

Medical Quiz: SBA – Answers

Question No. 1: Correct Answer – B

Small cell carcinomas are thought to originate from the neuroendocrine cells of the bronchus and express neuroendocrine markers which may lead to ectopic hormone production (e.g. ADH and ACTH), resulting in the paraneoplastic syndromes. The patient has a likely diagnosis of syndrome of inappropriate ADH secretion (SIADH). This results in a dilutional hyponatremia. Twenty-four hour urine collection will reveal high urine sodium concentration and high urine osmolality. Symptoms of weight loss and hemoptysis can be seen in most types of bronchogenic carcinoma but the presenting hyponatremia makes small cell carcinoma the most appropriate answer here.

Question No. 2: Correct Answer - A

The presence of rhomboidal, weakly positively birefringent crystals under polarized light microscopy in joint fluid is diagnostic of pseudogout. Needle-shaped negatively birefringent crystals are seen in gout. Atypical mononuclear cells are found on microscopy of blood samples in patients with infectious mononucleosis. Microscopic analysis of lymph node biopsy specimens in patients with Hodgkin's lymphoma may show Reed–Sternberg cells. Tophi are the white deposits seen in skin and soft tissue in some patients with gout. They are composed of sodium urate and the presence of tophi in a patient with long-standing gout is called 'chronic tophaceous gout'.

Question No. 3: Correct Answer - E

This patient has suffered a complication of blood transfusion, specifically tissue-related lung injury (TRALI). This can be a life-threatening complication whereby within 2–6 hours after transfusion an inflammatory process causes sequestration of neutrophils within the lungs and antibodies that form against the donor's white blood cells and then attack the patient's lungs which share the HLA antigens. Patient symptoms can include fever, hypotension, cyanosis and pulmonary edema on x-ray. An immediate hemolytic transfusion reaction occurs due to the immune destruction of transfused cells by the patient's immune

system. Symptoms include hypotension, tachycardia, nausea, abdominal pain and loin pain with 24 hours of transfusion. These symptoms are similar to a delayed hemolytic reaction, but this typically occurs more than 24 hours after transfusion. In IgA deficiency patient's develop antibodies to IgA during their first exposure to a blood transfusion, an anaphylactic-type reaction then occurs if the patient is retransfused with bronchospasm, laryngeal edema and hypotension occurring. Febrile non-hemolytic transfusion reaction occurs due to white cell antibodies reacting with the leukocytes present in the blood transfusion. Patients usually have a history of blood transfusions or pregnancy. Patients usually present with fever, rigors and discomfort.

Question No. 4: Correct Answer - C

Rotavirus is an important cause of outbreaks of childhood diarrhea and should be considered the most likely cause in this question. Enterotoxigenic E. coli is the most common cause of travelers' diarrhea. The outbreak of diarrhea within the nursery makes this option unlikely. Salmonella should be considered as a possible diagnosis. It is usually caused by eating contaminated foods, especially poultry. Salmonella may cause outbreaks of diarrhea and vomiting when communal food is contaminated. However, the age group affected in this question makes rotavirus the more likely answer. Influenza usually presents with fever, headache, myalgia and dry cough, making this answer incorrect. Shigella usually presents with bloody diarrhea, making this answer incorrect.

Question No. 5: Correct Answer - C

The dermatological manifestation in this patient is dermatitis herpetiformis which is a chronic, itchy, blistering skin condition seen in patients with gluten-sensitive enteropathy (i.e. coeliac disease). Patients usually experience burning and intense itching in affected areas where the papulo-vesicular blisters are present. Common affected sites are the elbows, scalp, shoulders and ankles. Although the name of the condition suggests association with the herpes simplex virus, this is not the case; the cutaneous inflammation pattern is similar to what is seen in herpes infections.