

Medica quiz SBA:Answers

Answer 1. Correct Answer : C

The following treatment has NOT been shown to improve mortality in heart failure (HF): (www.medicinedcpd.co.uk)

- Carvedilol
- Candesartan
- Digoxin
- Enalapril
- Spironolactone

If a drug controls symptoms of HF it does not necessarily follow that it improves mortality or morbidity (of which an important measure is the amount of hospitalisation). Although loop diuretics are widely used (e.g. furosemide) they have not been shown to confer a mortality benefit and, indeed in higher doses have a poor outcome. The oldest effective drug still in use, digoxin has not, when subjected to rigorous modern trials, shown mortality benefit though still may have a role in severe advanced HF. Large randomised trials have revolutionised treatment of HF and include the other drugs listed in the question.

Answer 2 Correct Answer : b

Regarding laboratory markers in the diagnosis of acute pancreatitis it is TRUE that: (www.medicinedcpd.co.uk)

- when presentation is delayed by five days or more the serum amylase is more likely to still be raised than the serum lipase
- in severe acute pancreatitis CRP <81mg/l together with WBC <13 predict little risk of infection of the necrosed pancreas
- the urinary trypsinogen-2 dipstick test has poor sensitivity and specificity
- raised serum alanine amino transferase (ALT) is helpful in confirming alcohol as the likely cause
- a low serum haematocrit is a good indicator of circulatory fluid loss

Serum lipase remains elevated and detectable for up to 14 days in acute pancreatitis whereas amylase returns to normal in 3 to 6 days giving the former greater sensitivity making it the test of choice if available. Urinary trypsinogen-2 dipstick has a reported sensitivity of 86–100%. In severe pancreatitis the ability to predict

infection of necrosed pancreatic tissue is important in management and prognosis; if CRP and WBC are below the thresholds quoted this risk is only 1.4%. A raised serum ALT has a positive predictive value of 95% for gallstone aetiology though only found in half the patients. As fluid is lost from the circulation into the 'third space' so the haematocrit rises making it a sensitive predictor of overall severity.

Answer 3 : Correct Answer : b

The blood film of a 29-year-old woman suffering from anaemia has remained microcytic and hyperchromic despite taking ferrous sulphate for 6 months. Her transferrin saturation is 35%. The MOST appropriate investigation to elucidate the cause of the persistent morphological abnormalities is: (www.medicinedcpd.co.uk)

- serum ferritin
- haemoglobin A2
- upper and lower GI endoscopy
- hysteroscopy
- C-reactive protein (CRP)

A microcytic hypochromic picture may be caused by iron deficiency, thalassaemia, anaemia of chronic disease or sideroblastic anaemia. Transferrin saturation of 35% indicates normal tissue iron stores; the morphological abnormalities should have resolved ahead of replenishment of tissue stores, even if it were assumed that the patient was iron deficient at the start of treatment. In an otherwise healthy individual, the most likely cause of the morphological abnormalities is thalassaemia. The thalassaemia syndromes constitute the commonest single gene disorder in the world and are prevalent globally. A common error is to prescribe iron supplements on the basis of microcytosis and hypochromia alone without first assessing the patient's tissue iron stores. This can result in iatrogenic iron overload from increased gut absorption of iron in patients with thalassaemia. A raised Hb A2 level is seen in B-thalassaemia trait. a-thalassaemia trait can only be diagnosed using molecular methods.

Answer 4 : Correct answer B. calcium gluconate(www.acphospitalist.org, september 2012)

The most appropriate treatment is intravenous calcium gluconate. This patient's anxiety, vomiting, neurologic instability, and perioral numbness and tingling during plasma exchange are the classic symptoms of

hypocalcemia, and, if left untreated, could lead to more severe neurologic & cardiac instability. Citrate the anticoagulant used in most plasma exchange procedures, can lead to chelation of calcium & subsequent hypocalcemia. Given her symptoms, immediate infusion of intravenous calcium gluconate is warranted.

Intravenous fluids such as 0.9% normal saline would not correct this patient's hypocalcemia related symptoms but would be helpful if there were associated hypotension.

Diphenhydramine, an antihistamine, would be useful if the patient had developed hives or other allergic symptoms but would not be indicated for her current symptoms.

Epinephrine would be indicated in the setting of anaphylaxis or more severe symptoms of cardiovascular instability but would not be the best option now because it will not reverse the patient's hypocalcemia.

Heparin would be warranted if a pulmonary embolism were suspected, but pulmonary embolism cannot explain her muscle twitching.