

Radiology corner



Case 1

A 52 year-old male is admitted with shortness of breath and chest pain.

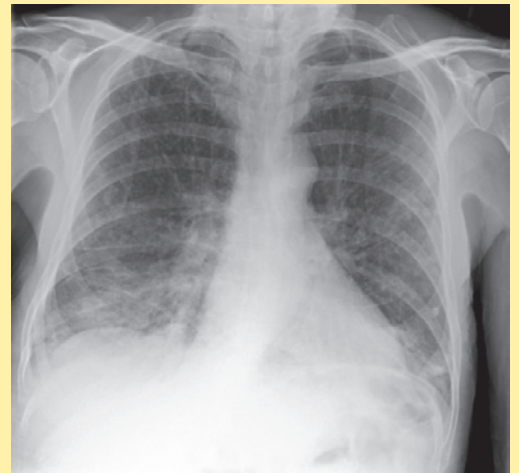
1. What is the main abnormality?
 - a) Lung parenchymal abnormality
 - b) Pleural abnormality
 - c) Mediastinal abnormality
 - d) Bony abnormality
 - e) Soft tissue abnormality



Case 2

A 47 year-old male presents with fevers, night sweats and cough.

1. What is the best description for the radiographic finding(s)?
 - a) Lung parenchymal nodules
 - b) Lung parenchymal nodules and bilateral pleural effusions
 - c) Lung parenchymal nodules and bilateral hilar adenopathy
 - d) Lung parenchymal nodules and consolidation
 - e) Consolidation



Answers

Case 1

1. b) Pleural abnormality. They are calcified pleural plaques (the so-called “holly leaf” pattern of calcification) in a patient with previous exposure to asbestos. Calcification in pleural plaques is linear when seen in profile but when viewed “en face” the appearances can be variable.

Asbestos-induced pleural plaques occur on the parietal pleura, they are most commonly seen between the fourth and eighth ribs particularly under the anterior ribs. They are also commonly identified over the diaphragm and along the posterolateral chest wall. Typically, the apices, costophrenic sulci and mediastinal pleura are spared.

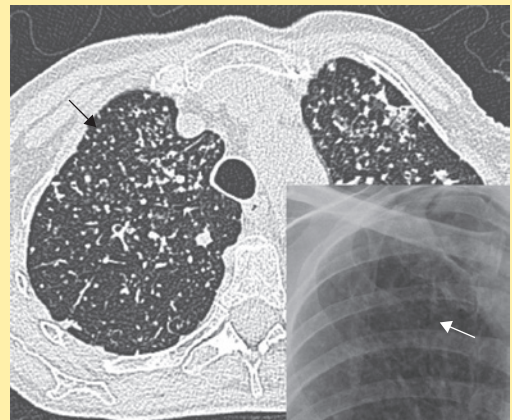
Other pleural manifestations following exposure to asbestos include: benign asbestos-related pleural effusion(s); diffuse pleural thickening; and malignant mesothelioma.

Case 2

1. d) Lung parenchymal nodules and consolidation. There are multiple nodules throughout both lungs. These are of varying size but are mainly small and miliary. On the right side there is also consolidation within the right lower zone, associated blunting of the right costophrenic angle and a band of linear atelectasis.

The differential for miliary shadowing would include metastases (thyroid cancer, renal cancer and melanoma), fungal infections and sarcoidosis.

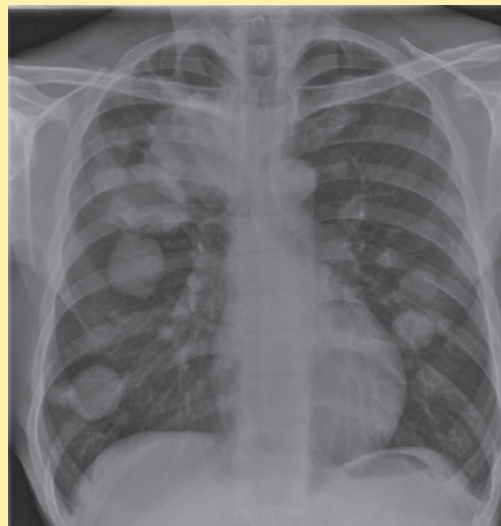
This patient was diagnosed with miliary tuberculosis, which results from haematogenous dissemination that can occur as a complication of both primary and reactivation tuberculosis. Miliary nodules are more readily detected with high-resolution computed tomography and have a random distribution in relation to the secondary pulmonary lobule.



Case 3

A 22 year-old male presents with chest pain and weight loss.

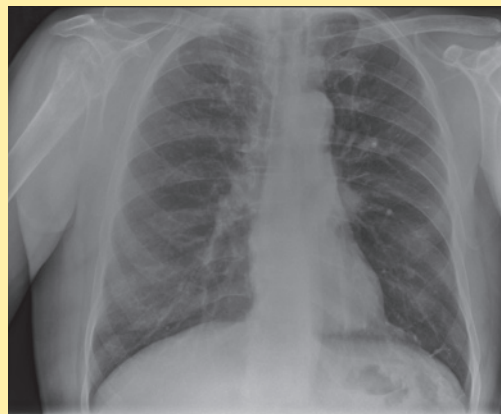
1. Which of the following is least likely given the clinical history and radiographic appearances?
 - a) Renal cell carcinoma metastases
 - b) Testicular seminoma metastases
 - c) Colorectal carcinoma metastases
 - d) Bone sarcoma metastases
 - e) Cranial meningioma metastases



Case 4

A 45 year-old male presents with weight loss.

1. What is the best description for the radiographic abnormalities?
 - a) Bony abnormality
 - b) Lung parenchymal and bony abnormality
 - c) Lung parenchymal and mediastinal abnormality
 - d) Hilar and bony abnormality
 - e) Hilar abnormality



Answers

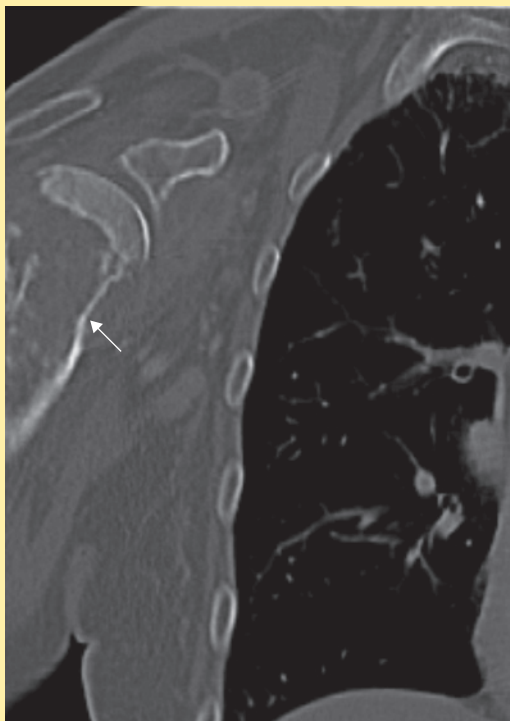
Case 3

1. e) Cranial meningioma metastases. Cranial meningioma is uncommon in young patients, is usually relatively indolent and only rarely metastasises to the lung. There are multiple large pulmonary nodules of varying sizes throughout both lungs. The patient was diagnosed with a malignant germ cell tumour with widespread metastases. The differential diagnoses for these appearances would include the following.
- 1) Metastases: common primaries include renal, breast, gastrointestinal and testicular tumours.
 - 2) Infections: bacterial (*Staphylococcus aureus*, commonly cavitate) or fungal (Histoplasmosis or Coccidioidomycosis).
 - 3) Granulomas: granulomatosis with polyangiitis (previously referred to as Wegener's granulomatosis) or rheumatoid nodules.

Case 4

1. d) Hilar and bony abnormality. There is a soft tissue mass identified at the left hilum. This was confirmed to be a small cell carcinoma. The other main abnormality is the destructive bone lesion in the head of the right humerus due to a bony metastasis.

Further imaging that can be used to assess this abnormality includes computed tomography imaging as well as a radioisotope bone scan to identify if there is increased uptake and any other metastatic lesions. Note the lytic bone lesion with destruction of the bony cortex, which corresponds to the area of increased uptake on the bone scan (arrows on the computed tomography image and bone scan).



Anterior

Posterior