Picture quiz

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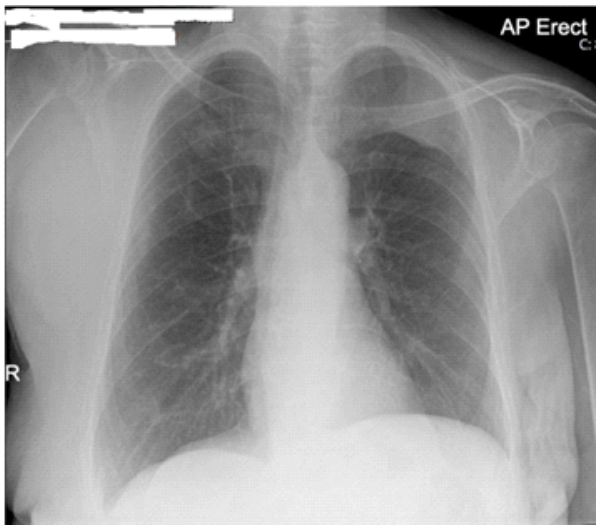
Question 1

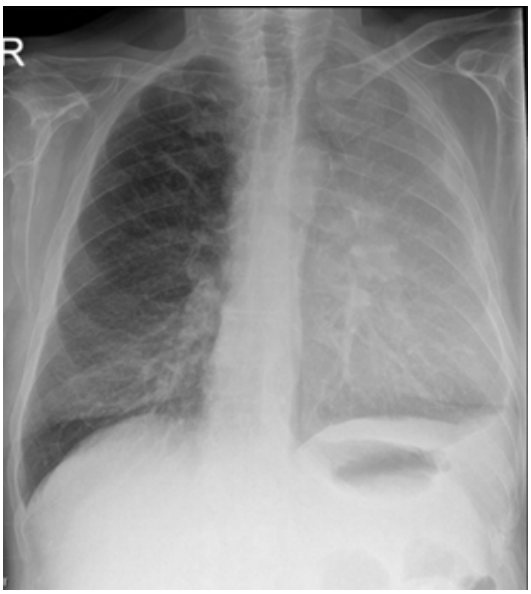
A 58-year-old woman presented with pain in her right shoulder. She reported no respiratory symptoms and had never smoked. Upper limb examination was unremarkable. A chest X-ray was performed for further evaluation.



1.1 What is the radiological diagnosis?

Question 2

A 64-year-old woman was admitted with progressively worsening breathlessness. She had a diagnosis of vasculitis and was receiving immunosuppressive medication.



2.1. Identify two (2) abnormal signs in this chest x-ray.

2.2. What is the radiological diagnosis?

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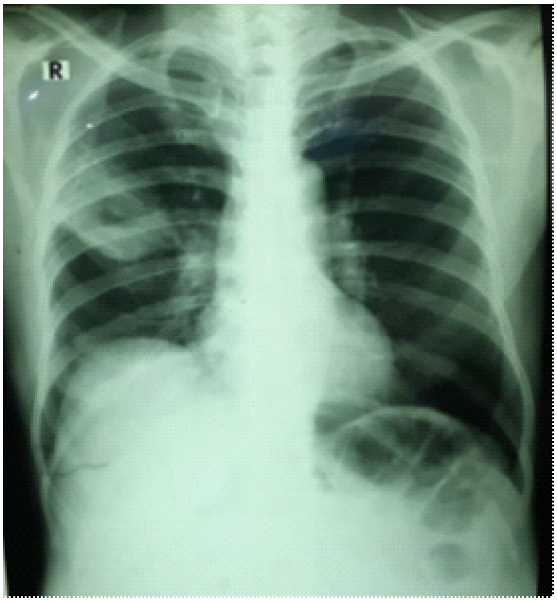
Question 3

A 74-year-old patient presented with 4-day history of fever and cough. He was a known diabetic with poor glycaemic control. What is the likely organism causing this radiological appearance?

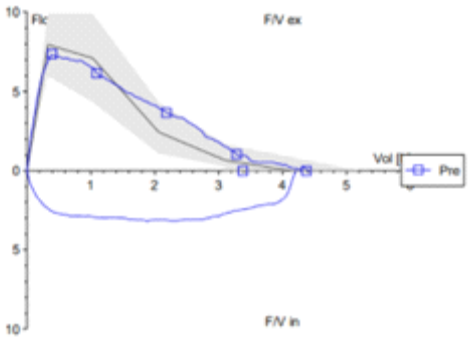


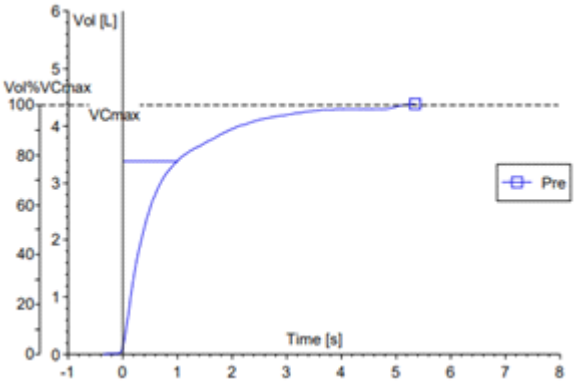
3.1. What is the likely organism causing this radiological appearance?

Question 4

A 69-year-old patient was referred to the clinic after being diagnosed with an unprovoked pulmonary embolism. He was complaining of persistent breathlessness, sometimes accompanied by wheezing and difficulty speaking. His 2D echocardiogram was normal. A spirometry was performed for further evaluation.

4.1. What is the diagnosis?



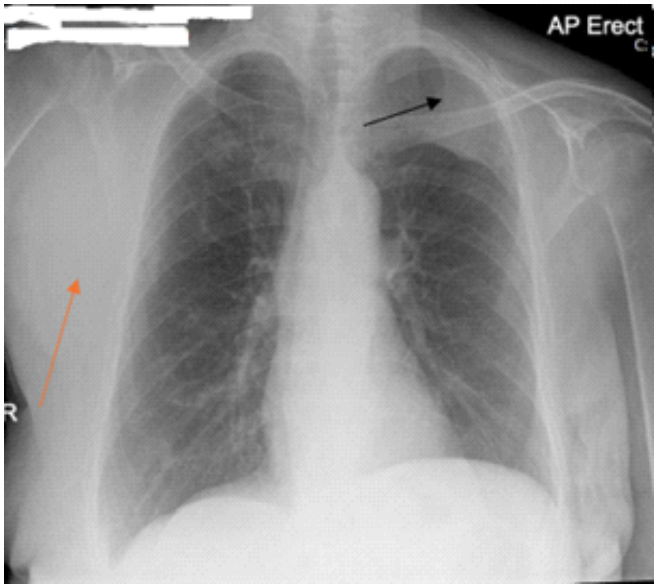


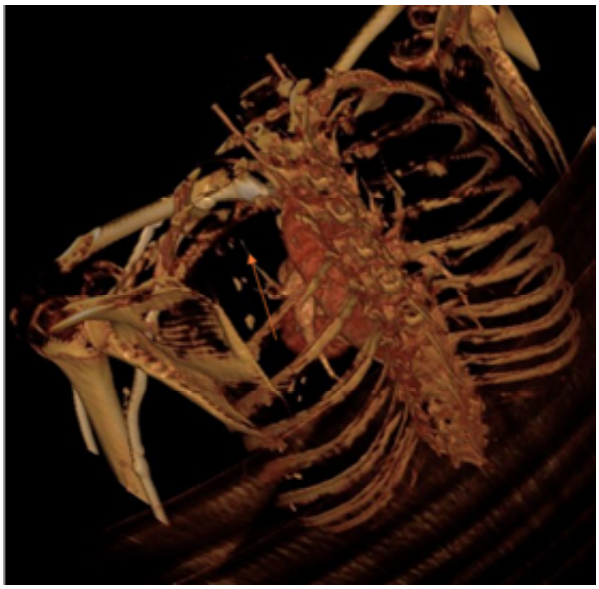
		Pred	OBS	% PRED	SR	Pred UL	Pred LL
VC MAX	[L]	4.13	4.37	105.9	0.38	5.20	3.07
ERV	[L]	1.19	1.73	145.7	0.82	2.37	0.38
VC IN	[L]	4.13	4.18	101.2	0.08	5.20	3.07
FEV 1	[L]	3.14	3.38	107.8	0.49	3.94	2.27
FVC	[L]	4.13	4.37	105.9	0.38	5.20	3.07
FEV 1 % FVC	[%]	76.26	77.33	101.4	0.14	88.03	62.94
PEF	[L/min]	476.42	439.92	92.3	-0.50	595.84	356.99
MEF 75	[L/s]	7.09	6.13	86.4	-0.56	9.91	4.28
MEF 50	[L/s]	2.42	3.65	151.0	1.12	4.33	1.06
MEF 25	[L/s]	0.66	1.03	155.4	0.76	1.69	0.24
FVC IN	[L]	4.11	4.18	101.8	0.13	5.03	3.18
PIF	[L/s]		3.23				
FIF 50	[L/s]		3.15				

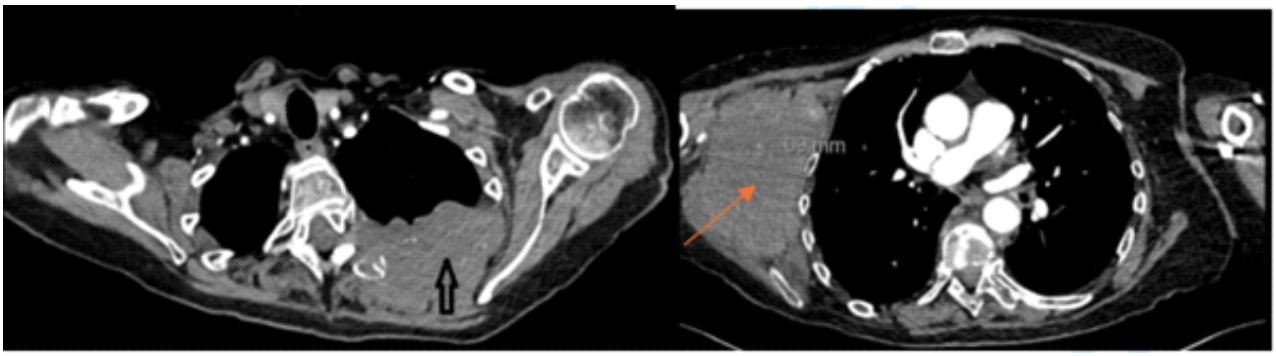
Answers

Answer 1

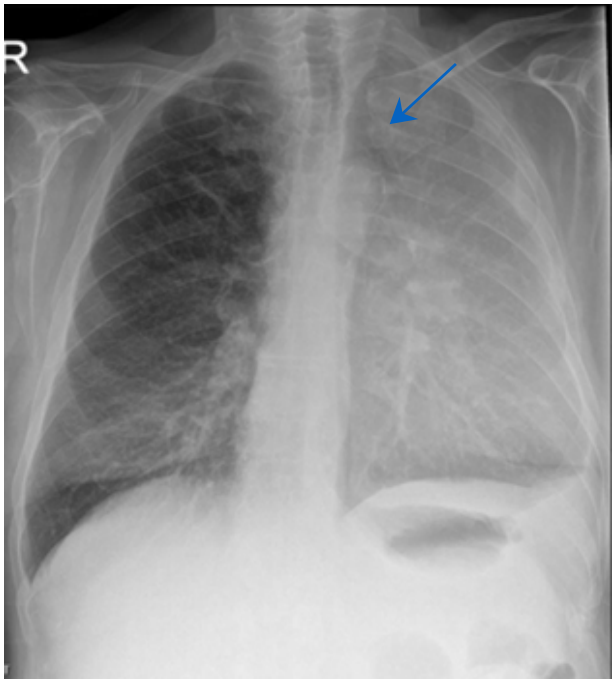
Chest X-ray demonstrates left upper lobe homogenous opacification with erosion of the ipsilateral rib. (black arrow). Left hemidiaphragmatic palsy is also noted. A soft tissue opacity is present in the right axilla (orange arrow in CXR), which may account for the right shoulder pain. She underwent further investigation with a CT chest, which revealed an expansile, large, lytic lesion of the left 4th rib with a soft-tissue component in the left apical lung (thick black arrow) and enlarged lymph nodes were seen in both axillae and the supraclavicular regions. Multiple deposits were identified in the adrenal glands, retroperitoneal area, mesentery and abdominal wall. CT brain further revealed extensive cerebral metastases. The bone window showed multiple rib erosions, most prominently involving the 4th rib. Given her clinical decline and frailty, she was commenced on best supportive care.







Answer 2

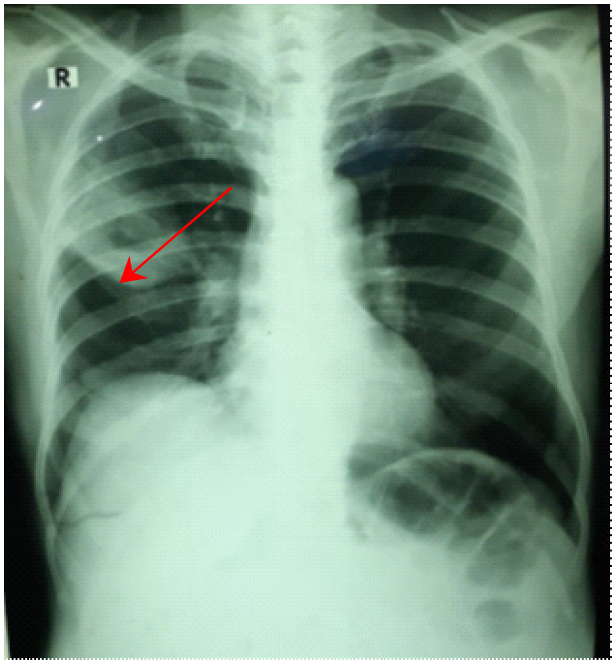


The chest X-ray demonstrates the 'veil sign' and ''Luftsichel sign' (blue arrow), consistent with left upper lobe collapse. Further evaluation with bronchoscopy showed vasculitic inflammation affecting the left upper lobe. She was treated with pulse methyl prednisolone followed by rituximab, resulting in complete resolution of the condition.

The "veil sign" refers to a hazy, veil-like opacity over the left lung field caused by the collapsed lobe flattening against the chest wall, often obscuring the left heart border and aorta indicating volume loss.

Luftsichel sign is where the hyperinflated left lower lobe wedges between the aorta and collapsed lobe, and is a key sign of atelectasis.

Answer 3



Klebsiella pneumonia

The chest X-ray shows right upper lobe consolidation with a bulging transverse fissure (red arrow) and cavitation. This appearance is characteristic of *Klebsiella* pneumonia, which was confirmed on sputum culture. *Klebsiella* infections can cause cavitating lesions, and the presence of a bulging fissure should prompt consideration of this diagnosis.

Answer 4

Spirometry demonstrates a flat inspiratory loop. In view of his persistent breathlessness, inducible laryngeal obstruction was suspected. This was confirmed on laryngoscopy, which showed paradoxical movement of the vocal cords. He was subsequently referred for speech therapy.

Conflict of interests

Authors declare that there is no conflict of interests.