

SOS!

Satisfaction of Search, Lung Malignancy and a Retained Foreign Body

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Case history

A 24-year-old female presented to ED with breathlessness and pleuritic chest pain. She was haemodynamically stable with no oxygen requirement. Her presentation CXR (a) and CTPA (b) demonstrated a large pericardial effusion and cavitating lung lesion, without PE. Differential diagnoses included TB and connective tissue disorders.

The patient underwent ECHO and pericardiocentesis one day after presenting. The possibility of malignancy in the right lower lobe was raised 8 days after presentation (d), and she underwent lung biopsy (e). 17 days after presentation (f), a radiopaque linear density was identified on serial CXRs (c) and previous CTs (d,e), which was not present on the original ED imaging (a,b). Review of the pericardiocentesis procedure notes indicated that the 'initial wire passage [was] unsuccessful'. A CT thorax localised the likely guidewire to the left pulmonary arterial tree. The cavitating lesion was proven to be a NSCLC with pericardial metastasis (T3N0M1a).

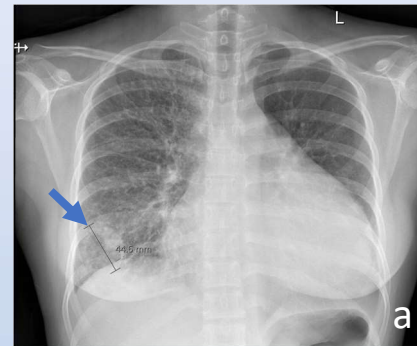
Learning points

This is a complex case with several important takeaways:

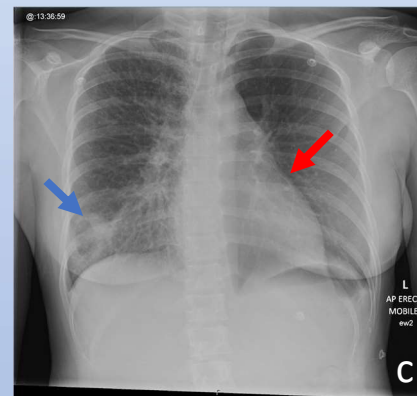
- Always think cancer, even if the patient is young, and especially when female¹
- Beware satisfaction of search and ensure you can account for all findings on a CXR (or CT)
- Careful review of notes may be required to make sense of radiological appearances

¹Jemal A, Miller KD, Ma J, Siegel RL, Fedewa SA, Islami F, et al. Higher lung cancer incidence in young women than young men in the United States. *N Engl J Med* 2018;378:1999–2009

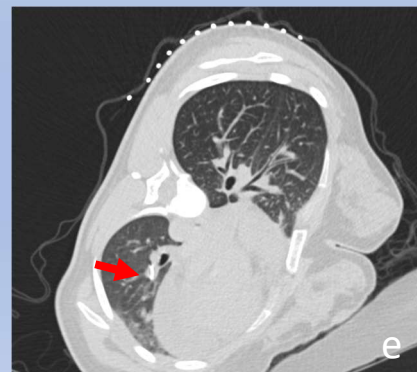
Imaging Timeline



a) Day 0 CXR with 4.5cm cavitating right lung mass (blue arrow) and enlarged cardiac shadow.



c) Day 3 CXR after pericardiocentesis, with reduced cardiac shadow and new, radiopaque linear density (red arrow).



e) Day 11 patient has CT guided lung biopsy. Wire can be seen on planning images but was not identified.

f) Day 15 CXR on the ward, linear radiopaque density over the left cardiac border identified and commented on. Seen retrospectively on all but day 0 imaging studies.

