VARICELLA PNEUMONIA

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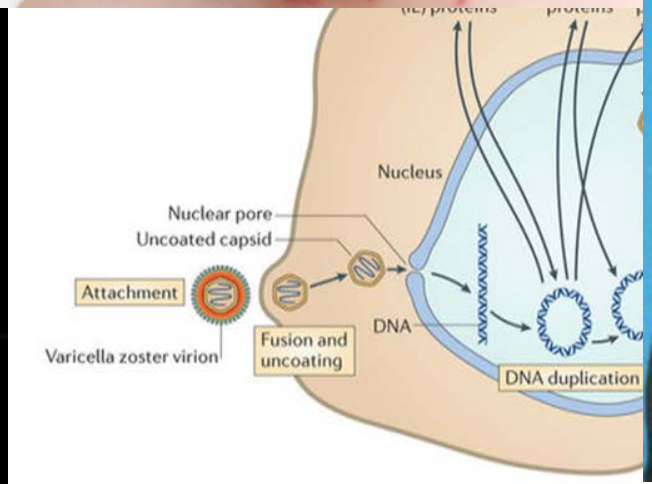
OBJECTIVES

- Pathophysiology
- Pneumonia
- Presentation & Imaging
- Case review
- Image review – Audience participation

CHICKEN POX?

PATHOPHYSIOLOGY

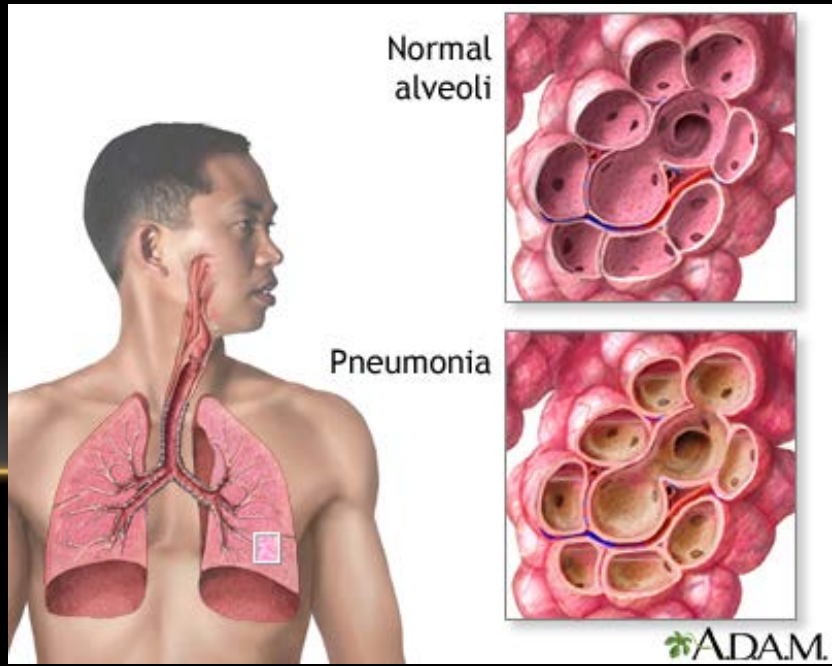


PNEUMONIA
PNEUMO- LUNG / IA - INFLAMMATION

- Pneumonia is inflammation of the lung tissue that can be caused by either a bacterial or viral infection.
- Airways become inflamed and fill with puss or infiltrate causing alveolar damage.
- The most common cause of pneumonia is Streptococcus Pneumoniae with a pertinacity to affect the young and older population groups (NHS, 2019).
- 450 million cases of pneumonia were documented by the WHO (World Health Organisation) within the space of a year with 200 million being viral in nature.
- Of this, 1 in 400 viral cases is thought to be due

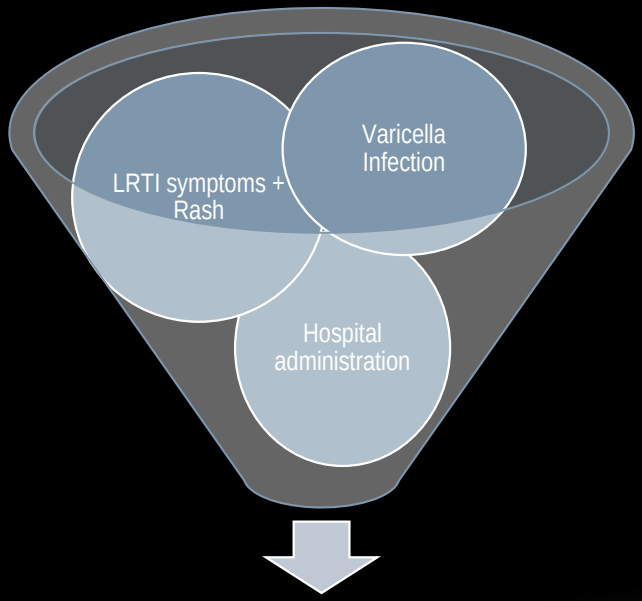
to the virus Varicella, or more commonly known as chicken pox (Ruuskanen, et al., 2011)

(Mohsen & McKendrick, 2003).



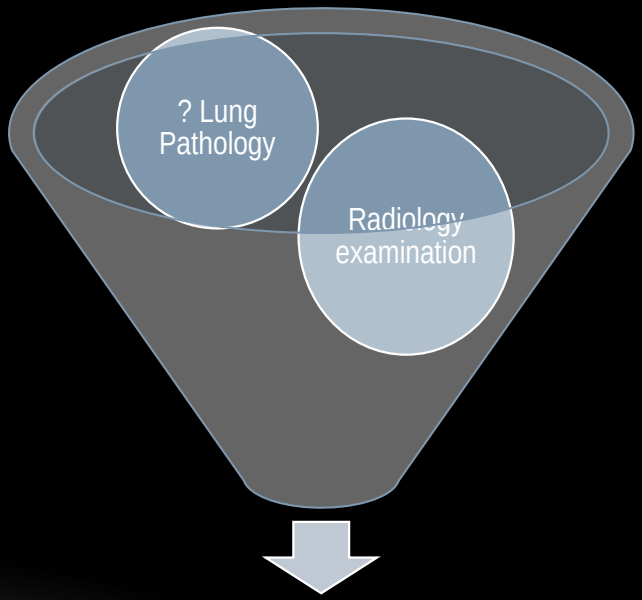
PRESENTATION

Acute



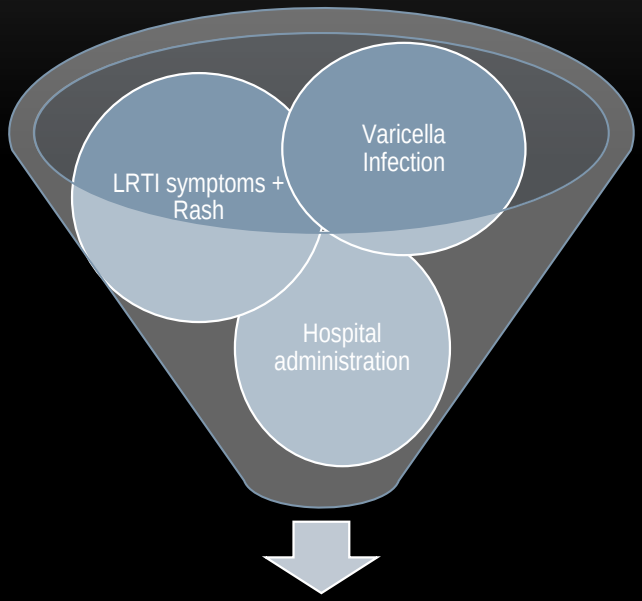
CXR +/- CT

Non-Acute



Incidental finding

Acute

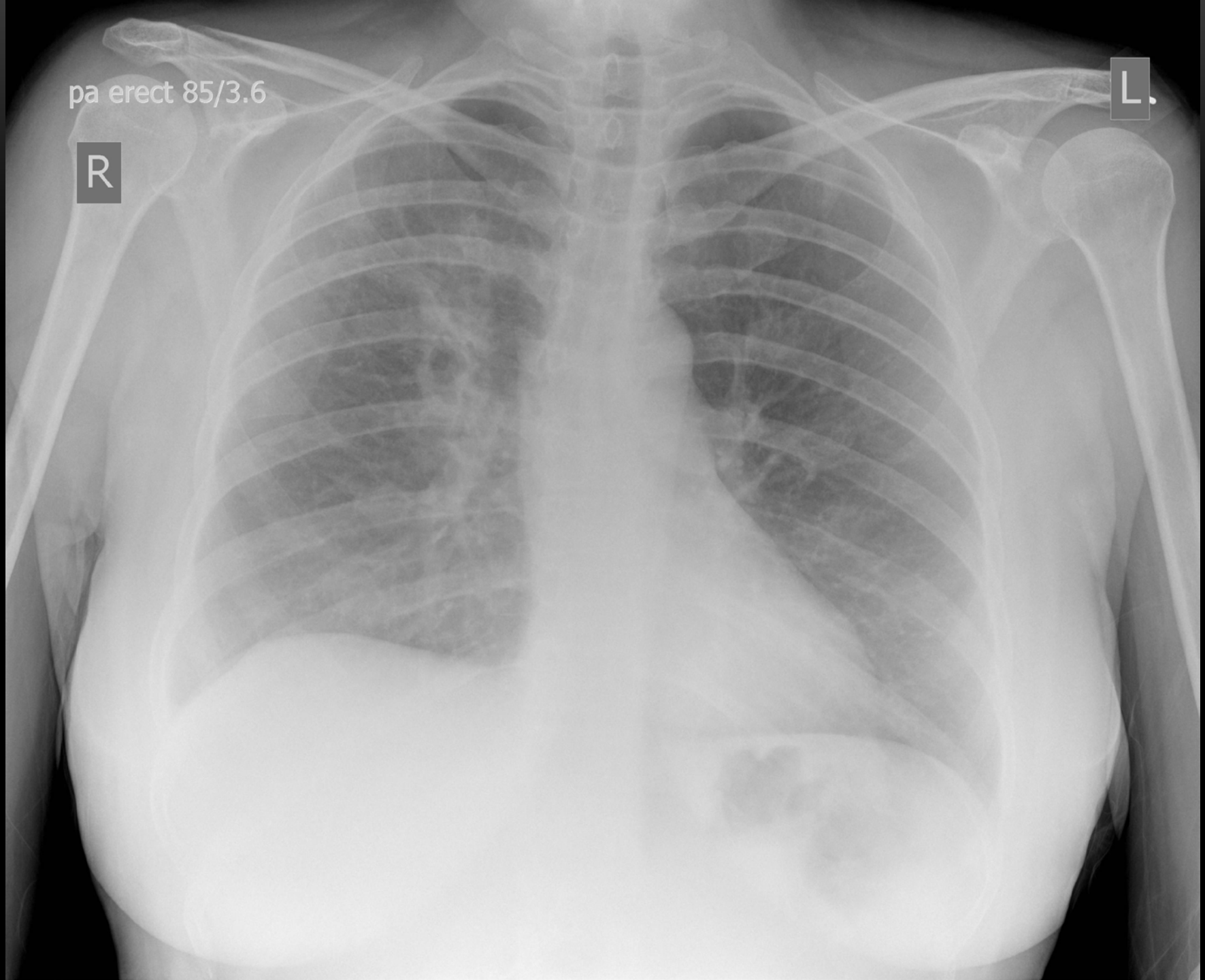

LRTI symptoms + Rash
Varicella Infection
Hospital administration

CXR +/- CT

AT RISK GROUPS

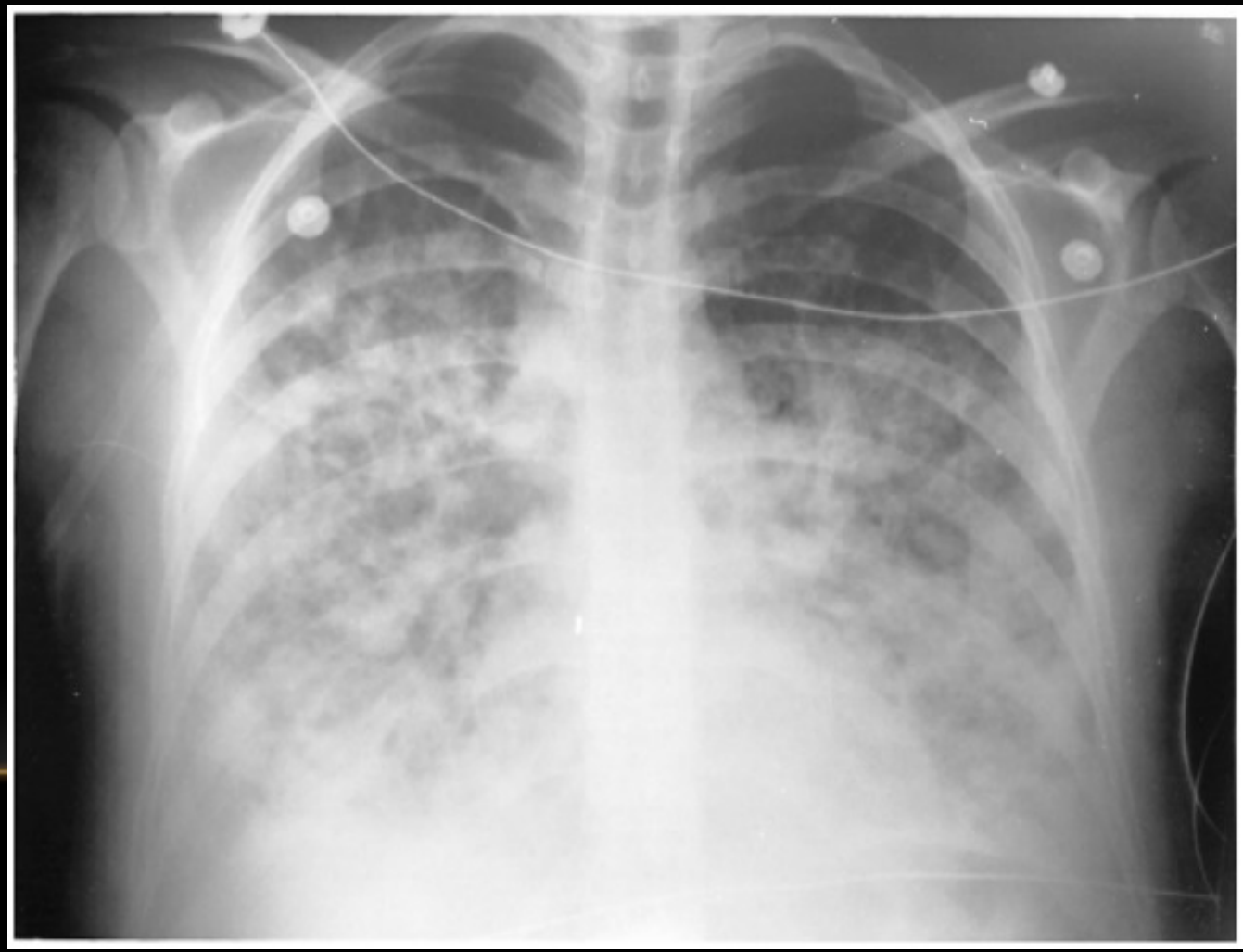
- Within the general population the varicella virus is a self limiting disease with limited effects upon the host. However, there is a proportion of the population that is more at risk from serious complications such as pneumonia.
- Immunocompromised – A person that has a reduced immune function is more at risk from serious complications due to the body not being able to respond accordingly to the virus. These patients are at further risk from concurrent bacterial infections. Patients with HIV for example and cancer patients that are being treated with chemotherapy. 90% of serious side effects are reported within this at risk group (Mohsen & McKendrick, 2003).
- Pregnancy - Due to a lack of immunity, if a pregnant female contracts varicella especially after 16 weeks gestation, they are more likely to develop severe complications such as pneumonia. High mortality rates were reported of up to 45% before the introduction of antiviral treatment, this has now dropped to approximately 14%. The varicella virus can also be passed on to the foetus and can result in birth defects (Trotta, et al., 2018).
- Adults without prior exposure – Severe complications such as pneumonia are also reported if an individual is infected with the virus later in life (Kaaniche, et al., 2015).


L
PA Sitting
85kV/3.6mAs

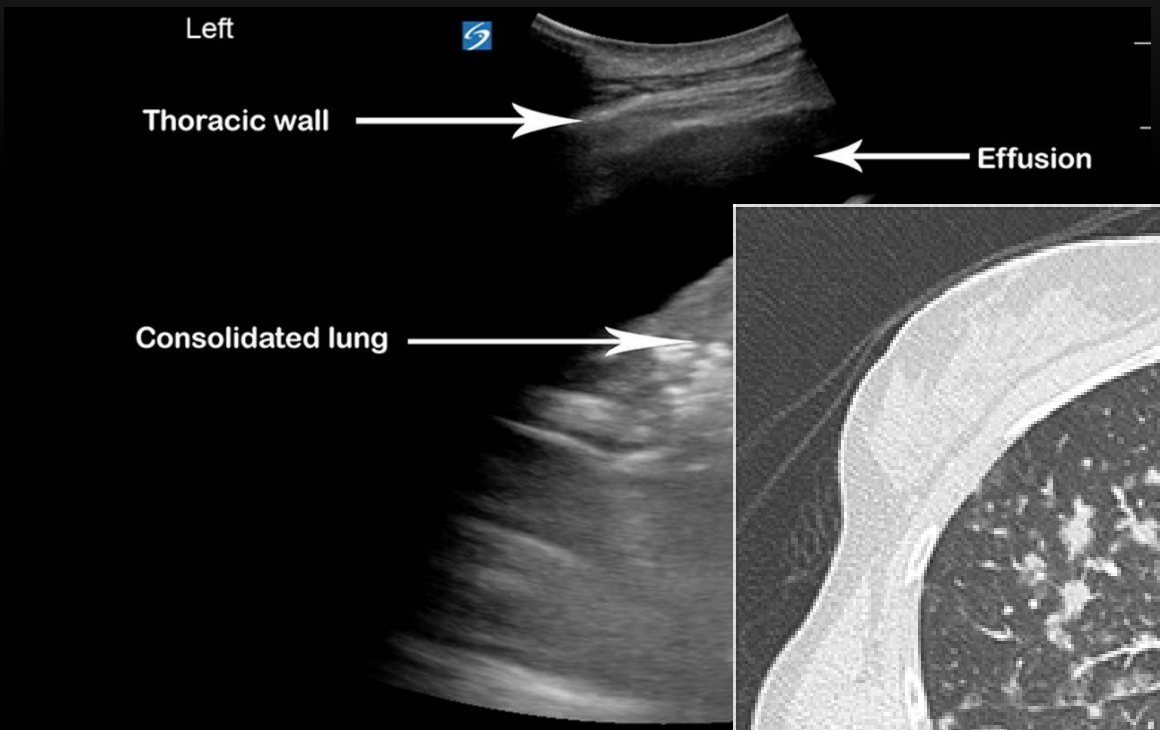

pa erect 85/3.6
R
L

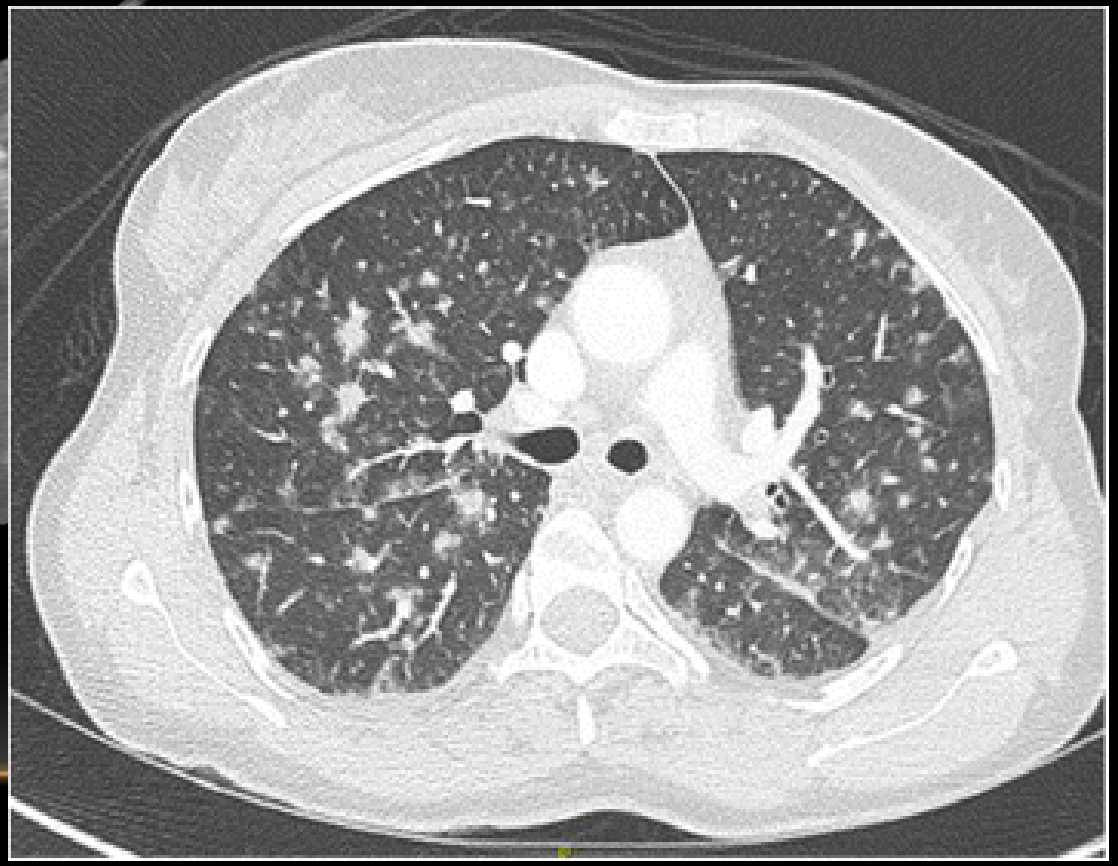
- CXR first line investigation
- Widespread patchy areas of nodular opacities (5-10 mm in size)
- Must have good clinical history

- What is odd about this image?



OTHER MODALITIES





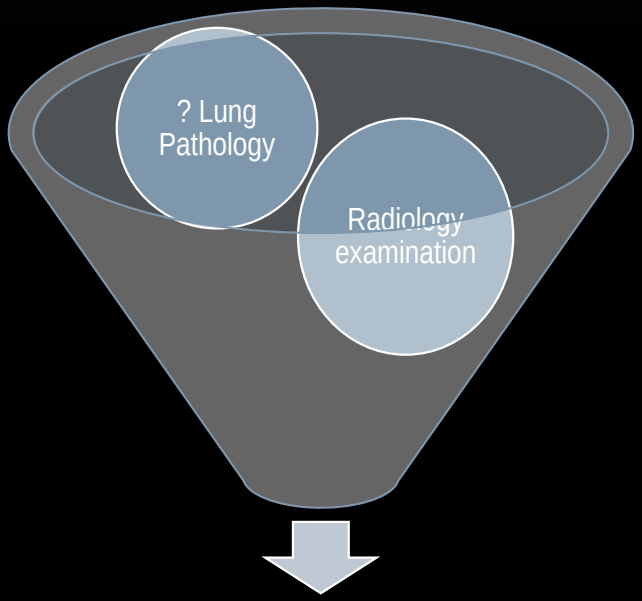
MOST IMPORTANT FACTOR

Clinical Information

OTHERWISE

- Vasculitis
- Diffuse pulmonary haemorrhage
- Alveolar proteinosis
- Hypersensitivity pneumonitis
- To name a few – with differing treatments!

Non-Acute

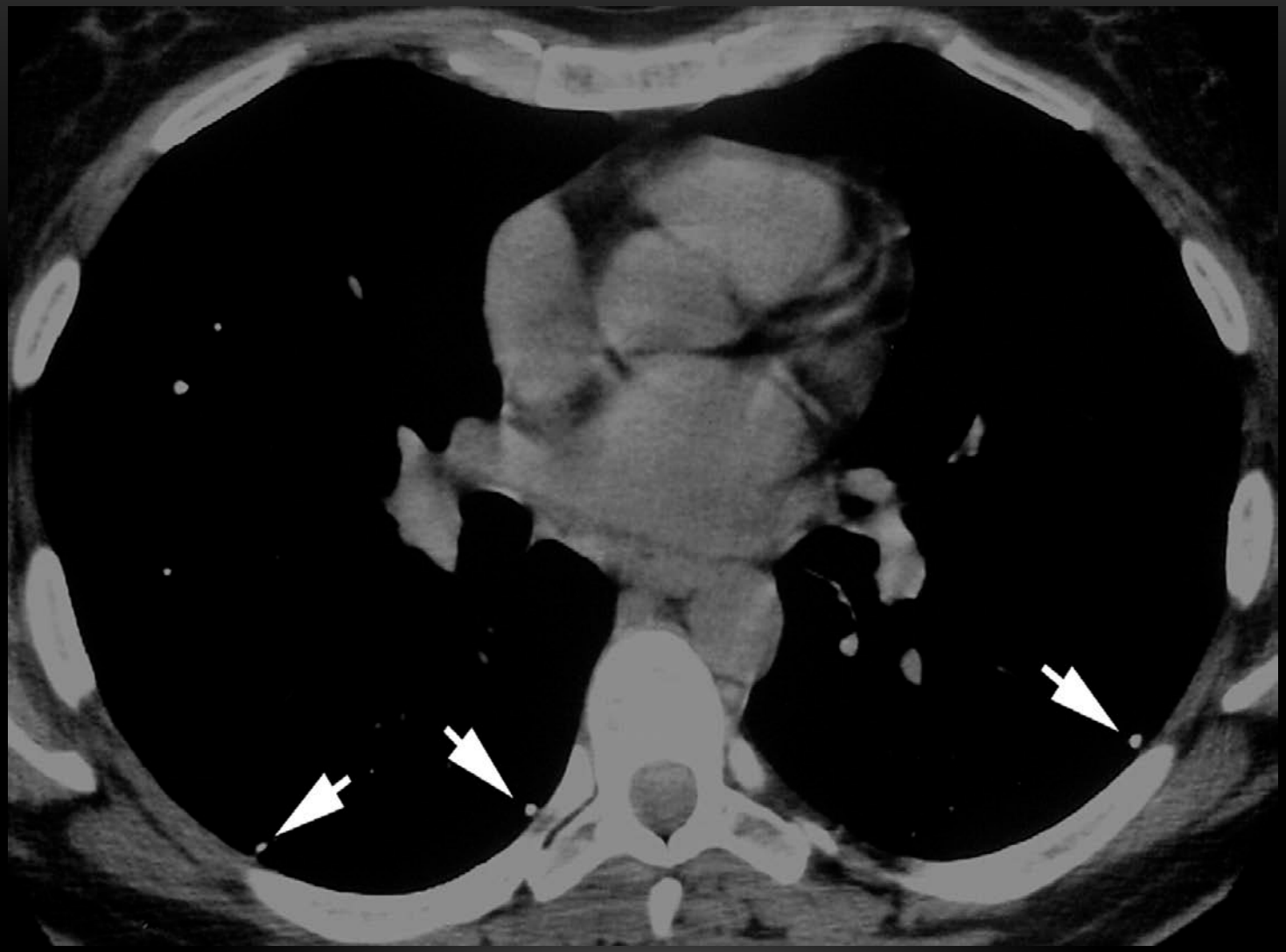

? Lung Pathology
Radiology examination
Incidental finding


L
14
15mm
PA Chest
SE:1
IM:1

LACK OF CLINICAL INFORMATION

- CXR differentials include;
- Miliary TB
- Histoplasmosis
- Mycoplasma
- Immune/inflammatory disorders such as sarcoidosis
- Malignancies (Sharma, 2015)

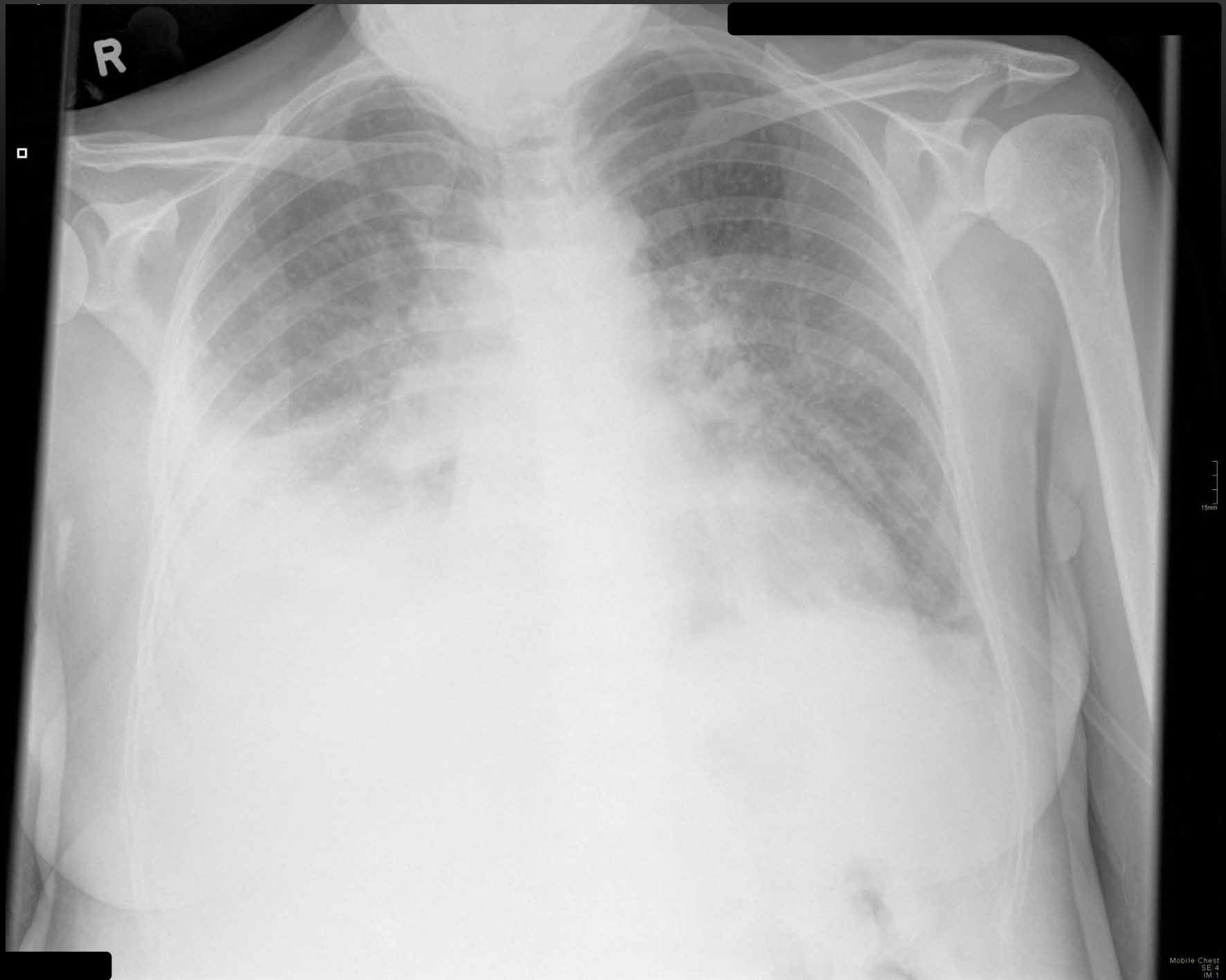
CT

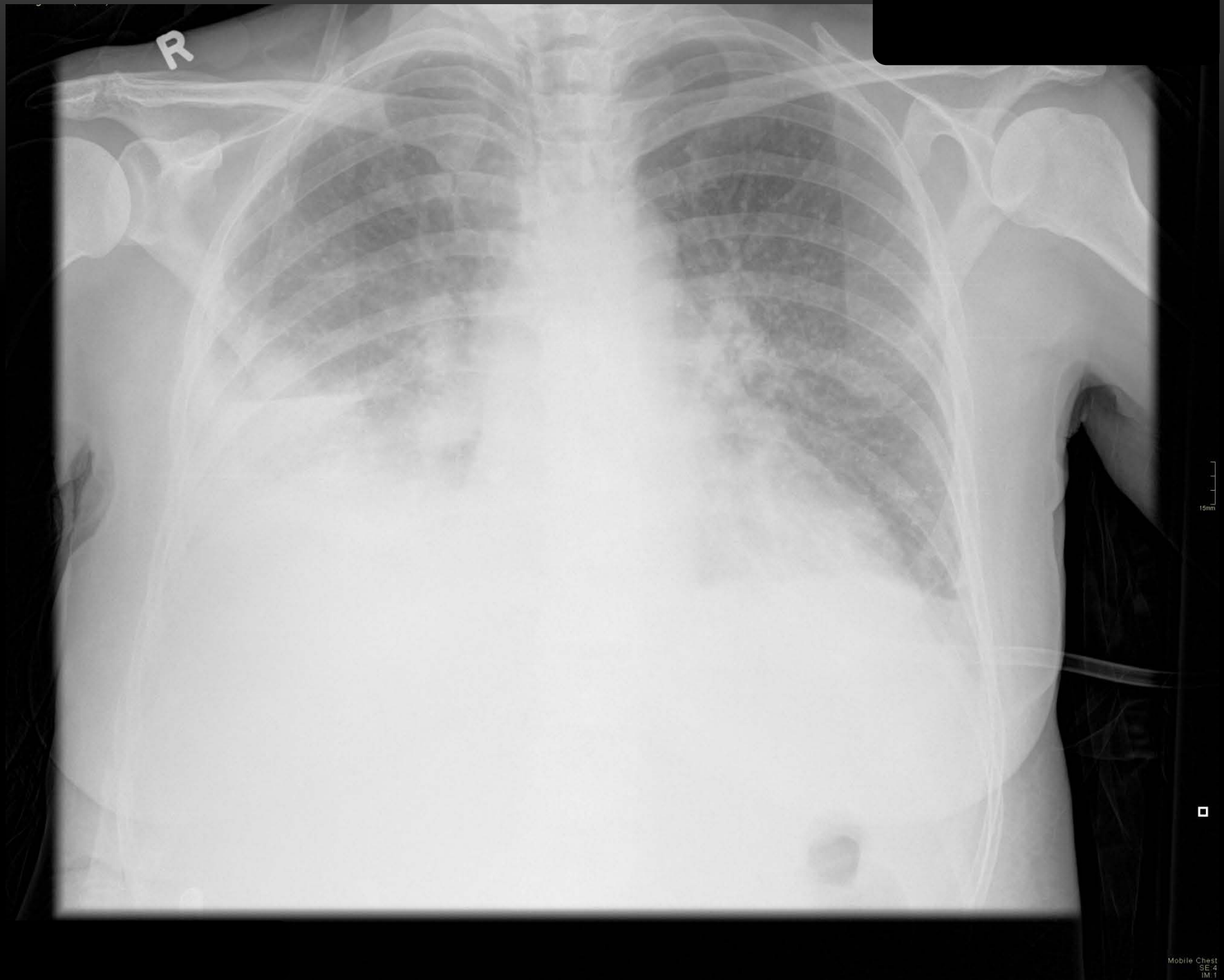


CONCLUSION

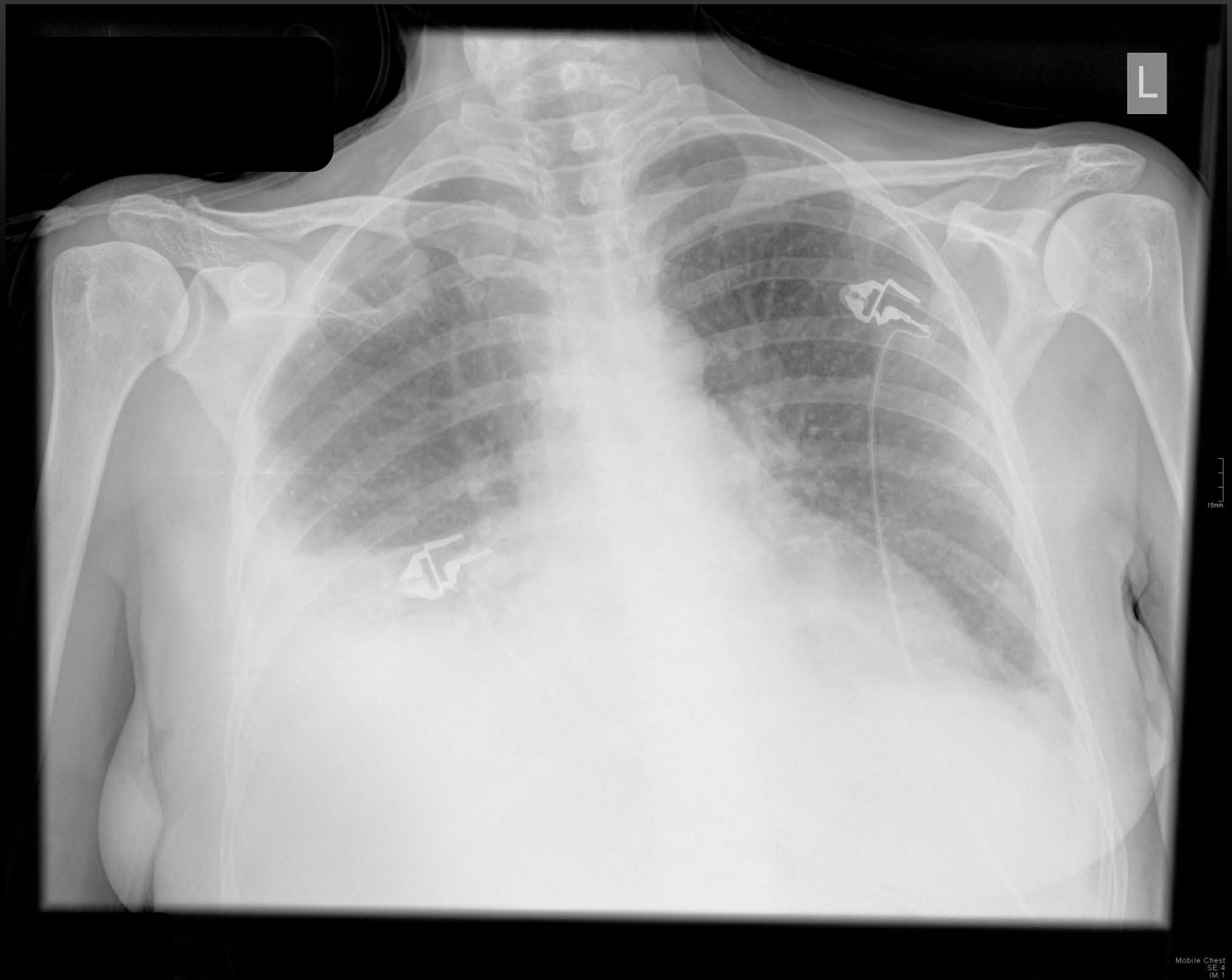
- Need good clinical information
- Imaging is not a stand alone test
- CT is undeniably more sensitive
- Treatment in the acute setting needs to be quickly administered.

CASE REVIEW


R
15mm
Mobile Chest
SE:4
IM:1

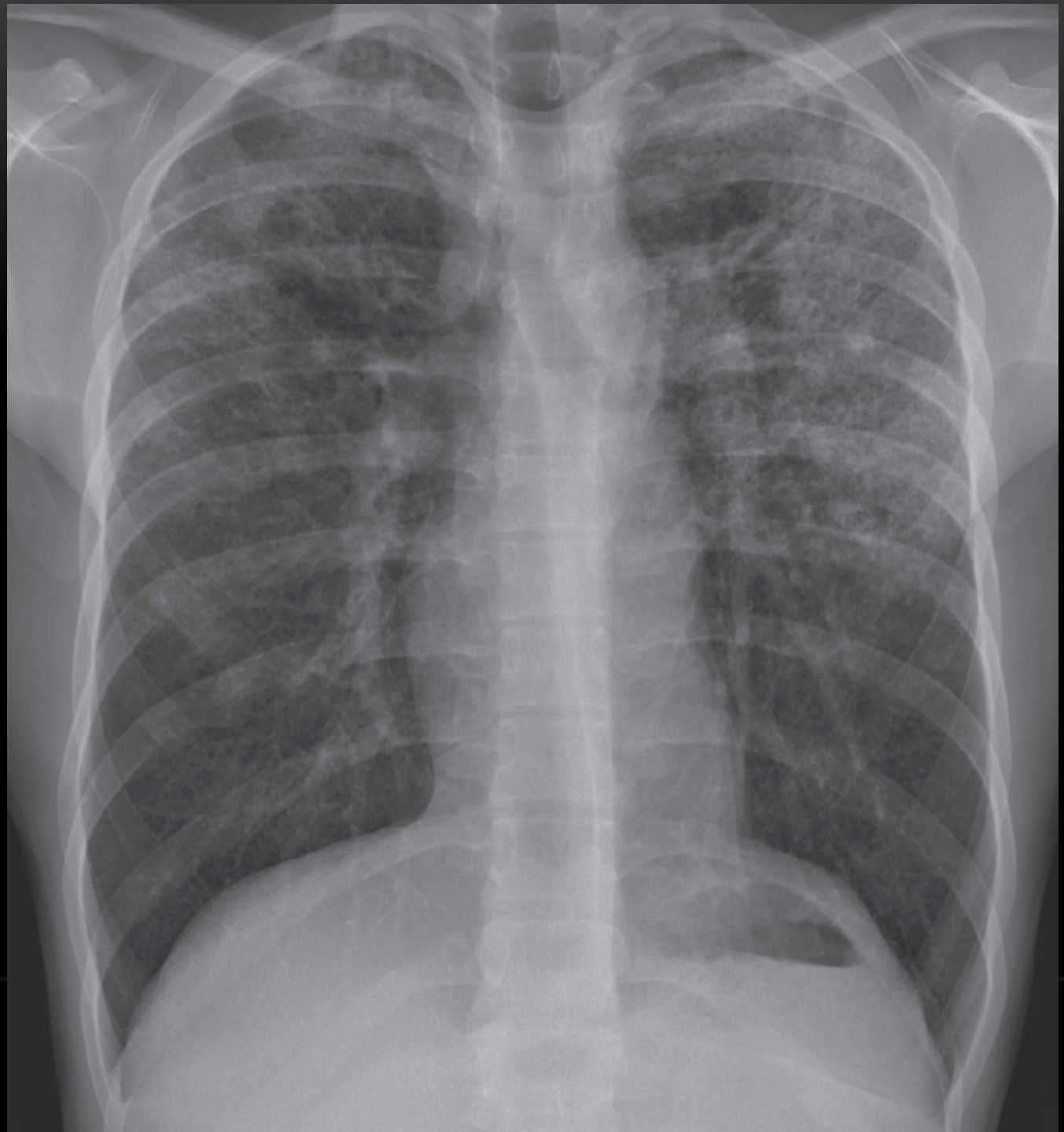

R
15mm
Mobile Chest
SE:4
IM:1


R
[redacted]
ACC#2710968
15mm
PA Chest
SE:1
IM:1


L
15mm
Mobile Chest
SE:4
IM:1

SO WHAT DO YOU THINK?


PA
L




R


R

THANK YOU!