

Guide to examiners

Question 1:

Obviously a life threatening high AG acidaemia and a large differential diagnosis is possible. Although Paracetamol will be included it is not usually a cause of such severe acid-base disturbance and as such they should consider alternatives that may be more likely. Some degree of interpretation to the extreme low pCO₂ and HCO₃, certainly the lowest I have ever seen and what affect that may cause. Should IV bicarbonate be given when it is this low? I think most people would.

(The actual case was one of severe pancreatitis that had been popping the paracetamol to cope with the abdominal pains, however that only came out later. Lipase was 12500.)

Question 2:

One of those “yuk” ECGs! The clinical picture suggests something really bad is going on and therefore simple ischaemia doesn't really fit. The cardinal feature on this ECG is the ST elevation in aVR and aVL which is a highly suggestive marker for left main coronary artery/proximal LAD territory occlusion and infarct. Because this supplies such a large area of myocardium the widespread ischaemia is also very commonly seen. In part (a) I hope the candidates relate the ECG to the clinical setting and recognise its ‘badness’. In part (b), the use of right sided/posterior wall infarcts should be considered and some may even consider other causes of chest pain such as tamponade, dissection or rupture of mitral valve leaflets or free wall as a possibility. Again relating it to the clinical picture is important. A bedside ECHO should be considered if any of these alternative diagnoses are considered.

(The actual case was a Type A aortic dissection, picked up on bedside ECHO and confirmed by cardiologist. Patient subsequently arrested and died. However as we had a diagnosis a death certificate could be provided. A good use of the ultrasound)

Question 3:

Fairly straight forward raised AG, likely secondary to acute on chronic renal failure causing life threatening hyperkalaemia. Urgent medical management of the hyperkalaemia should be done well and along standard practice whilst they gather further information regarding his existing management plan, disease state and possibly end of life care to be included in part (b).

(actual case was deemed palliative and no treatment was instigated for his hyperkalaemia)

Question 4:

Grossly swollen and oedematous right leg with venous stasis and bruising. Blue discolouration and erythema to the groin. He is afebrile so cellulitis is less likely and they should put a proximal DVT as highly likely, probably in the iliacs or even higher. Phlegmasia Cerulea dolens. A massive DVT with extensive venous compromise which may progress to muscle breakdown, necrosis and compartment syndromes. Referral to vascular surgery etc etc.

Part (b) focused on the investigation and treatment only. Inclusion of bedside studies and formal imaging to confirm DVT. Looking for possible pulmonary emboli and measuring compartment pressures in right leg. They should note the mark breakdown is 30/70 so spend more time devoted to part (b).

(actual case had metastatic disease for bowel cancer, had already had a DVT in the left leg, whilst on warfarin developed the one on the right and had an IVC filter inserted. He came back in for worsening of the right leg swelling and pain)

Question 5:

Although the stem doesn't mention any spinal or epidural anaesthesia being administered as part of her labour, I think they should be considered. The main feature of gas bubbles in the spinal/epidural space suggestive of a spinal/epidural abscess. A thorough description of the rest of the image to show that other diagnoses have been looked for.

(Thank you to Dr Lisa Bell – Calvary Hospital DEMENTIA, for providing the image)

Question 6:

Fairly self explanatory but a good description of the location of the wound and potential structures that may be injured. Of note the patient doesn't look "too bad" all things considered so unlikely to have bled significantly. The management plan should focus on the ED management and disposition plan. What would you do in institutions without Cardiac surgeons?

(Actual case – a detained refugee whose claim had been turned down and was being sent back to his former country, self inflicted the wound. The object slid past the myocardium indenting it on its way but without penetrating it. Apparently the cardiac surgeons merely pulled it out without opening up and then waited for 15-20 mins to see if he would bleed or not. He didn't, so a small bandaid was placed over the wound and he would later resume his journey to the airport!)

Question 7:

On first glance not much is present on the abdominal x-ray until you look closely at the pelvis and can make out the spine and ribs and ultimately just see the skull outline of a foetus. No other positive findings. From the interpretation point of view, they should ask if a bHCG had been checked prior to x-ray or whether the patient had been asked if a pregnancy was possible. Part (b) should have a patient focus, a teaching focus, departmental element re: checking the status of child bearing age females prior to x-ray and also a focus on the surgical management of irradiating patients prior to clinical review and delays in accessing surgical opinions.

(Thank you to Dr John F Kennedy – Royal North Shore Hospital, for providing the image)

Question 8:

Another "yukky" ECG with large inferior infarct causing 3rd degree heart block and hypotension. Some suspicion of posterior extension. High possibility of deterioration and death, may need pacing. Should get the transcutaneous pads on. Urgent reperfusion therapy is required by either thrombolysis or PCI depending on where you are working. Urgent review by cardiologist +/-intensivist etc. If thrombolysed, being prepared for deterioration and may require intubation in order to pace him via transcutaneous pads. Should also include aspirin, heparin, clopidogrel in addition to analgesia in appropriate doses.

(actual case scenario was true. Fortunately he came to RNSH which has rapid access to PCI and he had clot removal and stenting of his RCA. Pacing was not needed but they were prepared for a transvenous pacing wire on the cath lab table. He made a good recovery)