



CXR #14

WAMSS SGR 2022



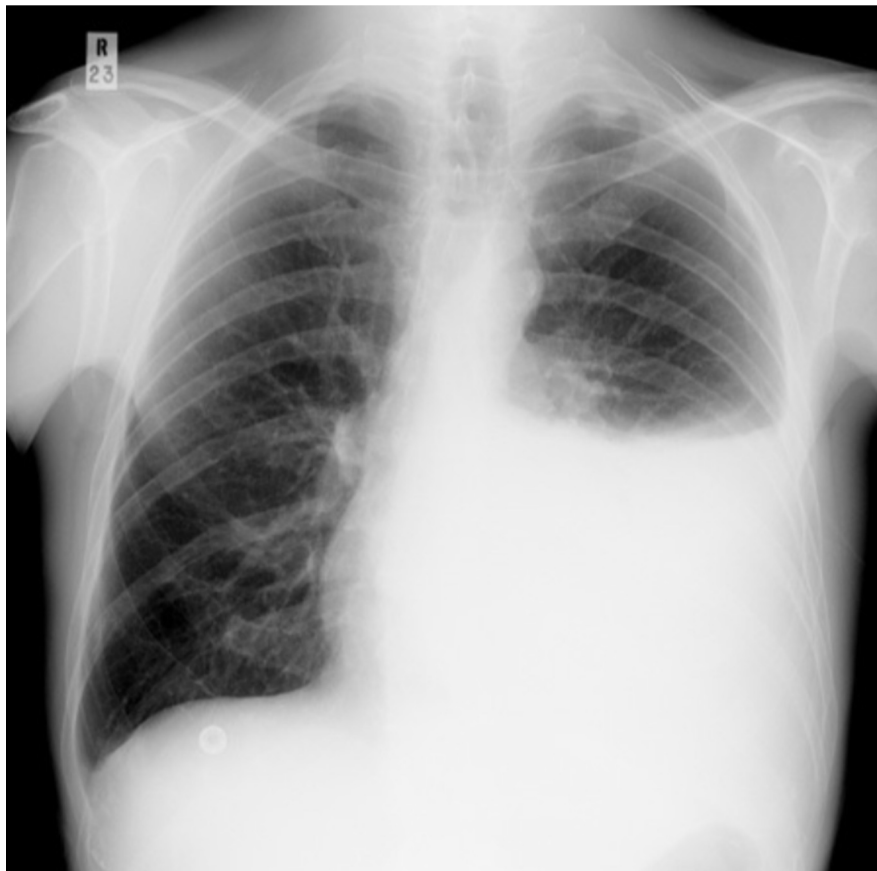
Trigger

You are an intern working on the acute medical ward. John, a 65M comes in after an episode of haemoptysis this morning. This is on a background of progressive shortness of breath over the last few weeks.

He has a 50 pack year smoking history.

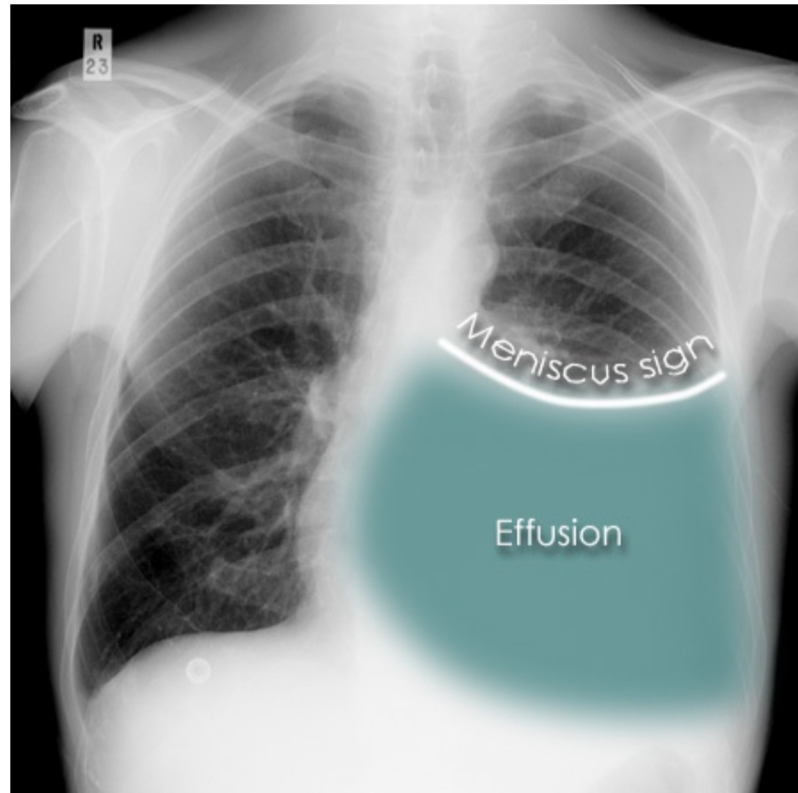
A PA CXR was performed on admission.

Task: Interpret the CXR and provide a differential.





Details and demographic	PA CXR of a 65M presenting with haemoptysis
RIPE/Quality	Rotation : No rotational artefact
	Inspiration: Adequate inspiratory effort
	Projection: PA
	Exposure: Adequate exposure
Airways and lung fields	Trachea deviated to the right Uniform opacity with a meniscus sign in the left lower zone, consistent with a pleural effusion
Bones and soft tissue	No fractures or soft tissue abnormalities
Cardo-mediastinum	Left heart border is obscured
Diaphragm	Obscuration of the left hemidiaphragm Slight blunting of the right costophrenic angle, suggestive of a small pleural effusion
Everything else	ECG lead noted over right hemidiaphragm
Interpretation	In summary, this is a PA CXR of a 65M presenting with haemoptysis, on a background of progressive dyspnoea and a significant smoking history. The key findings are a large left-sided pleural effusion, and a smaller right sided effusion. Given the history and X-ray findings, I would be worried about a malignant pleural effusion .





Follow-up Questions

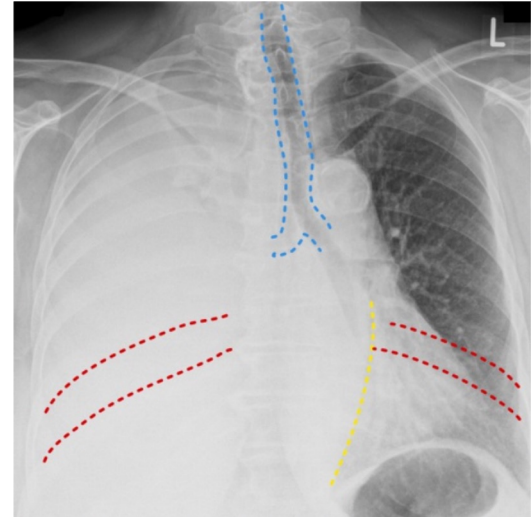
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1. Which way is the trachea usually deviated in a pleural effusion?
2. List some causes of exudative and transudative pleural effusions.
3. What laboratory tests can be done on pleural fluid?

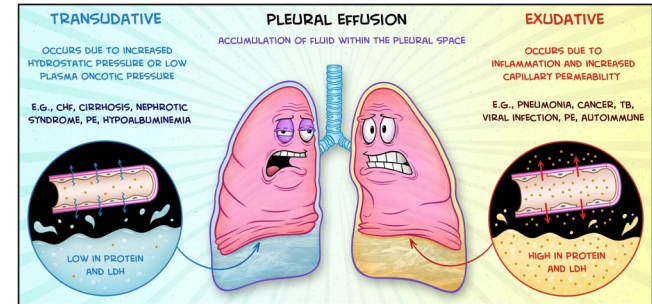
Question 1

- Deviated **away** from the effusion
- **Contralateral** tracheal deviation
- Note how the trachea (blue) is pushed away from the side of the white-out



Question 2

- Exudative (>30g/L of protein)
 - Infections e.g. pneumonia
 - Malignancy e.g. lung cancer, mesothelioma, metastases
 - Rheumatological conditions e.g. RA, SLE
- Transudative (<30g/L of protein)
 - Heart failure
 - Hypoalbuminaemia e.g. liver disease, nephrotic syndrome, malabsorption

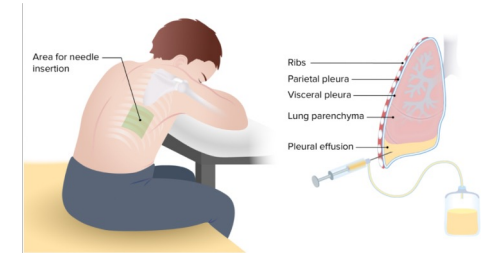


<https://passmedicine.com/review/textbook.php?s=pleural%20effusion>

<https://www.medcomic.com/medcomic/pleural-effusions-transudate-vs-exudate>

Question 3

- Protein and LDH levels (part of Light's criteria, which is used when the protein level is borderline between an exudate and a transudate)
- Cell count with differential e.g. neutrophils, lymphocytes
- Gram stain, culture and cytology (infection, malignancy)
- Glucose level (low in infection, malignancy)
- pH
- Amylase (if suspecting pancreatitis as a cause)



<https://litfl.com/pleural-fluid-analysis/>
<https://www.lecturio.com/concepts/pleural-effusion/>



Thank you!

E sgr@wamss.org.au

A M501 University of Western Australia, 35 Stirling Hwy, Crawley, WA 6009

W wamss.org.au | **FB** WAMSSUWA | **IG** @wamssuwa