

Chest X-ray quiz

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This is an anterior-to-posterior (AP) supine chest X-ray of a 38-year-old female whose collapse onto the floor at work was witnessed by other work colleagues. She was noted to have irregular shallow breathing and was not responding. Basic life support was initiated and paramedics called. They found her to be unconscious and ECG showed a marked sinus bradycardia. CPR was continued and she was taken to a nearby emergency department.

ECG in ED showed sinus tachycardia with non-specific ST and T wave abnormality.

She was seen by a cardiologist who gave a provisional diagnosis of cardiac stunning, myocardial ischaemia, or acute myocarditis.

Echocardiogram was performed which showed a mildly dilated left ventricle with severe impairment of systolic contraction, consistent with left ventricular stunning post-arrest, and right ventricular wall haematoma consistent with recent CPR.

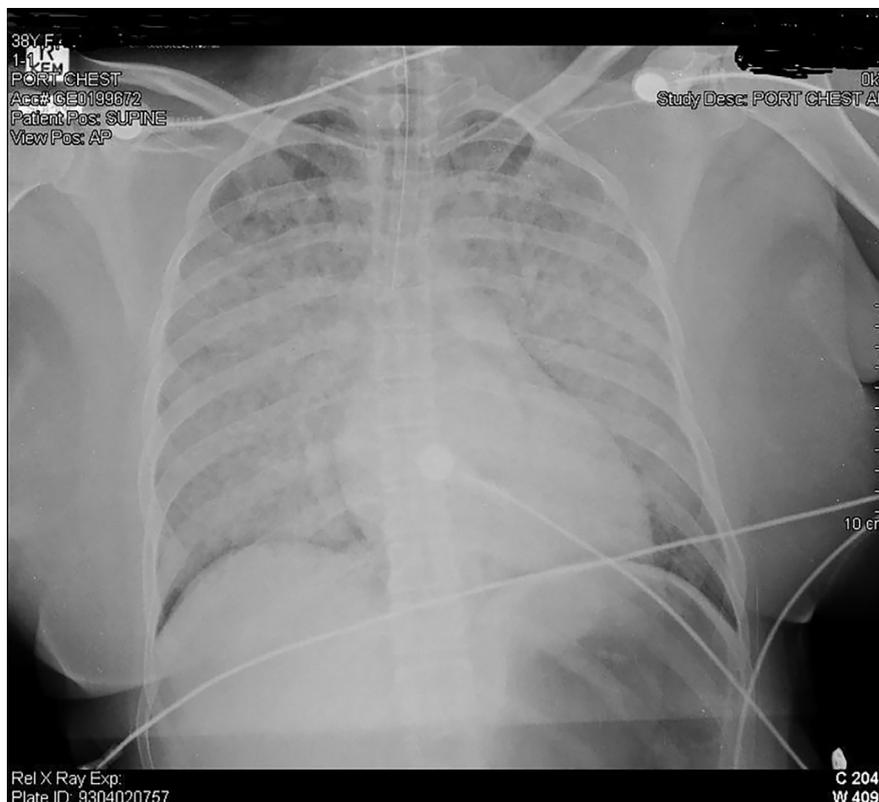
An urgent coronary angiogram was performed which showed normal coronary arteries and no shunts were detected. CPR continued.

Following coronary angiogram she was admitted to ICU. Soon after, neurological observations were taken and showed unequal pupils, which were fixed and dilated, and bilateral retinal haemorrhages. A cerebral CT scan was requested.

Other significant observation was copious frothy white oral secretions.

Question

Are you happy with the location of the endotracheal tube (ETT)? How would you describe the chest X-ray? What is the likely diagnosis given her neurological status?



Answer and discussion

The ETT appears to be very close to the carina (arrowed) and needs adjusting. Chest X-ray shows extensive bilateral infiltrates in the lungs. The heart is not enlarged, suggesting non-cardiogenic pulmonary oedema. The head CT shows a subarachnoid haemorrhage.

The diagnosis of neurogenic pulmonary oedema (NPO) was made. While the exact mechanism of NPO is unknown, treatment is primarily supportive and aimed at treating the underlying central nervous system problem.

The moral of this story is that there are several types of pulmonary oedema.

