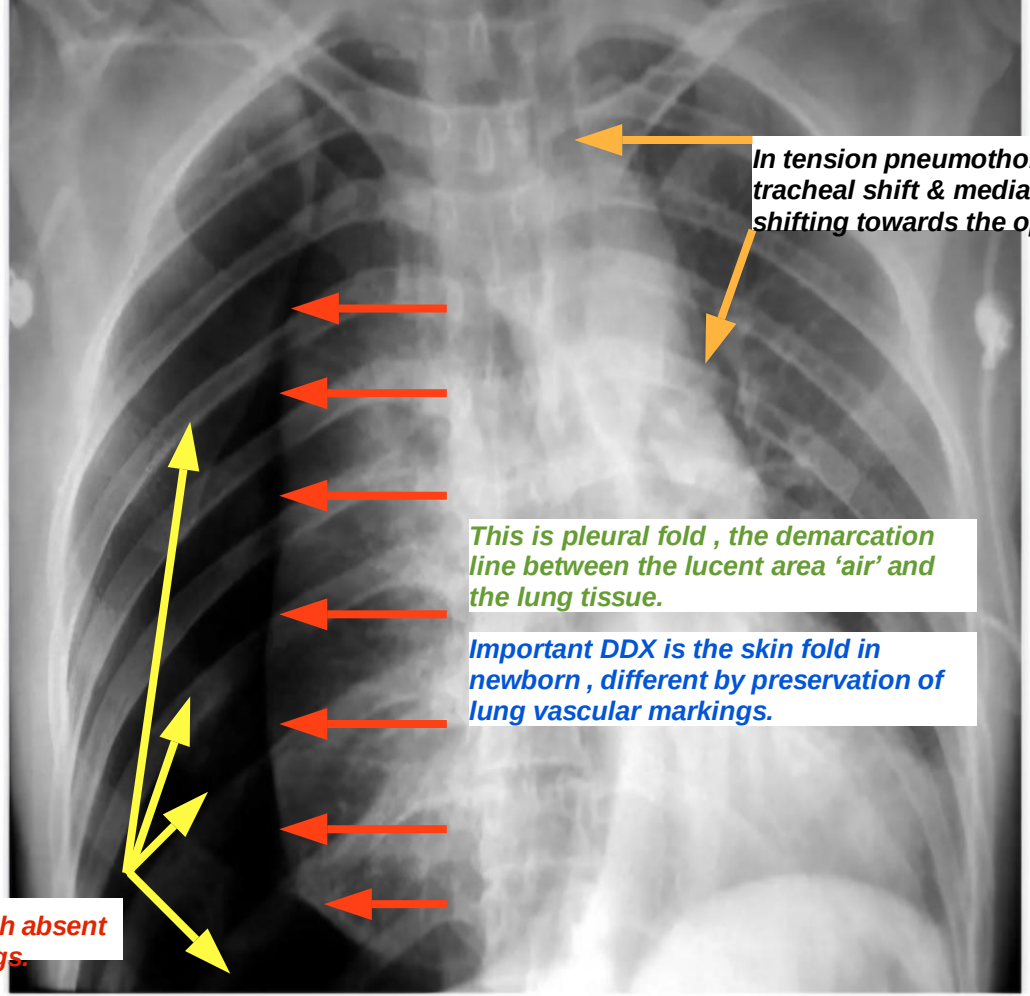
This Pdf is a rapid revision about the Surgical & medical Emergencies. possible DDX , along with possible scenarios.

Pneumothorax is very important case , every day there's presentation to casualties, whether tension or non tension.

Usually it's classified into primary 'spontaneous' and secondary , the important causes of primary type are asthma , COPD , Male tall with marfanoid body , neonate with RDS , while the causes of secondary type are trauma & iatrogenic.



In tension pneumothorax there are tracheal shift & mediastinal shifting towards the opposite site.

This is pleural fold , the demarcation line between the lucent area 'air' and the lung tissue.

Important DDX is the skin fold in newborn , different by preservation of lung vascular markings.

Lucent area with absent of lung markings.

- Plain radiograph
- A pneumothorax is seen as a region of lucency (dark) around the edge of the lung. This is difficult to see because the lung itself is black too. They are more easily seen on erect chest x-rays as the free air typically rises up to the apex above the lung, making it more visible.
- Tips to help to find pneumothoraces include:
- the lung edge

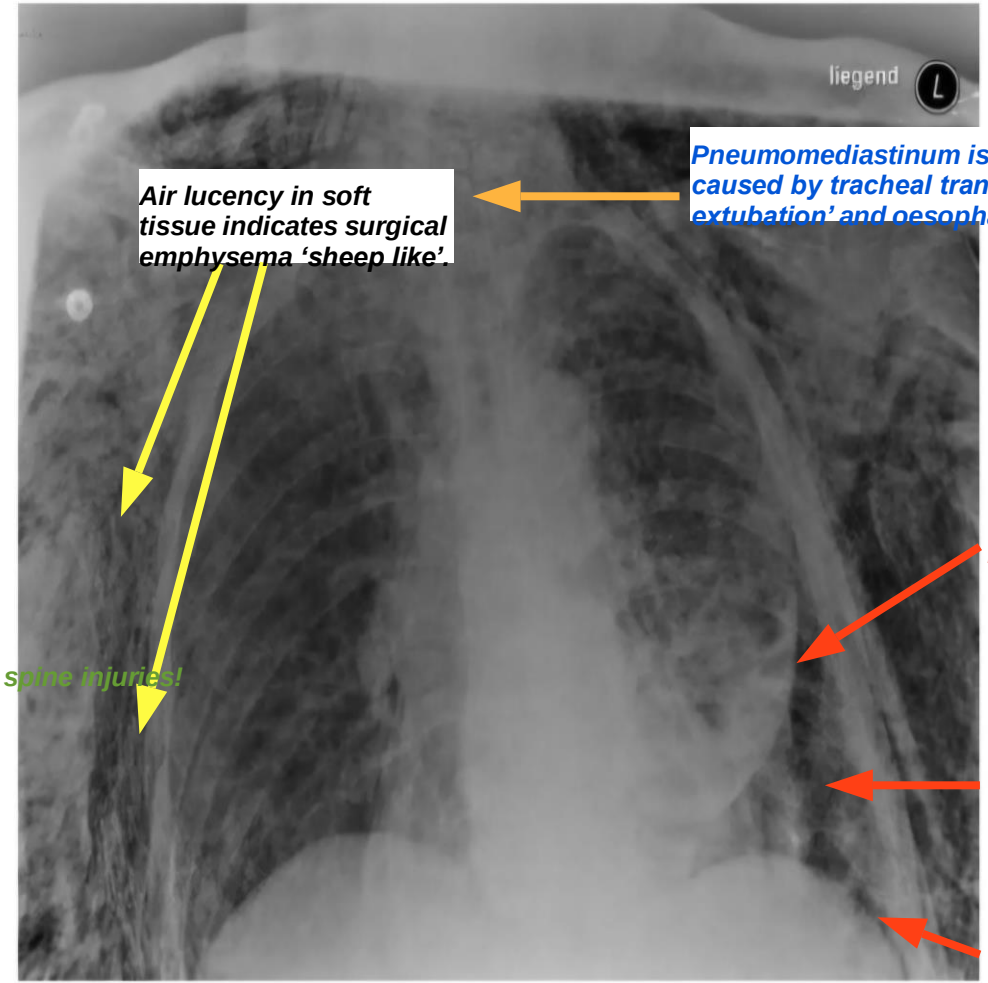
  you should not be able to see the lung edge

  if you can, the region peripherally is likely a pneumothorax

- absence of vessels

  the lung should have vessels running through it

these are white branching structures on the x-ray



Air lucency in soft tissue indicates surgical emphysema ‘sheep like’.

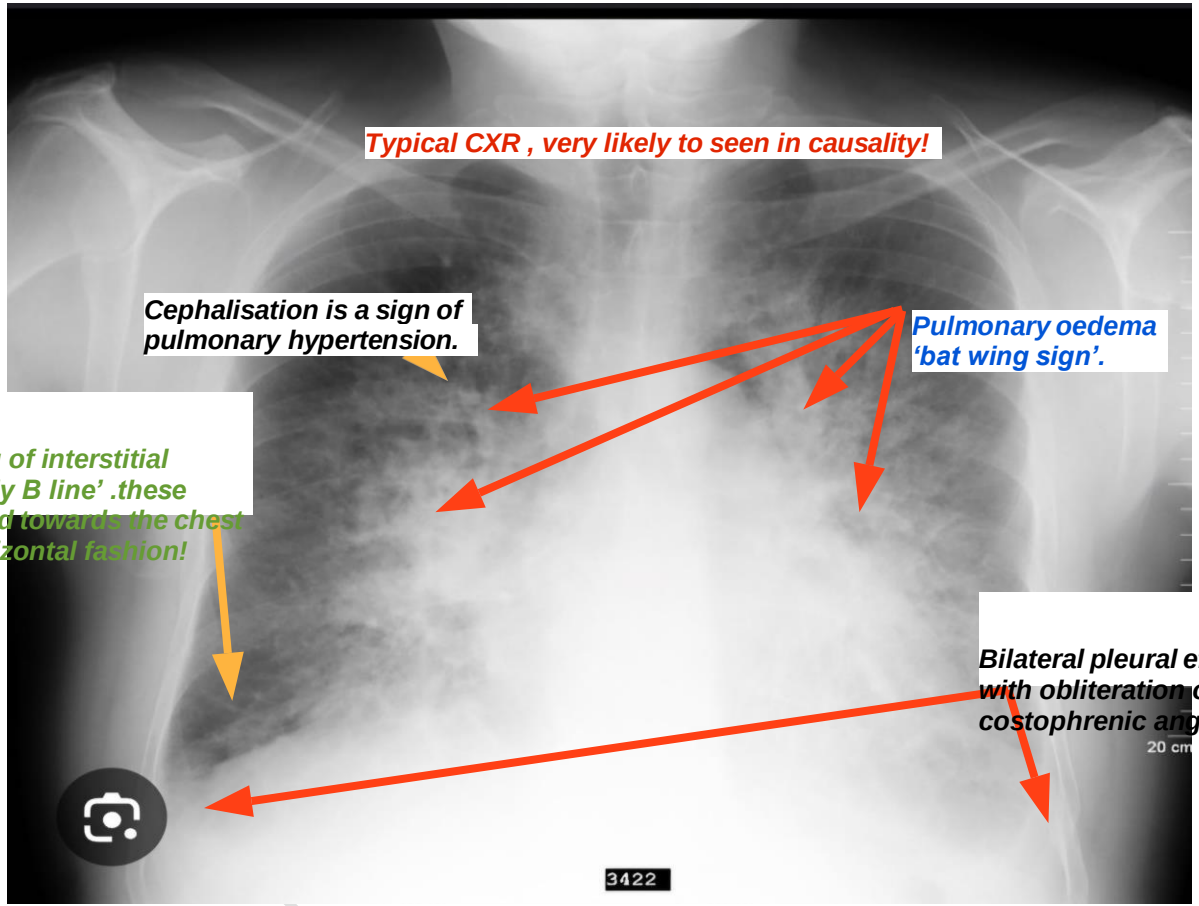
Pneumomediastinum is an ominous sign , caused by tracheal transaction ‘mostly after extubation’ and oesophagus rupture ‘traumatic’.

Pleural fold ‘white fold’.

Traumatic pneumothorax.

Deep sulcus sign.

We also expect this patient to have rib & spine injuries!



Old age presents with SOB & Crackles heard on auscultations of lung , history might associate with HF !

This is acute pulmonary oedema.

Features useful for broadly assessing pulmonary oedema on a plain chest radiograph include:

upper lobe pulmonary venous diversion (stag's antler sign)

increased cardiothoracic ratio/cardiac silhouette size: useful for assessing for an underlying cardiogenic cause or association

features of pulmonary interstitial edema:

peribronchial cuffing and perihilar haze

septal (Kerley) lines

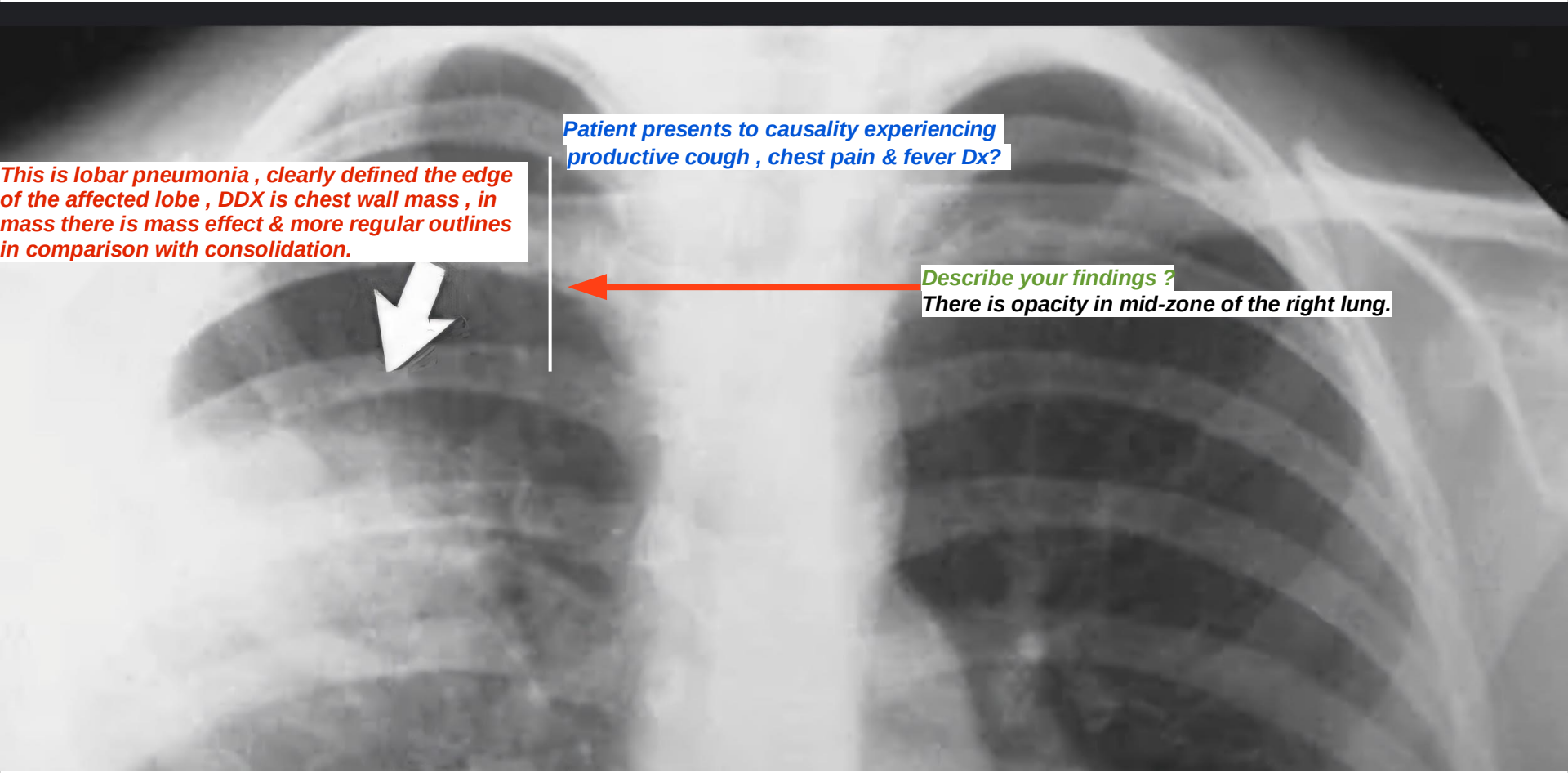
thickening of interlobar fissures

features of pulmonary alveolar oedema:

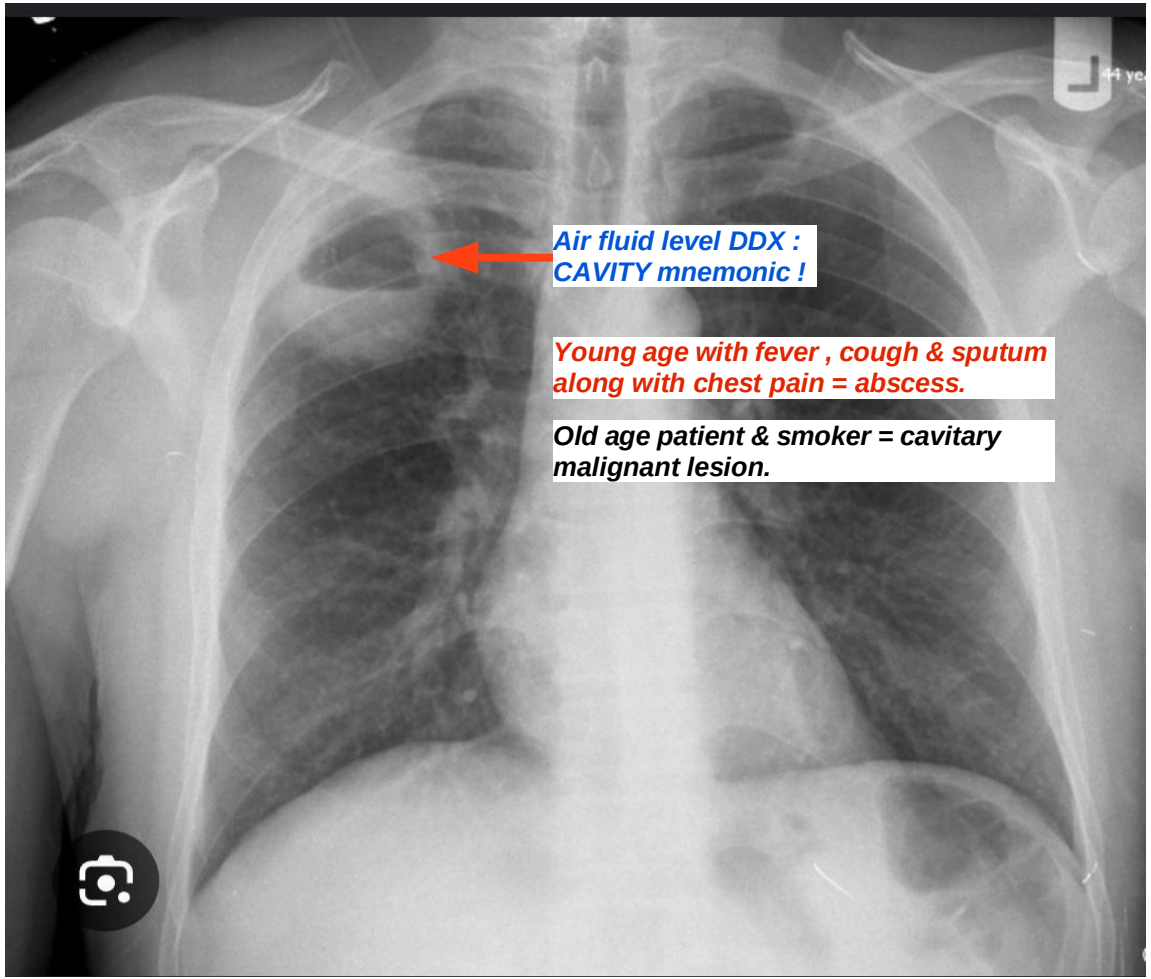
air space opacification classically in a batwing distribution

may have air bronchograms

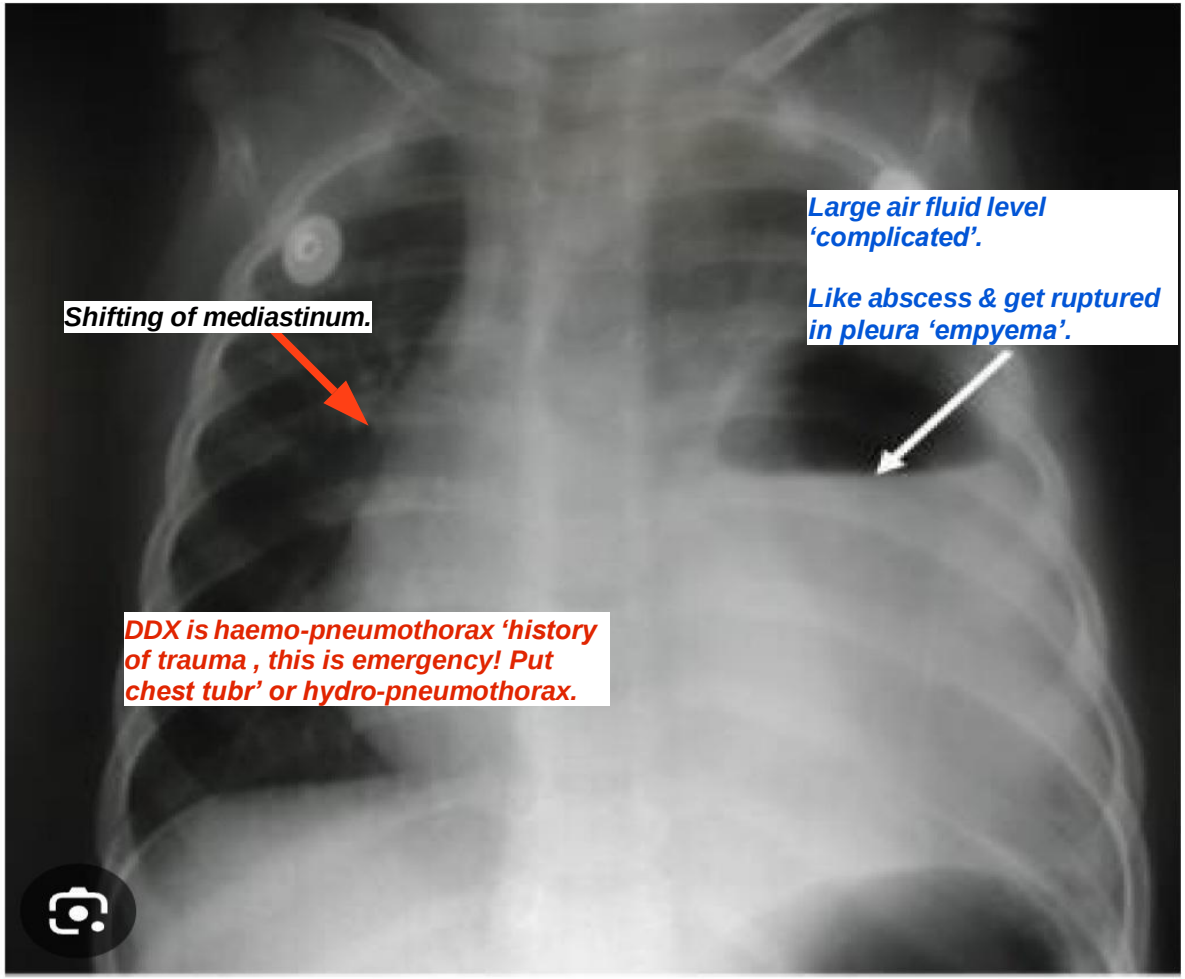
pleural effusions and fluid in interlobar fissures (including 'vanishing' pulmonary pseudotumour)

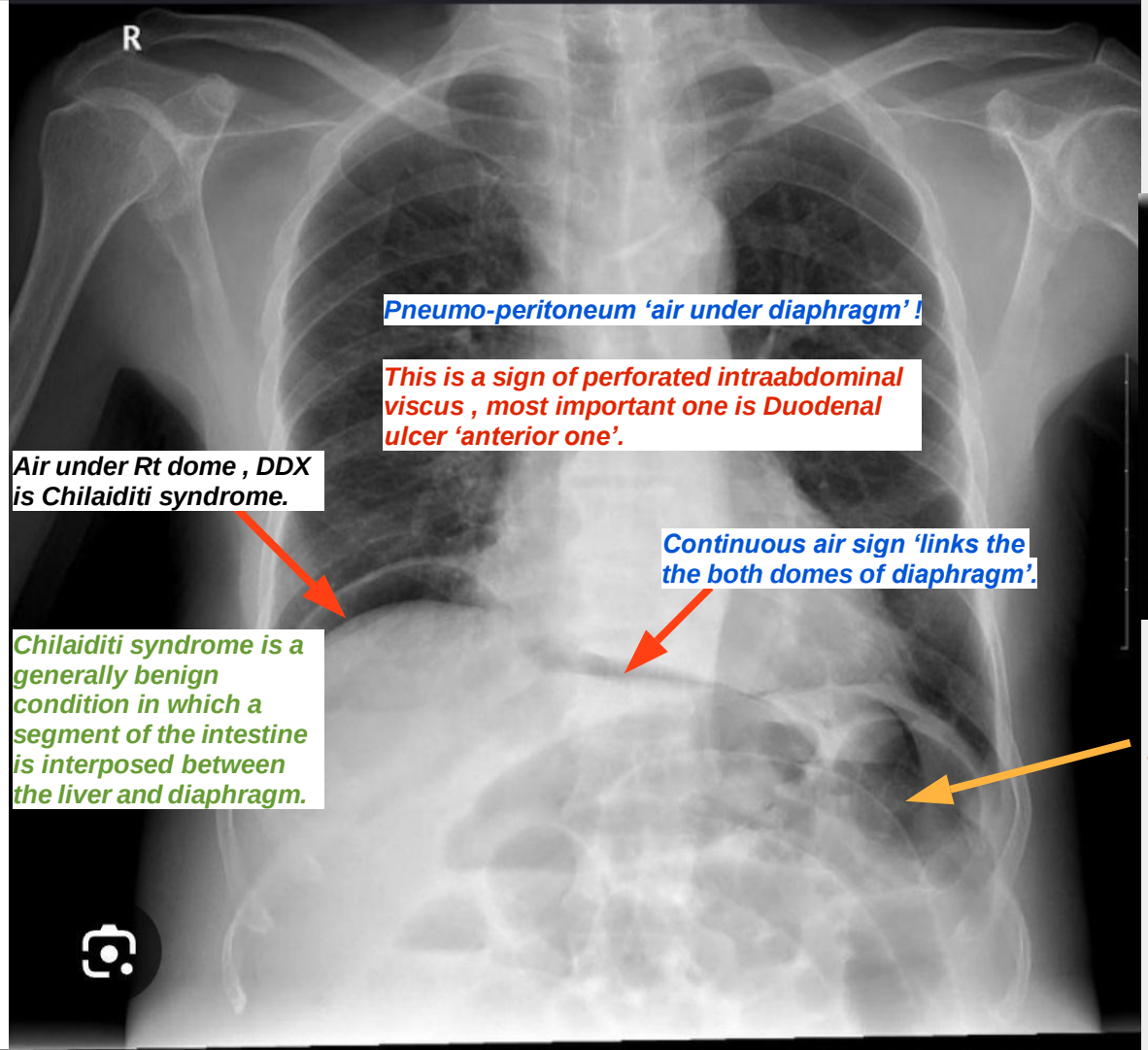

Patient presents to causality experiencing productive cough , chest pain & fever Dx?
This is lobar pneumonia , clearly defined the edge of the affected lobe , DDX is chest wall mass , in mass there is mass effect & more regular outlines in comparison with consolidation.
Describe your findings ?
There is opacity in mid-zone of the right lung.

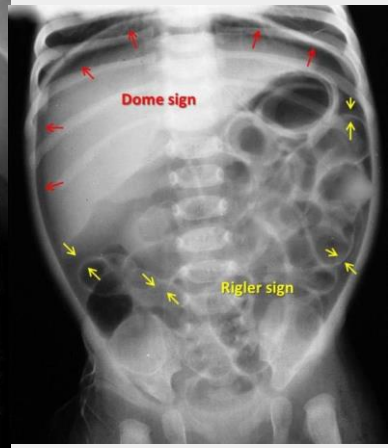
Most patients will have a chest radiograph, which most commonly demonstrates an air space consolidation appearance, classically a lobar pattern in pneumococcal disease. However a wide spectrum of radiographic changes may be found, and several organisms are well-known for having an interstitial, rather than consolidative, appearance

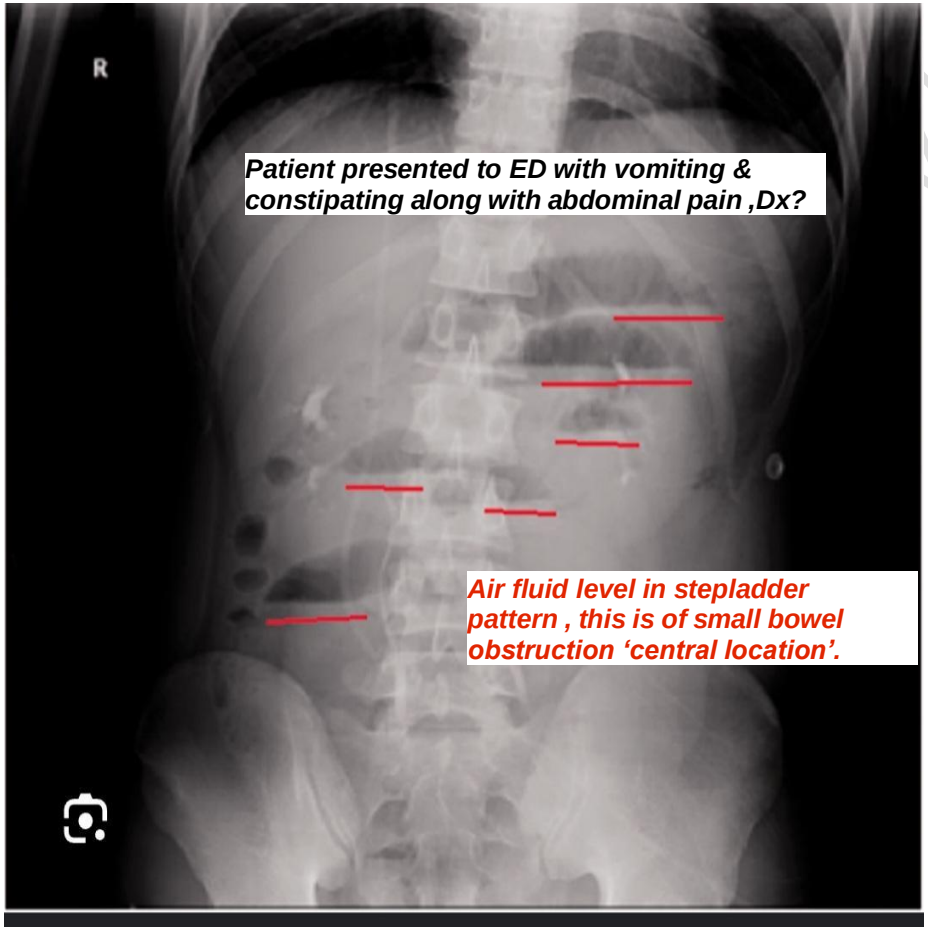

Air fluid level DDX :
CAVITY mnemonic !
Young age with fever , cough & sputum along with chest pain = abscess.
Old age patient & smoker = cavitary malignant lesion.

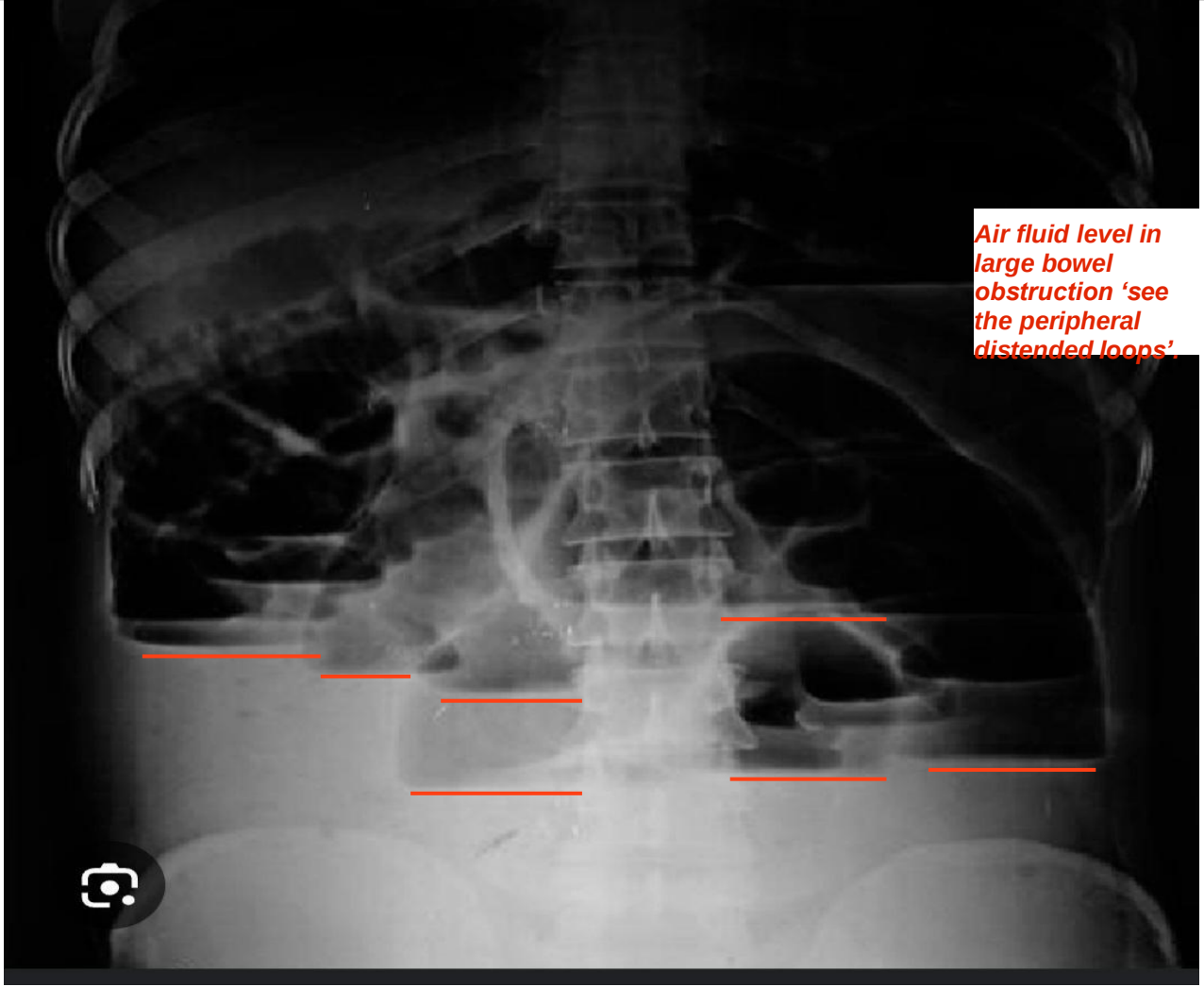
pulmonary cavity is a collection of gas and/or fluid enclosed by a thick and often irregular wall which usually occurs when central necrotic tissue is expelled via a bronchial connection. Cavities may be single or multiple and can be isolated or associated with lung disease

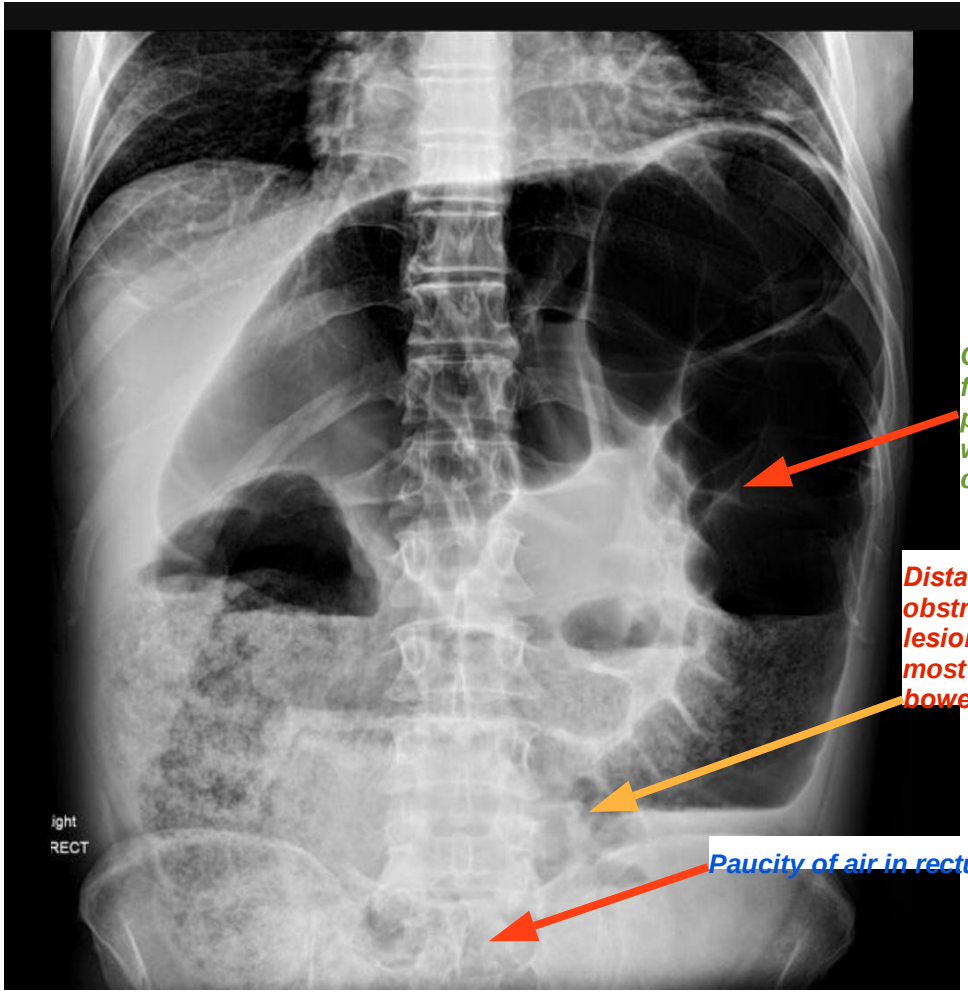

Shifting of mediastinum.
Large air fluid level 'complicated'.
Like abscess & get ruptured in pleura 'empyema'.
DDX is haemo-pneumothorax 'history of trauma , this is emergency! Put chest tubr' or hydro-pneumothorax.


R
Pneumo-peritoneum ‘air under diaphragm’ !
This is a sign of perforated intraabdominal viscus , most important one is Duodenal ulcer ‘anterior one’.
Air under Rt dome , DDX is Chilaiditi syndrome.
Continuous air sign ‘links the the both domes of diaphragm’.
Chilaiditi syndrome is a generally benign condition in which a segment of the intestine is interposed between the liver and diaphragm.
Gastric air bubbles are normal finding!


Dome sign
Rigler sign


R
Patient presented to ED with vomiting & constipating along with abdominal pain ,Dx?
Air fluid level in stepladder pattern , this is of small bowel obstruction ‘central location’.


Air fluid level in large bowel obstruction ‘see the peripheral distended loops’.



Colonic haustration , differs from plica circularis , the former partially crossing the wall , while the latter is completely crossing the wall.

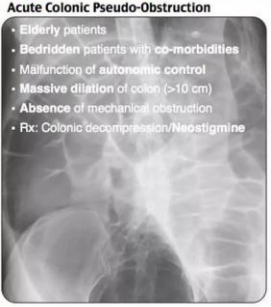
Distal 'low' large bowel obstruction , most likely sigmoid lesion 'cancer of colon is the most common cause of large bowel obstruction'.

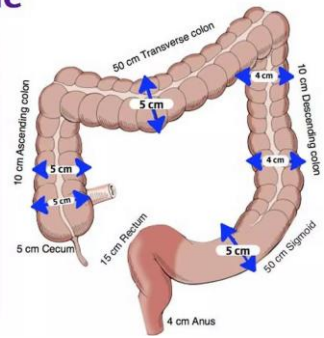
Paucity of air in rectum.

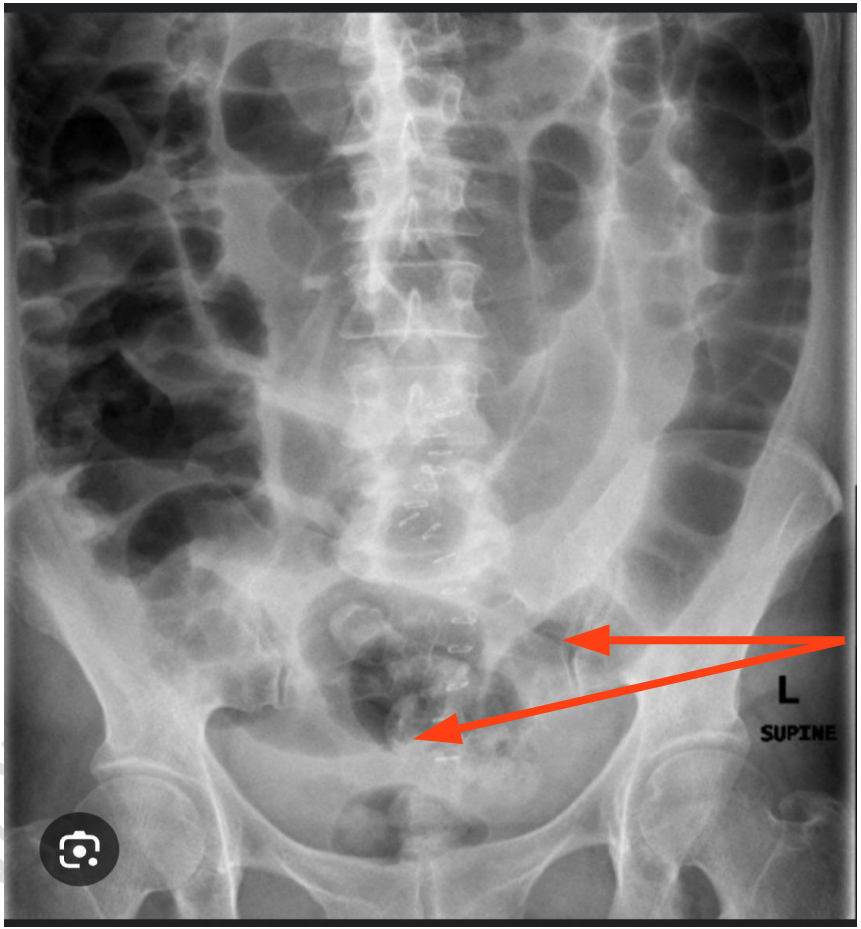
Ogilvie Syndrome

Acute Colonic Pseudo-Obstruction

- Elderly patients
- **Bedridden** patients with **co-morbidities**
- Malfunction of **autonomic control**
- **Massive dilation** of colon (>10 cm)
- **Absence** of mechanical obstruction
- Rx: Colonic decompression/**Neostigmine**

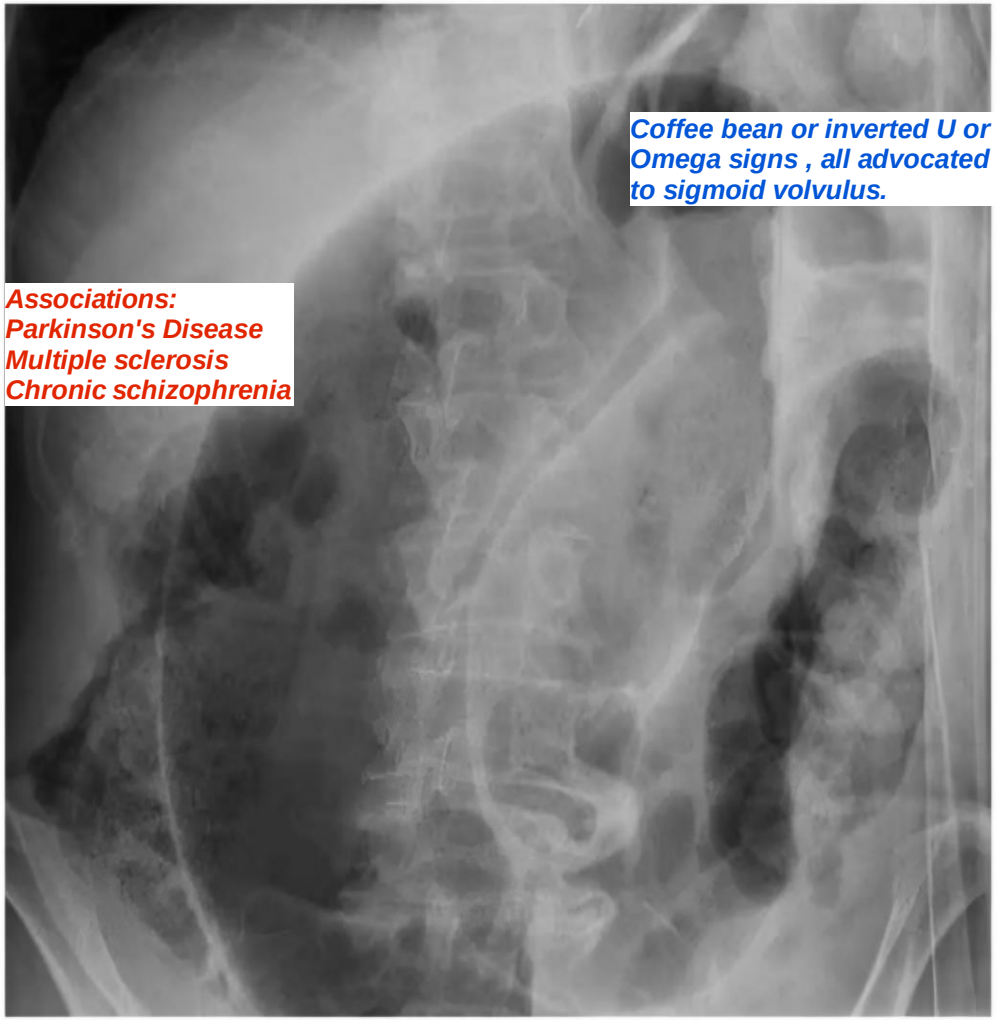






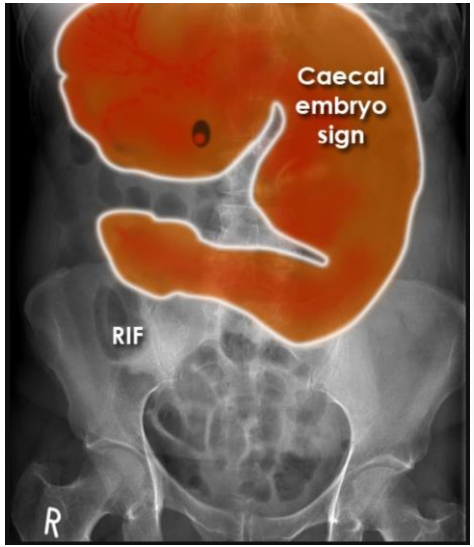
Large & small bowel obstruction & dilated small bowel lobes as the iliocaecal valve incompetent '2/3rd of population'.

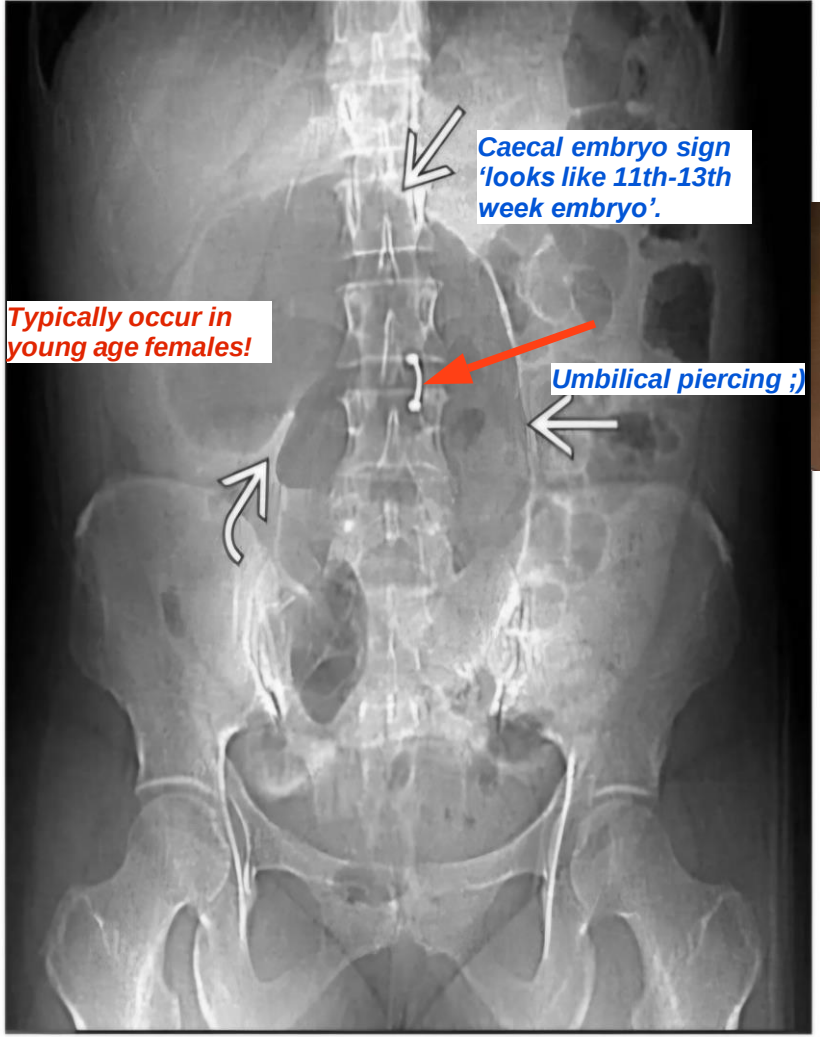
Presence of air in rectum narrows the DDX to paralytic ileus and ogilvie syndrome 'acute colonic pseudo obstruction'.

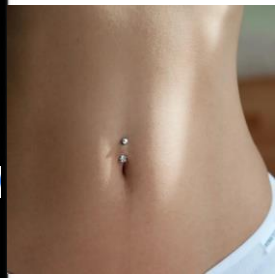


Coffee bean or inverted U or Omega signs , all advocated to sigmoid volvulus.

Associations:
Parkinson's Disease
Multiple sclerosis
Chronic schizophrenia

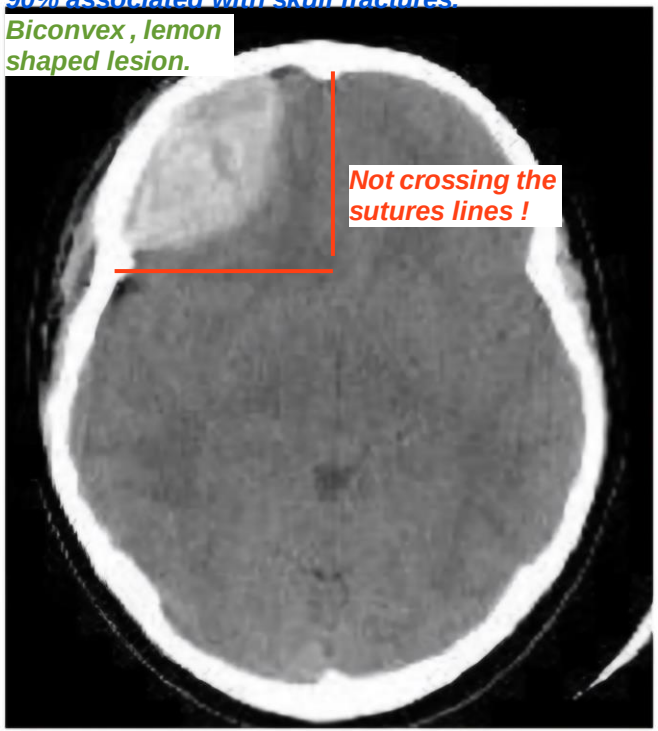

Caecal
embryo
sign
RIF
R


Caecal embryo sign 'looks like 11th-13th week embryo'.
Typically occur in young age females!
Umbilical piercing ;)



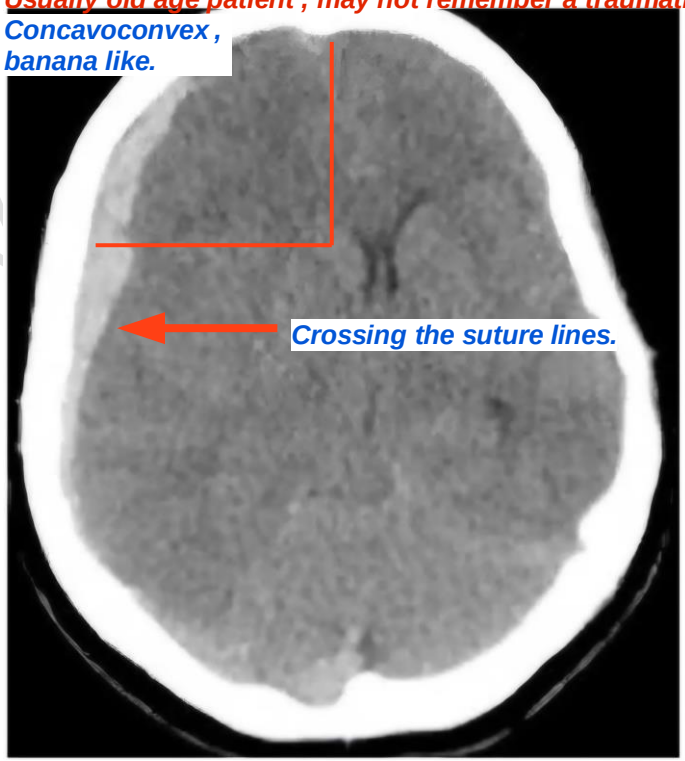
Epidural Hmg:
More serious.
90% associated with skull fractures.

Biconvex , lemon shaped lesion.

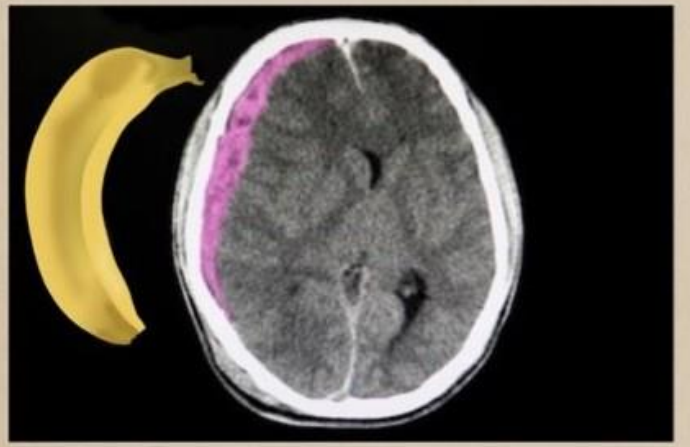


Subdural Hmg :
Less acute presentation.
Usually old age patient , may not remember a traumatic event !

Concavoconvex , banana like.



Subdural Hematoma



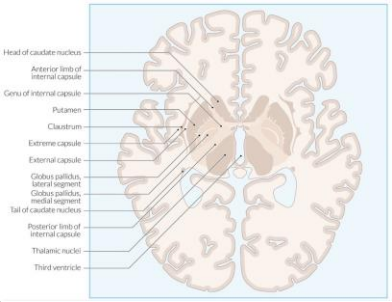
- Concave/Crescent-Shaped
- Bridging Veins
- Elderly, Alcoholics

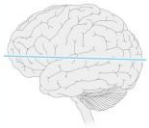
suB = Banana

Epidural Hematoma

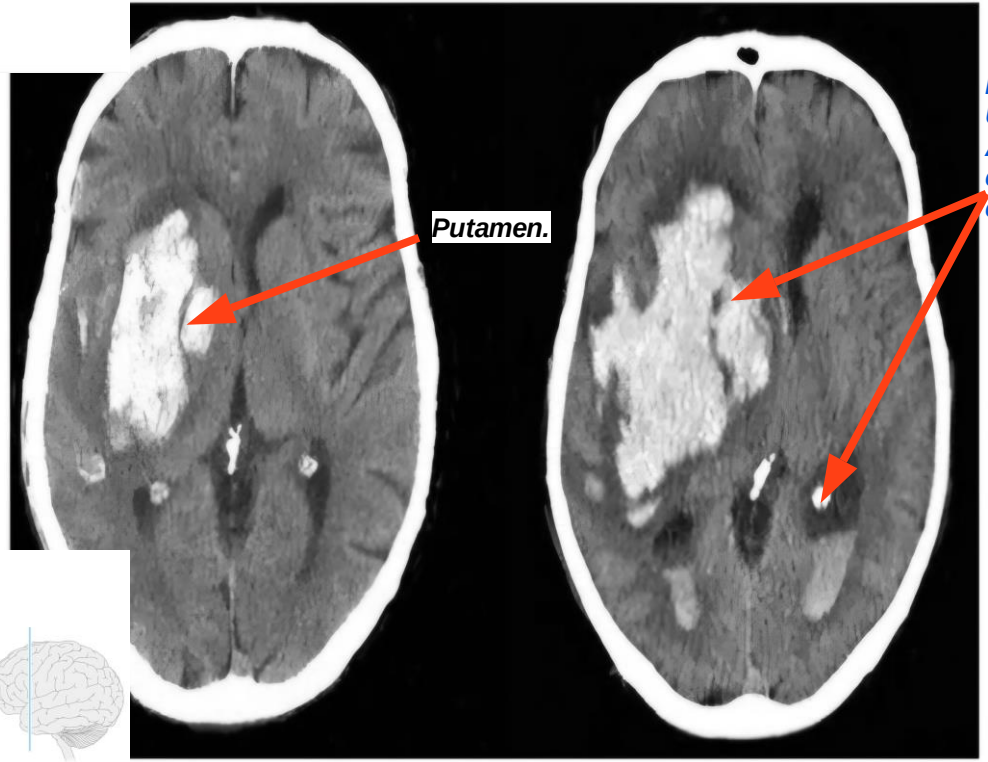
- Convex/Lens-Shaped
- Middle Meningeal Artery
- "Lucid Interval"

Epi = Pie = Lemon

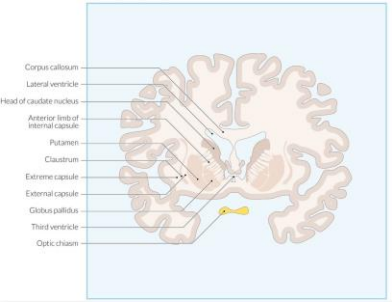


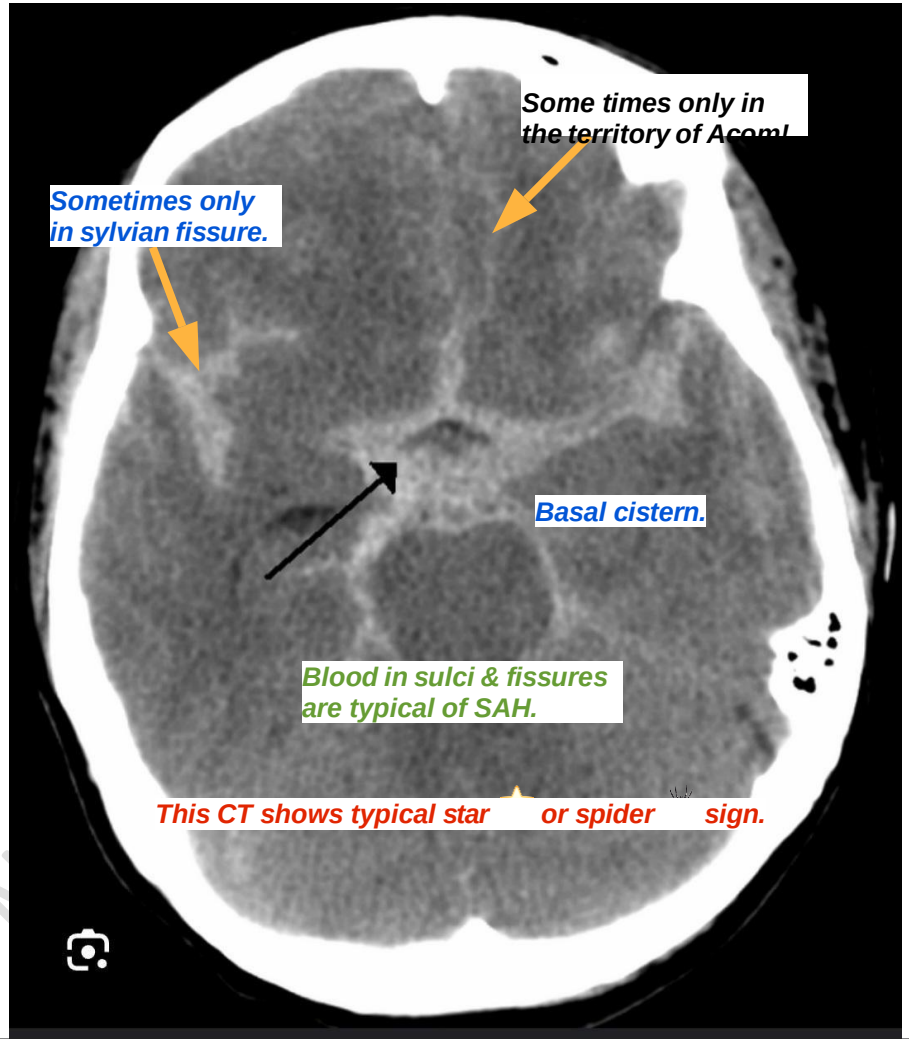


How to differentiate the calcification from Hmg ?
By HF units , the clotted blood takes 60-80 HF while calcification takes >80-1000 HF.



Intracranial Hmg :
Usually in hypertensive patients.
Affecting the basal ganglia & may communicate with ventricles to give coexisting intraventricular Hmg.

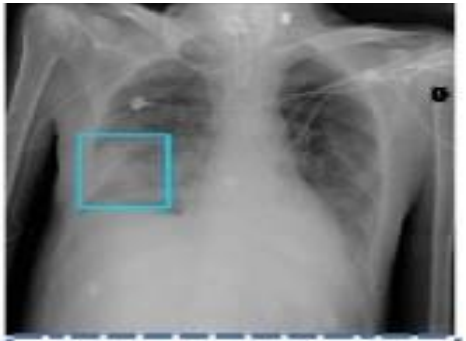




Sub arachnoid haemorrhage causes :
Aneurysm.
Traumatic.
AV malformations.

Atelectasis

Cardiomegaly

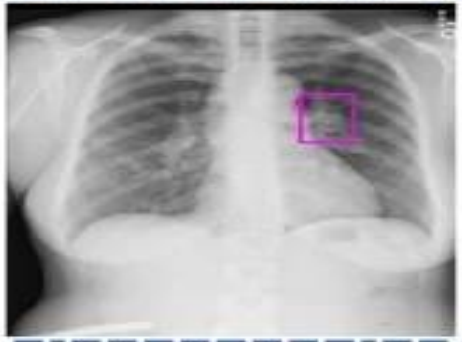


Effusion

Infiltration

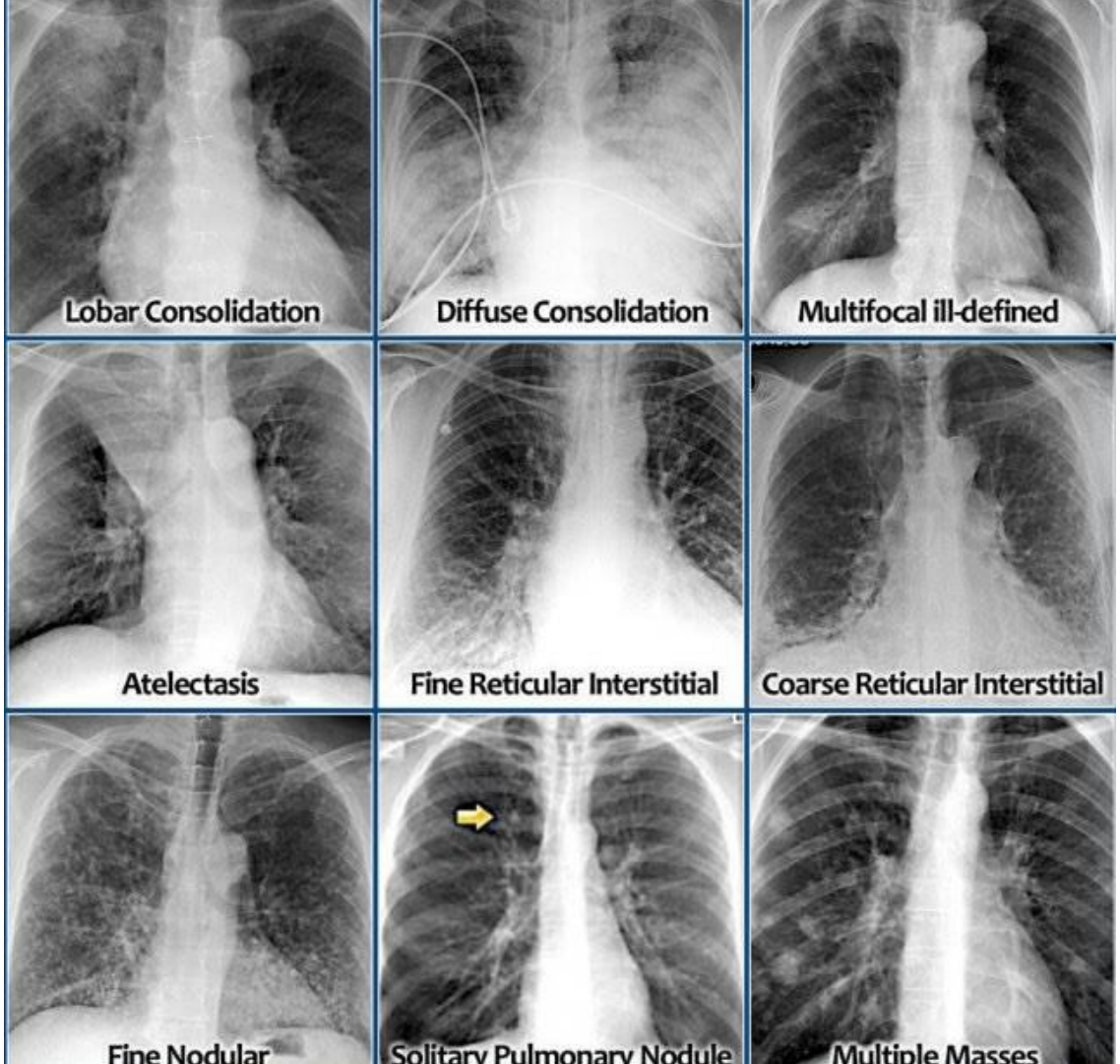
Mass

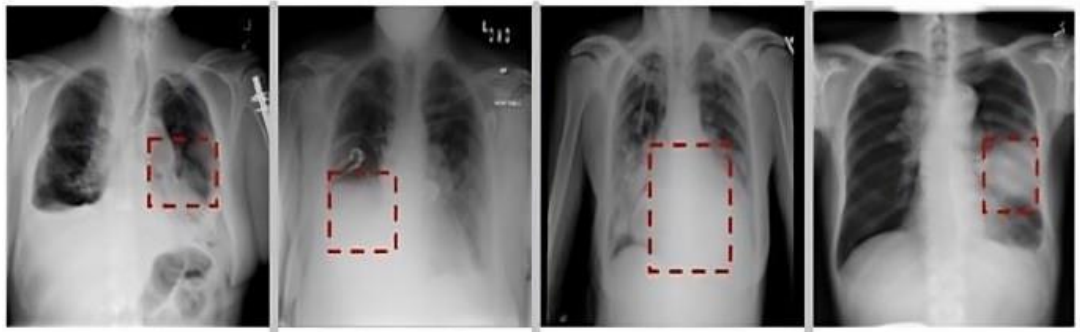
Pneumonia



Nodule

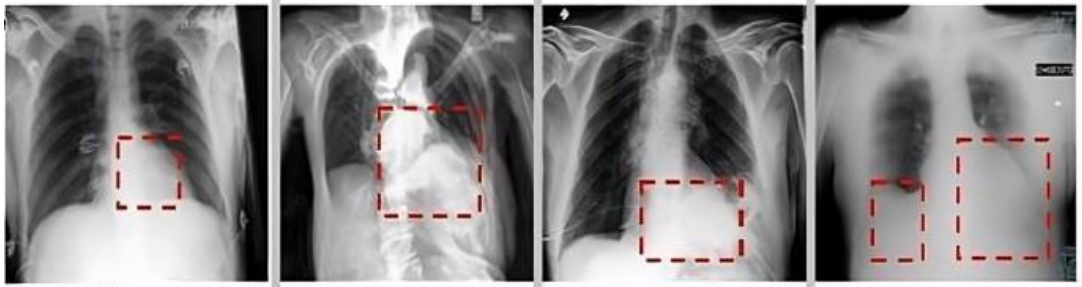
Pneumothorax


Lobar Consolidation
Diffuse Consolidation
Multifocal ill-defined
Atelectasis
Fine Reticular Interstitial
Coarse Reticular Interstitial
Fine Nodular
Solitary Pulmonary Nodule
Multiple Masses



Infiltration | Atelectasis | Cardiomegaly | Effusion

Mass | Nodule | Pneumonia | Pneumothorax



Edema | Lung Opacity | Lung Lesion | COVID-19