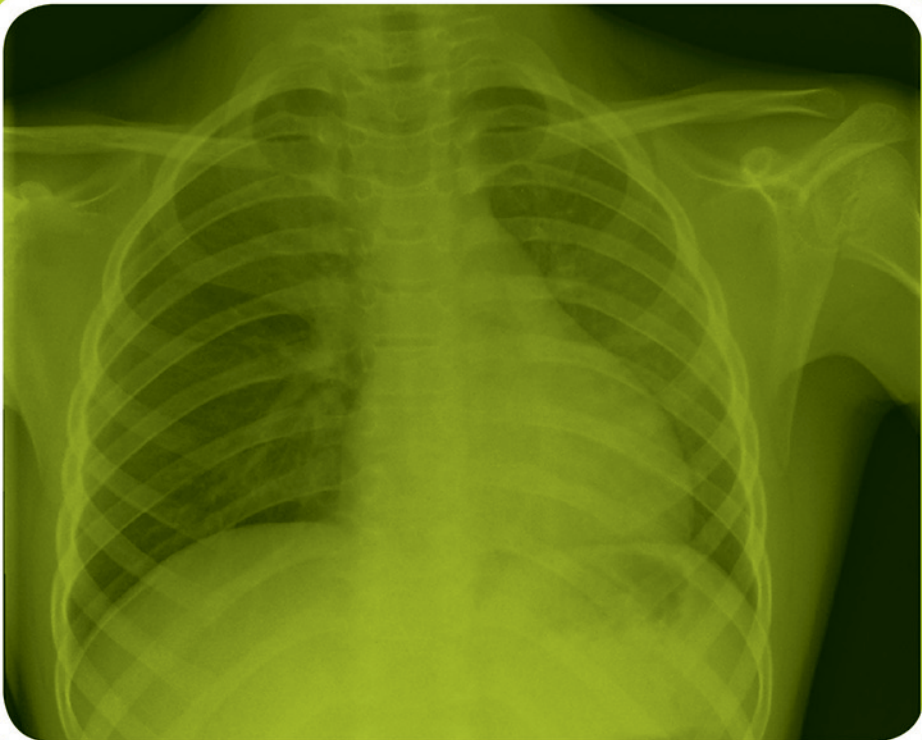




# **Radiology Oral Examinations: 100 Cases and Revision Notes**

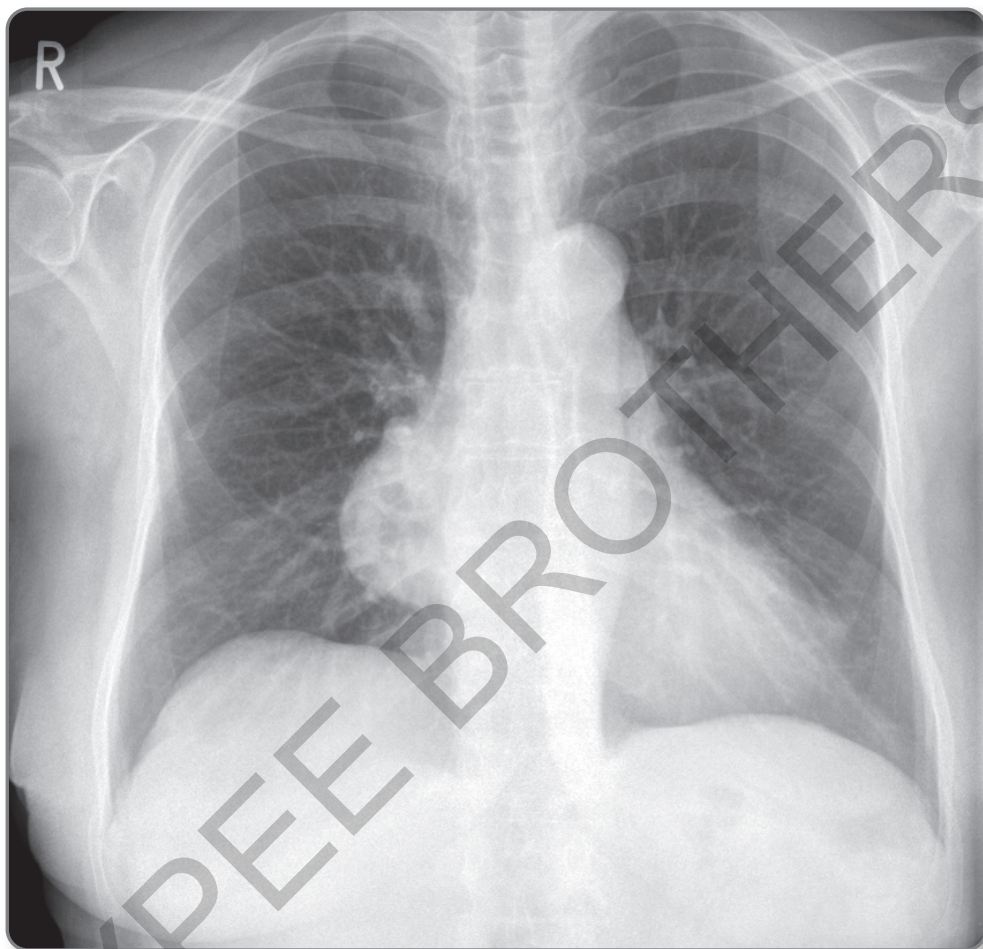
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# Case 1



## Suggested response

This is a frontal chest radiograph of a skeletally mature female patient. A homogeneous soft tissue density is projected medially in the right mid and lower zones. It is rounded and well-defined laterally but the medial aspect is not visualised separately from the mediastinum. It forms obtuse angles with the lung, implying a mediastinal rather than a pulmonary mass. The right hilum is clearly visualised through the mass. The right heart border at this level is not visualised, although it is evident inferior to the mass. These features suggest that the mass is localised to the anterior mediastinum.

The lungs are clear and there are no abnormalities of the thoracic cage. Both breast shadows are present.

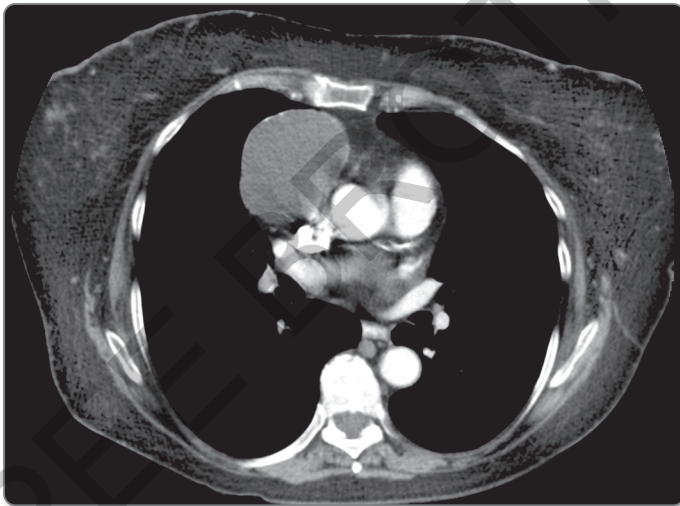
Review of any available and relevant previous imaging would be useful to assess for change, together with consideration of the patient's current symptoms. If this is the first presentation, further investigation will be necessary, probably with a CT scan in the first instance. At this location, the differential diagnosis should include pericardial cysts and cardiac aneurysms as well as lymphoma and germ cell tumours.

## Diagnosis

Right-sided pericardial cyst in an adult female.

## Tips: Mediastinal mass on a chest radiograph

This is a very common case, so it is important to recap the differential diagnoses relating to the anterior, middle and posterior mediastinum.



**Figure 1** Post-contrast CT image from this case, demonstrating the homogeneous, well-defined pericardial cyst.

## Key points

Consider whether the mass is mediastinal or pulmonary in origin. In general, pulmonary masses form acute angles with the mediastinum and mediastinal masses form obtuse angles.

On a frontal view, the visualisation of the hilar vessels through a mass (*hilum overlay sign*) localises the mass to the anterior or posterior mediastinum (more commonly the anterior mediastinum). Paraspinal line deviation indicates a posterior mediastinal mass, and any mass located above the superior aspect of the clavicle is either posterior mediastinal or cervical in origin.

On the lateral view, the retrosternal space may be obliterated by anterior mediastinal masses. However, this space may be filled by fat in people who are obese.

Posterior mediastinal masses cause loss of the normal increasing transradiancy (in a craniocaudal direction) down the vertebral column.

## Pericardial cyst

Pericardial cysts are rare (prevalence around 1 in 100,000) and are typically incidental findings. They may present with symptoms such as dyspnoea and atypical chest pain if sufficiently large due to pressure effects. They are usually right-sided and are most commonly located at the cardiophrenic angle. (Note that the differential diagnoses for abnormalities at this location should include Morgagni hernia and bronchopulmonary sequestration, rather than the typical mediastinal mass differential diagnoses). However, they may be found in any of the anterior, middle or posterior mediastinal compartments. A CT scan of a pericardial cyst typically demonstrates a thin-walled, well-defined, rounded mass which is homogeneous nonenhancing and slightly hyperattenuating relative to water (30–40 HU).

# Radiology Oral Examinations: 100 Cases and Revision Notes

*Radiology Oral Examinations: 100 Cases and Revision Notes* offers an essential collection of high-quality cases designed to help radiology trainees thoroughly prepare for their examinations. This edition covers 100 commonly encountered examination topics and focuses on the knowledge needed to succeed.

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