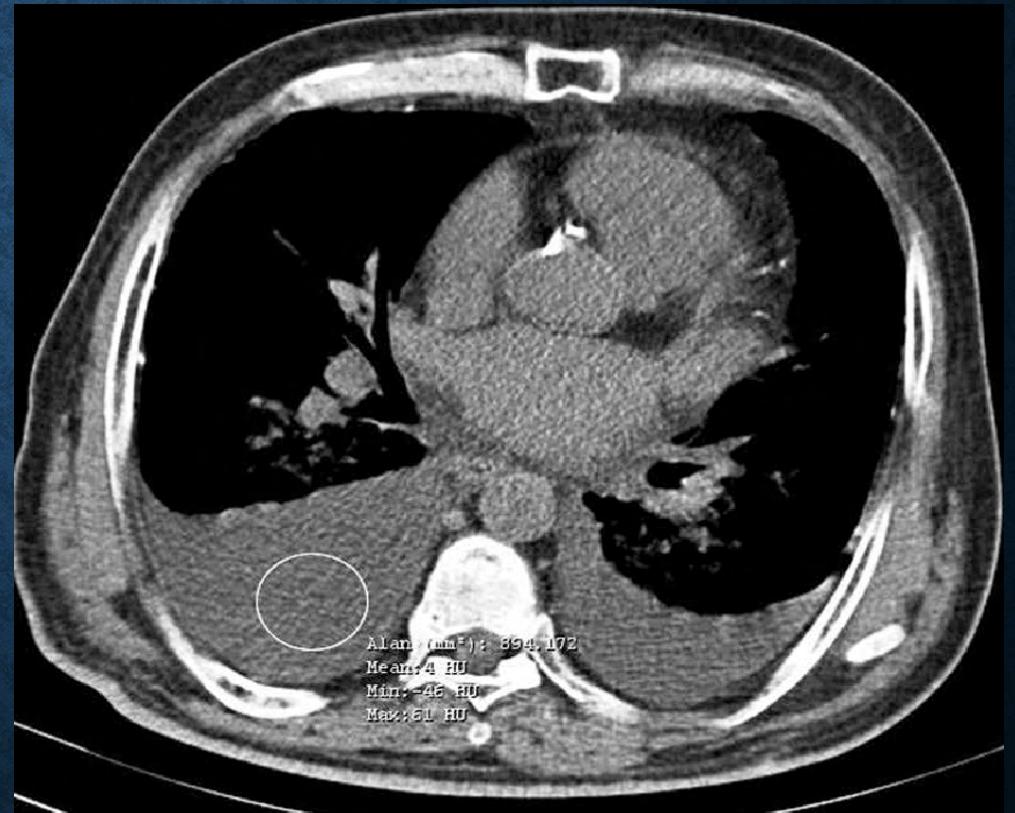
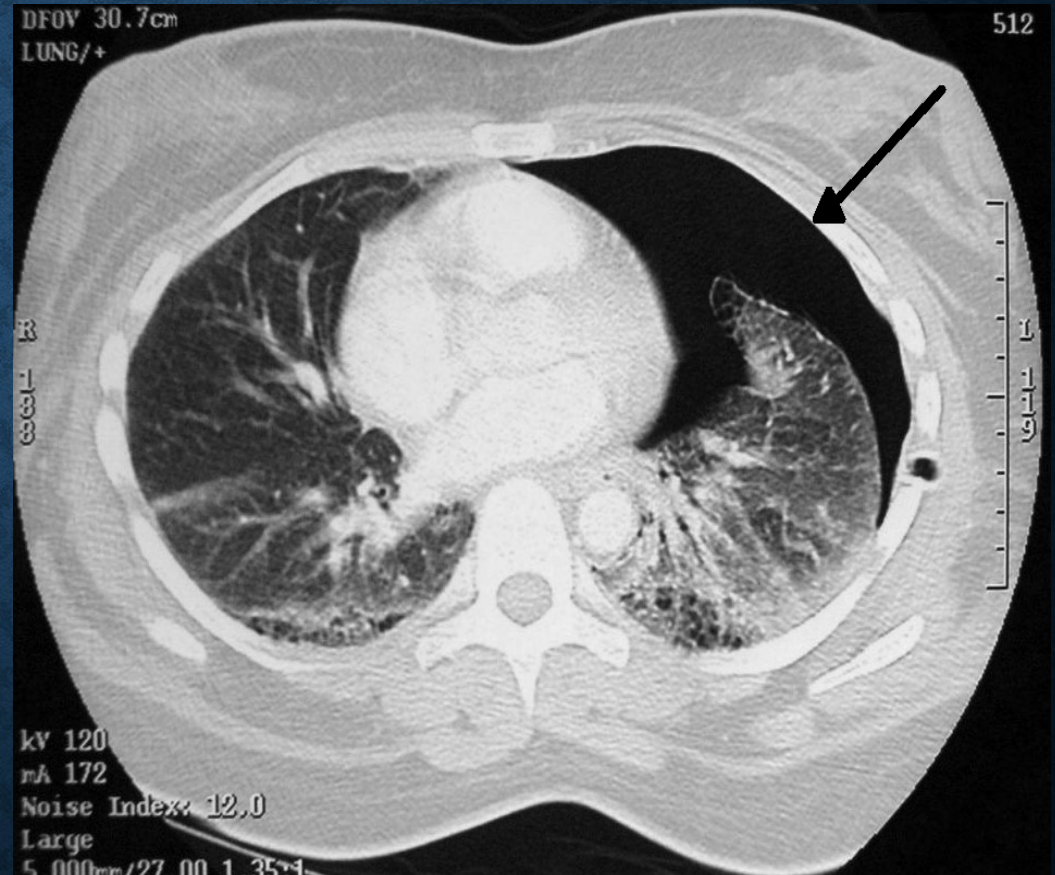


Figure 1. Unenhanced axial chest CT image of a 71-year-old male with congestive heart failure

# PLEURAL DISEASES

**Pneumothorax**





## PLEURAL DISEASES

**Hydropneumothorax**



# CT ABDOMEN



- **Indications**
- **Patient preparation**
- **Patient position [Supine]**
- **Scanogram [Frontal]**

# INDICATIONS

**To assess equivocal imaging findings**

**Staging of hepatic neoplasms**

**Metastatic workup of primary malignancies**

**Diagnosis of abdominal masses**

**Assessment of biliary problems**

**Diagnosis of vascular lesions**

**Assessment of suspected post-traumatic complications**



# PATIENT PREPARATION

## Oral contrast material

>> **To opacify the gastrointestinal tract [gastrographin diluted by water]**

[gastrographin 38%] .. The contrast material is diluted by water to a concentration of 2-4% and taken orally by the patient at intervals to opacify the GI tract from the stomach to the anus.

>> Timing?

400 ml (45 MINUTES BEFORE SCAN on intervals), 200 ml JUST BEFORE SCAN

## **Not indicated in:**

- Acute abdominal trauma
- Acute renal colic
- Dehydrated patients

## **IV contrast material** [urographin,...]

60ml

- Fasting 4-6 hours ?!
- Pre contrast scans [ liver, kidney, urinary bladder]
- Triphasic scan for liver [ arterial, portal, delayed]



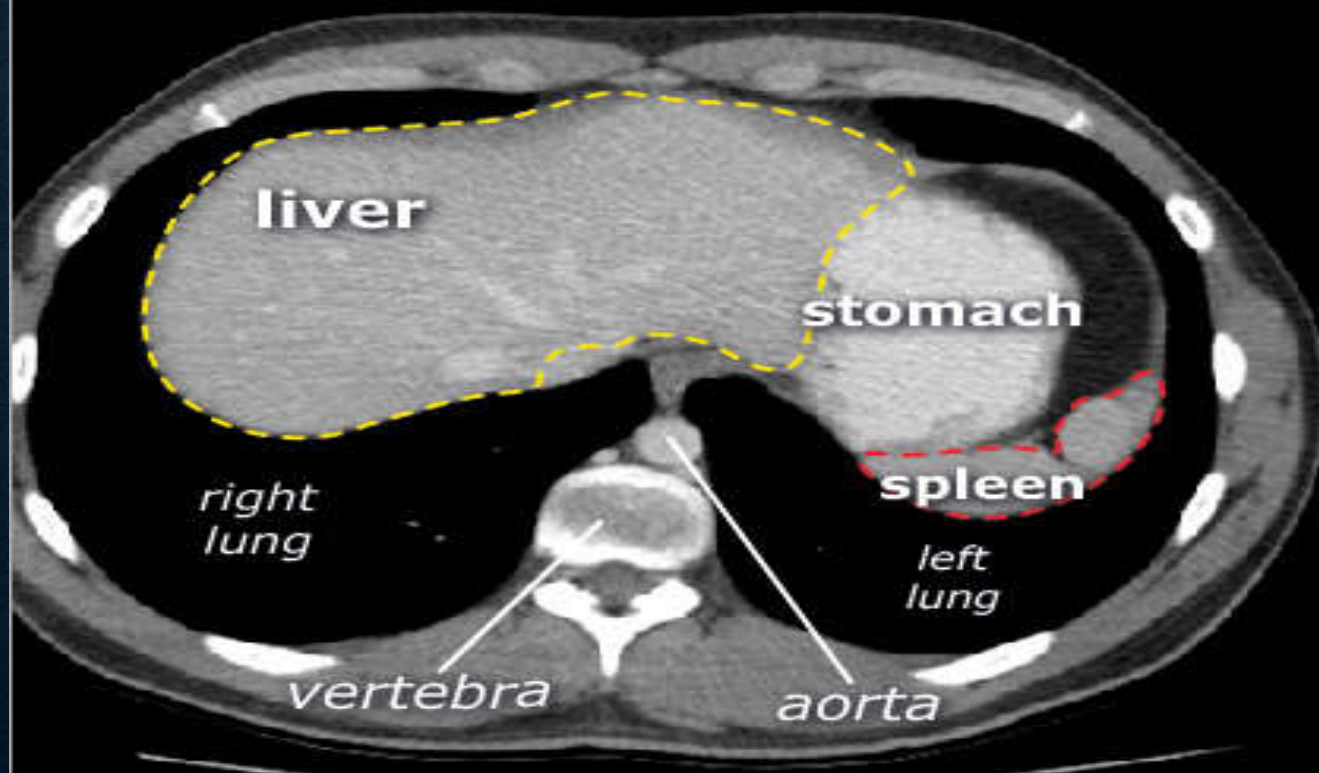
- 10 mm scan intervals [ 5mm sections are necessary for pancreas, suprarenal glands, urinary bladder]
- **Window setting:**

**Soft tissue window**

**Lung window [scans at the lung bases]**

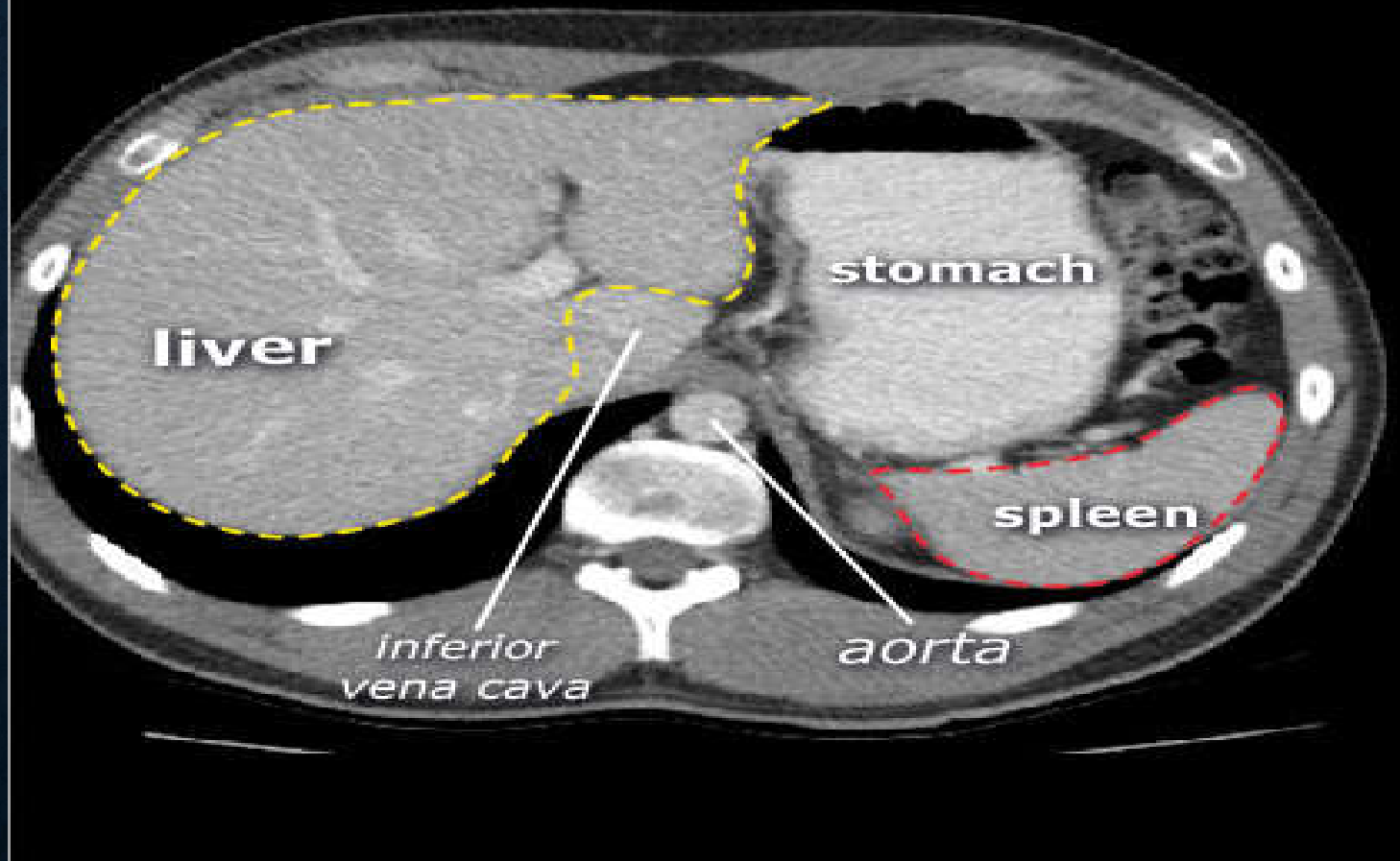
**Bone window [lesions in the spine or pelvic bones]**

## Normal abdominal CT

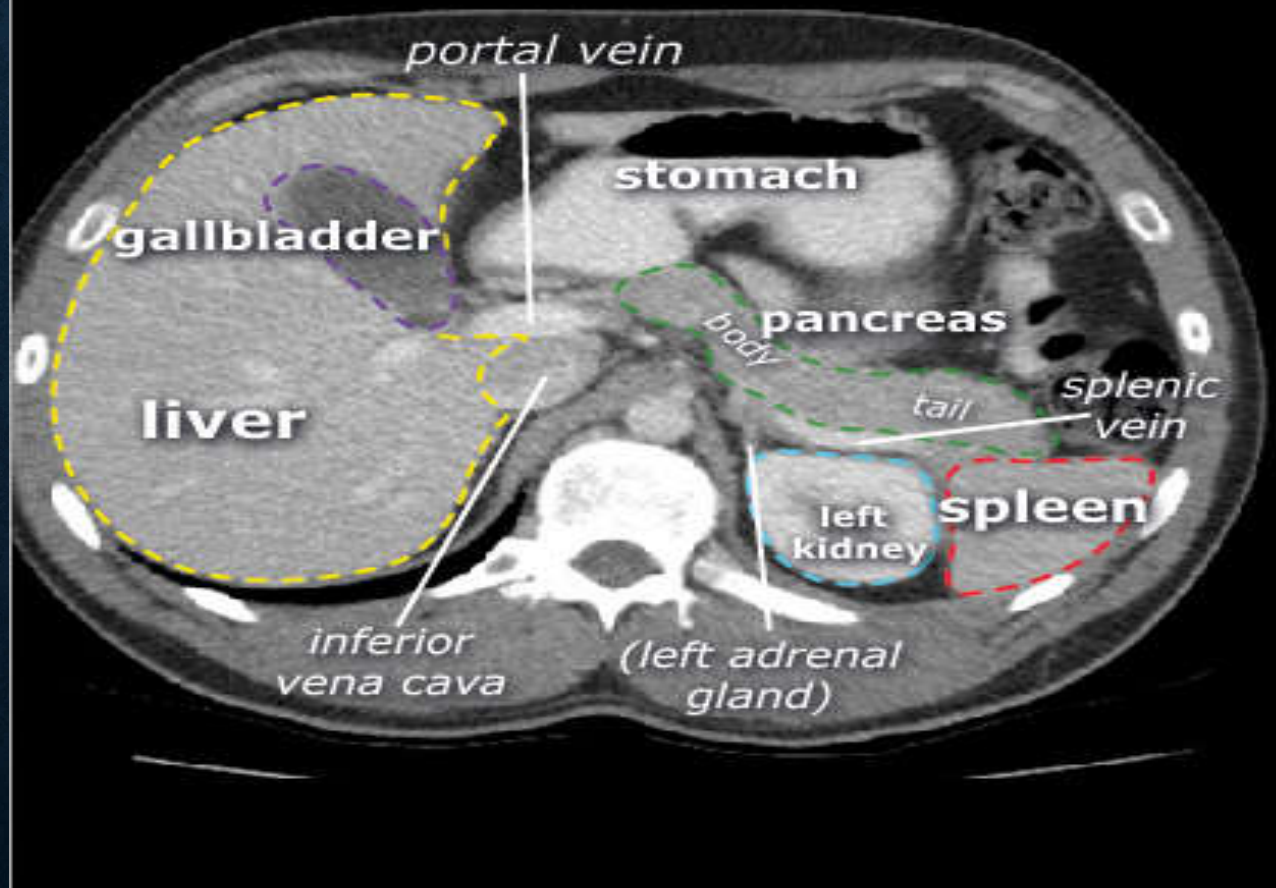




## Normal abdominal CT

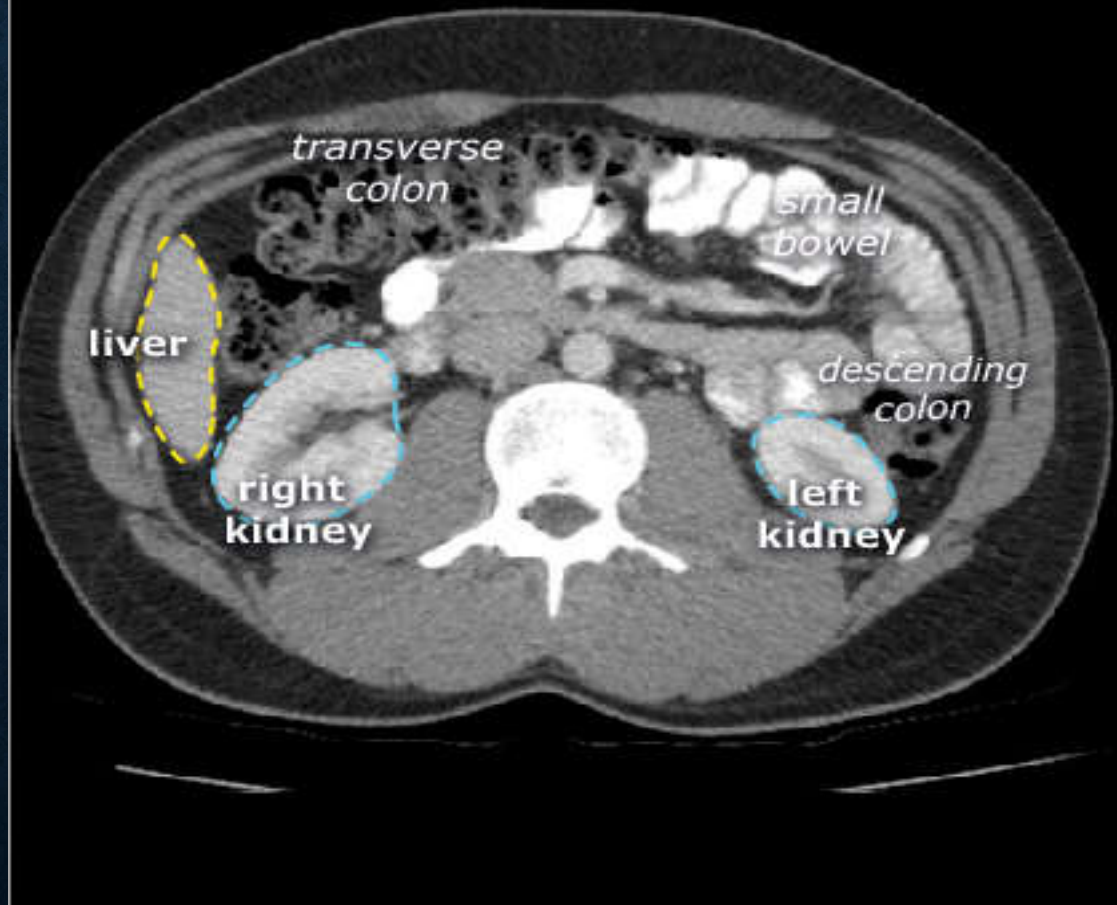


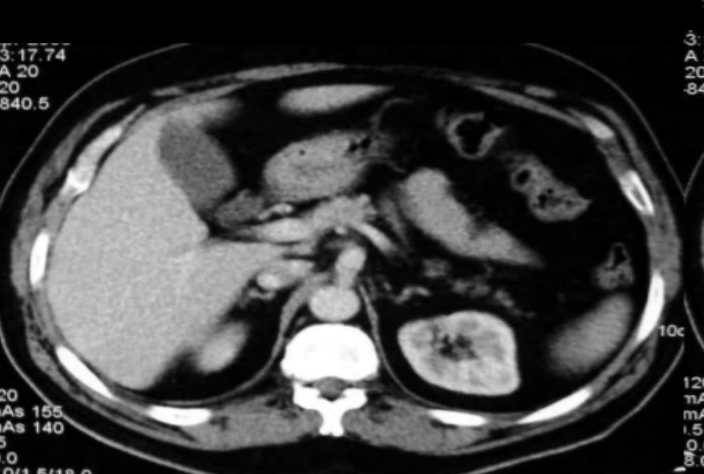
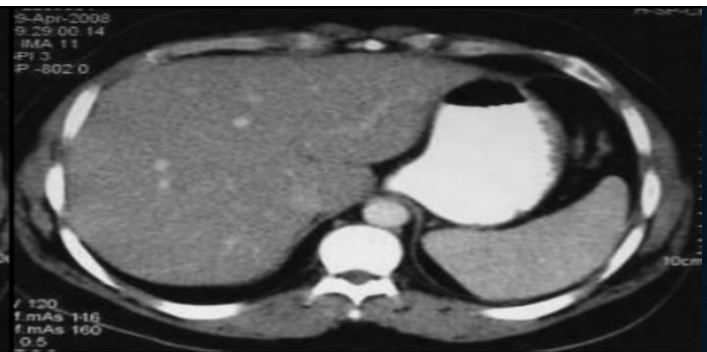
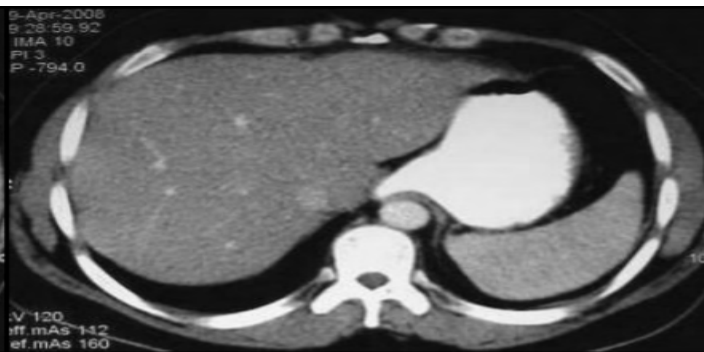
## Normal abdominal CT



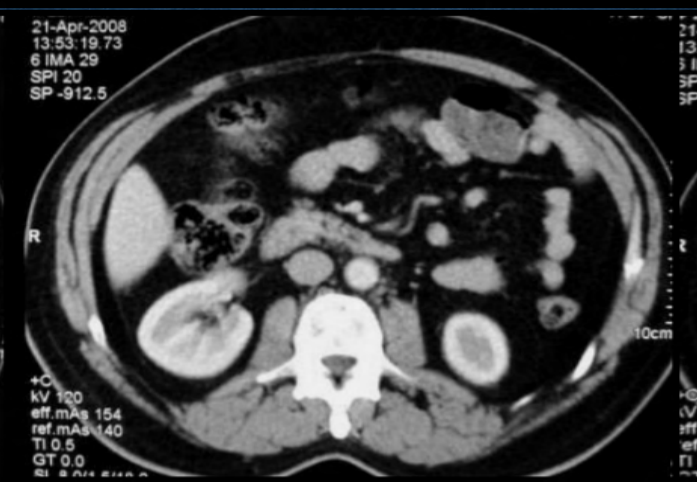
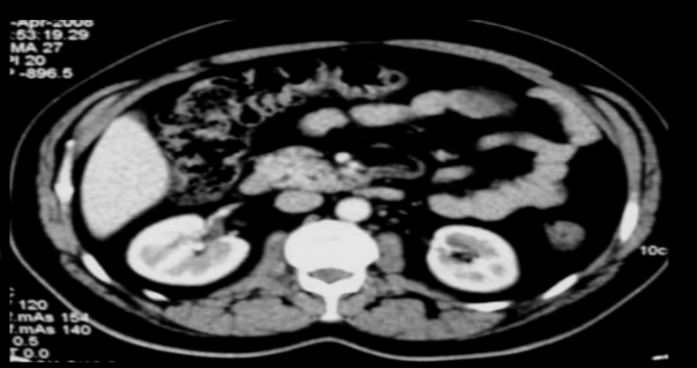
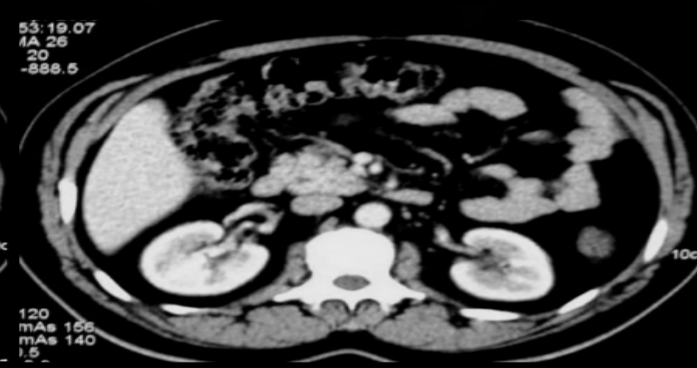
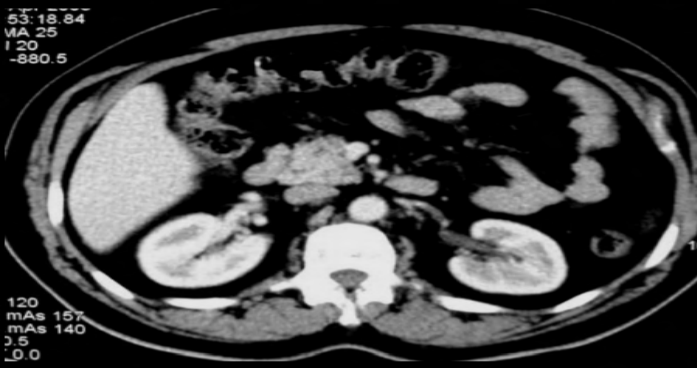
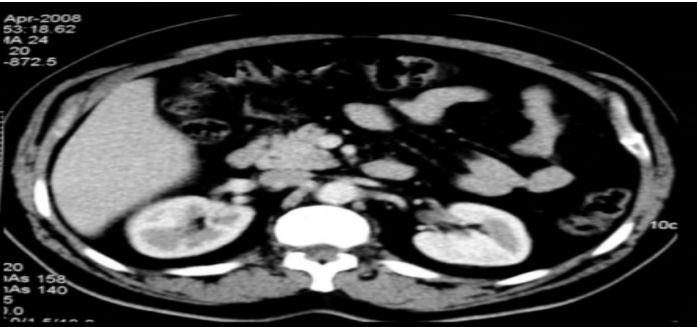
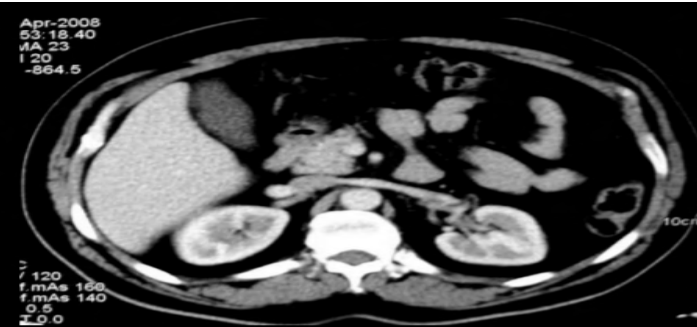


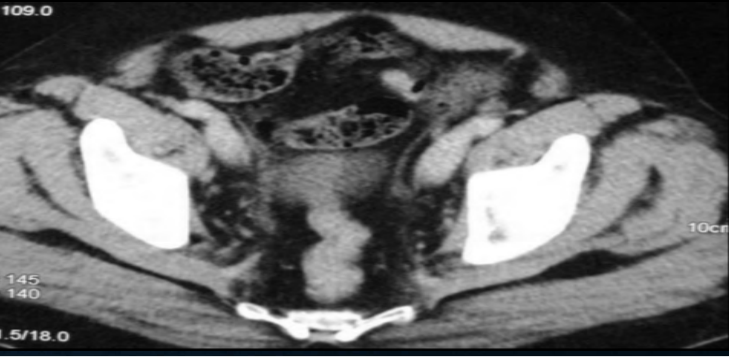
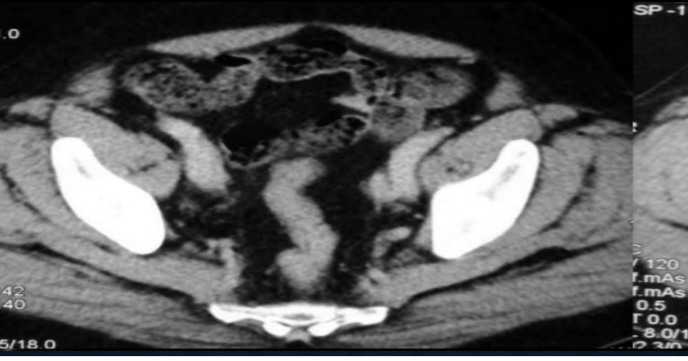
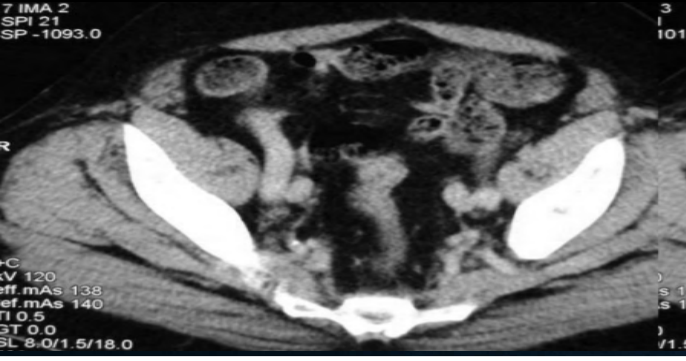
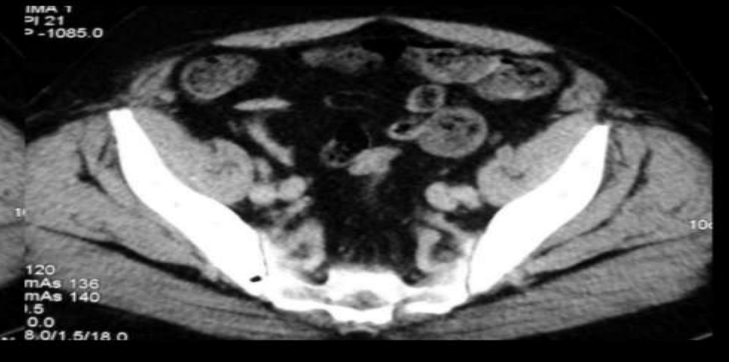
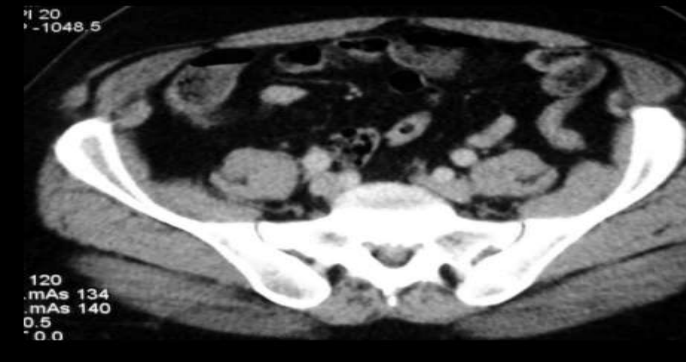
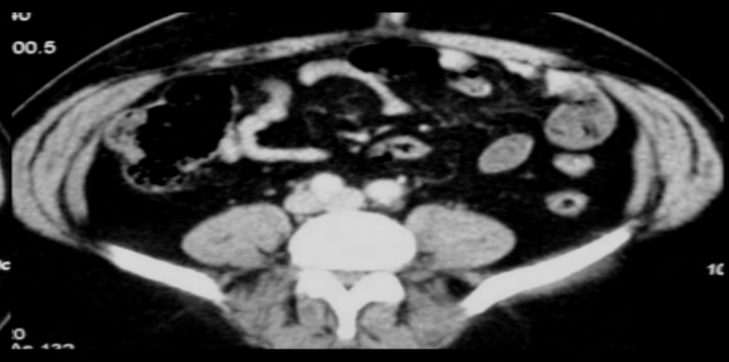
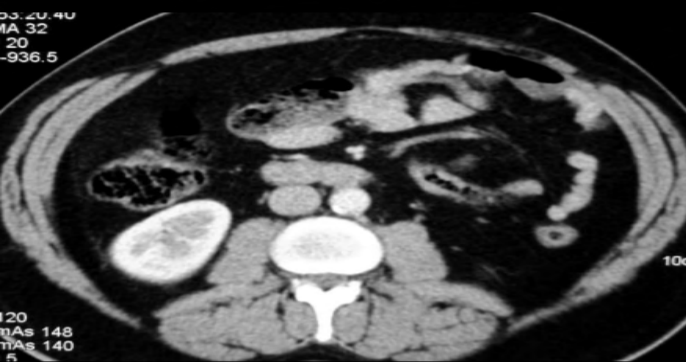
## Normal abdominal CT



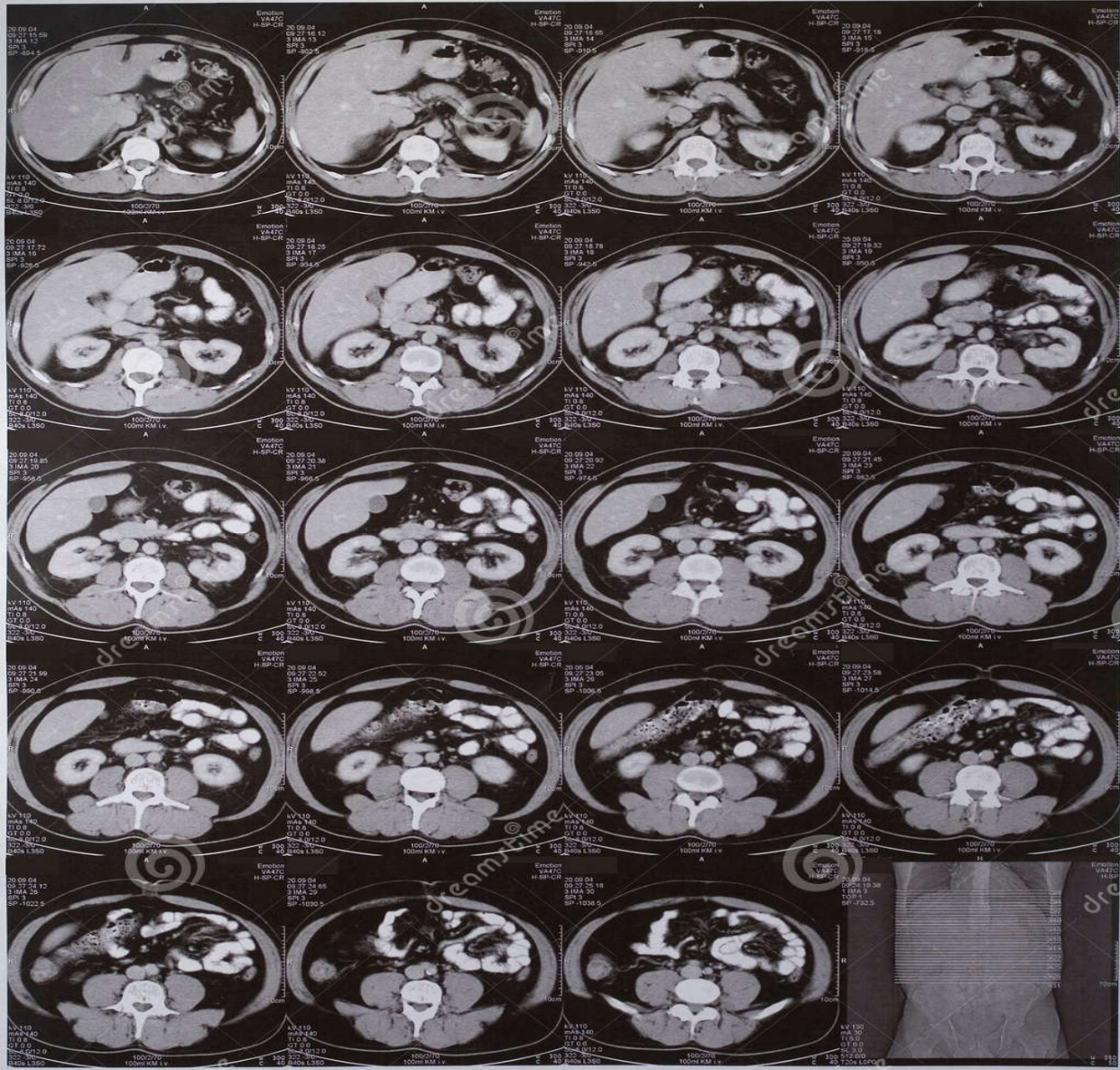













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# HEPATOSPLENOMEGALY

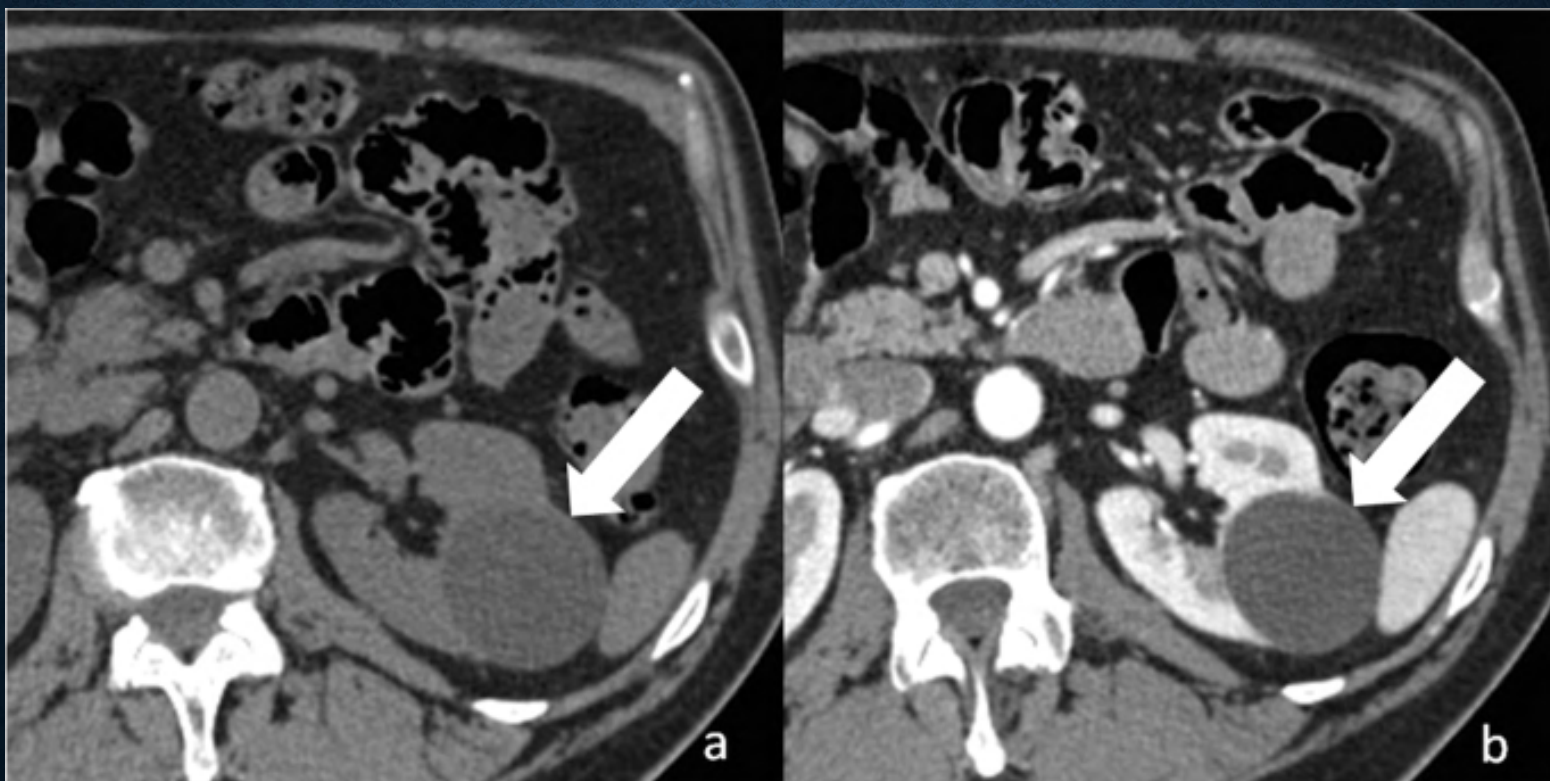


# GALL STONES





## RENAL CYST

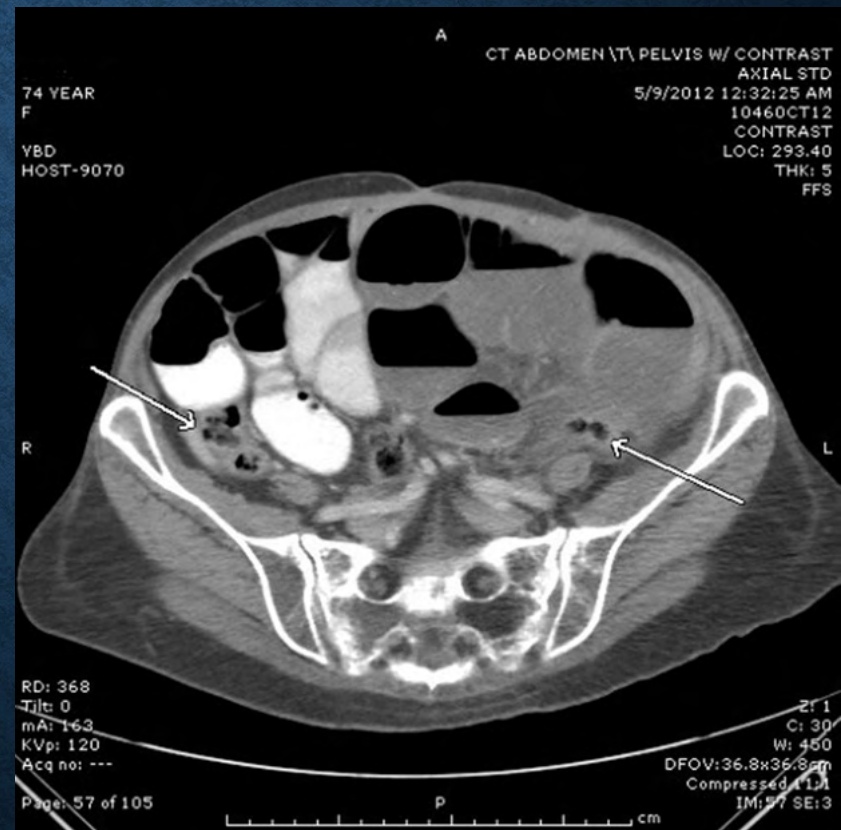


# RENAL STONE

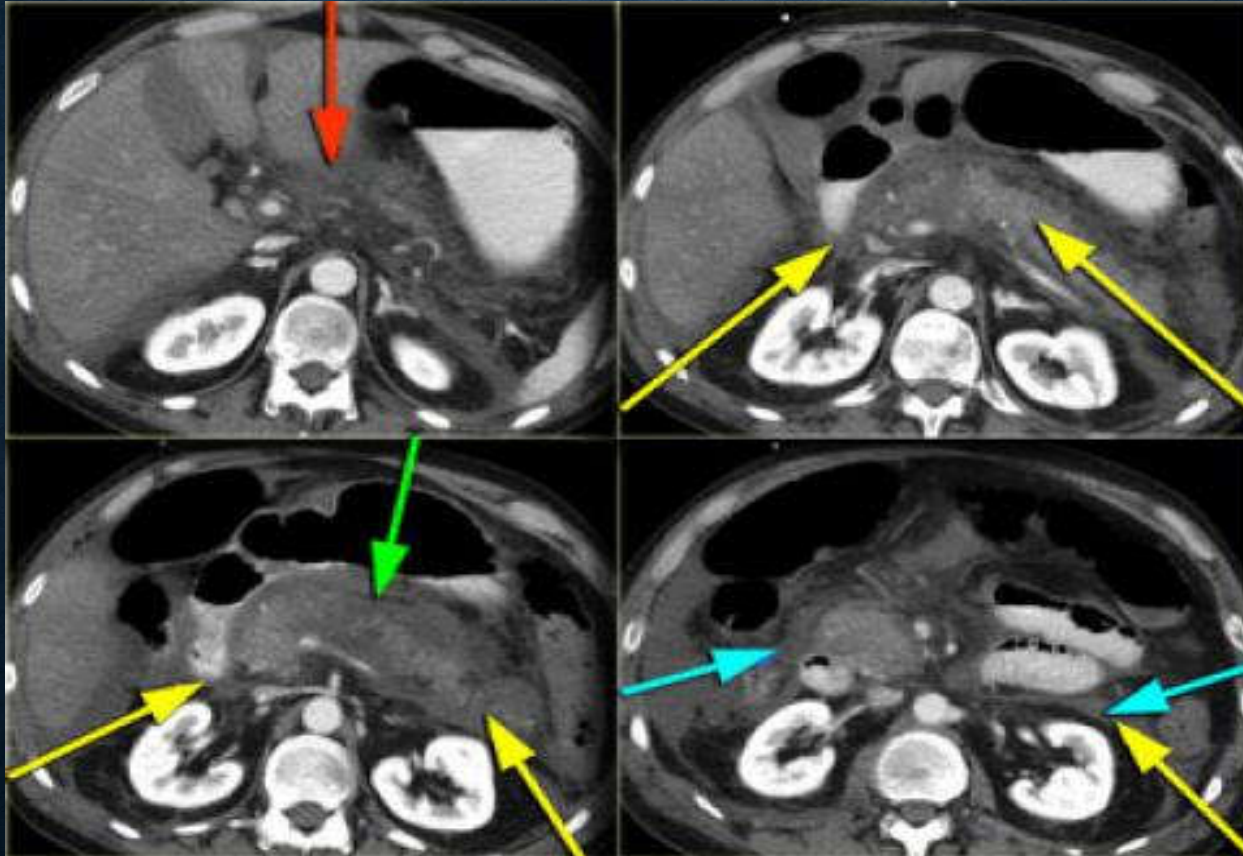




# BOWEL OBSTRUCTION



# PACREATITIS







Thank  
you

