

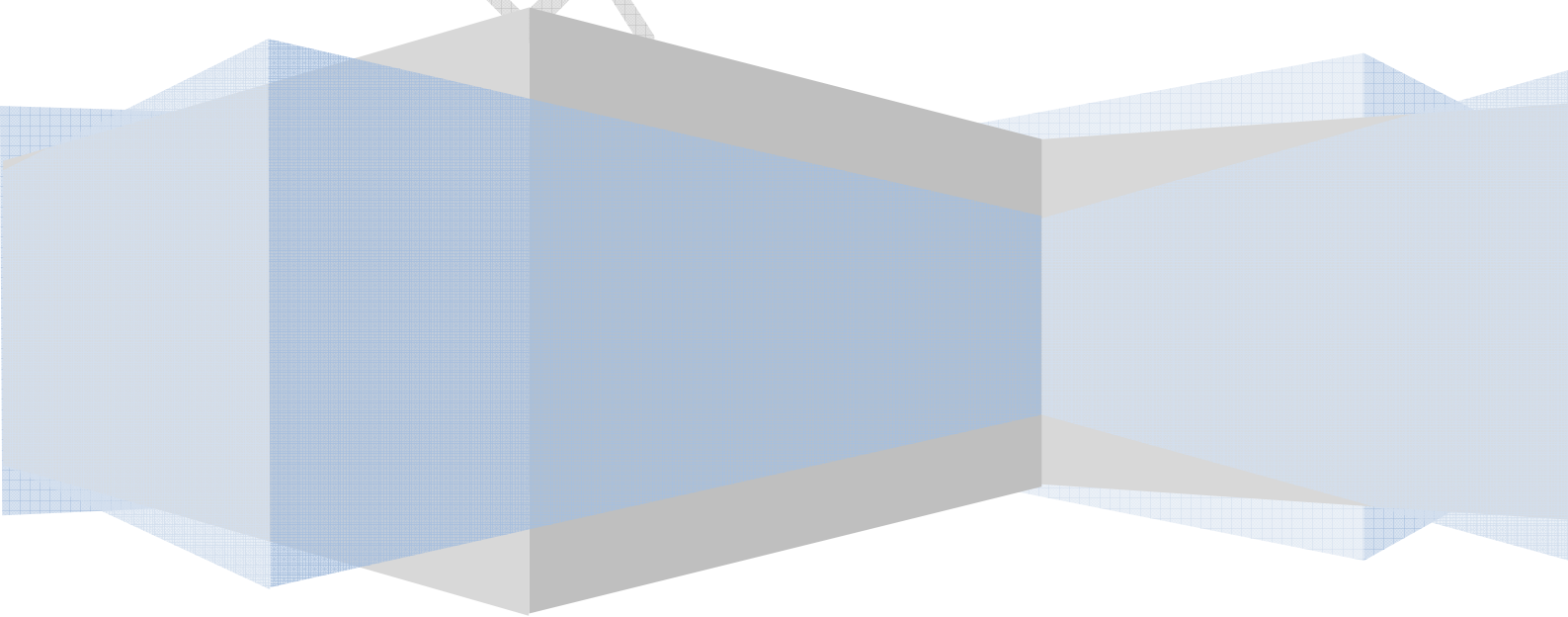
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Clinical Quiz series for medical students and board candidates

Paper 1: Contains 120 best of five questions, 60 MCQs (false & true), 20 slides and answer key

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A: For each question below choose the single best answer

1. You are seeing a 60 year old man with erectile dysfunction. He had myocardial infarction six months ago. He is a type II diabetic, well-controlled on glimepride. HbA1c is 6.8%. He is also on bisoprolol, ACE inhibitors, statin, and aspirin. On stress test there is evidence of mild ischemia on maximal exertion. His testosterone and prolactin levels are normal. **What is the best therapy for his erectile dysfunction?**

- A) Stop the statin
- B) Stop the beta-blocker
- C) Give testosterone injections
- D) Give tadalafil
- E) Change glimepride to metformin

2. **Which of the following conditions is likely to precipitate symptomatic heart failure in patient with previously compensated left ventricular dysfunction?**

- A) Atrial fibrillation
- B) Marked sinus bradycardia
- C) A-V dissociation
- D) Right ventricular apical pacing
- E) All of the above

3. **All the following conditions are associated with high output heart failure EXCEPT**

- A) Iron overload
- B) Hyperthyroidism
- C) Systemic arteriovenous fistula
- D) Thiamine deficiency
- E) Paget disease

4. A 42-year-old man was hospitalized for thrombotic thrombocytopenic purpura for which he underwent therapeutic plasmapheresis. After 5 days of treatment, he developed fever and cough with progression of respiratory symptoms to severe dyspnea, with some wheezing. On examination, he is dyspneic and cyanotic; his blood pressure is 120/80 mm Hg, pulse 110 beat/minute and temperature 38.5 °C. There is no rash or hives. Chest is full of rhonchi bilaterally. Oxygen saturation is 84% on room air, and a blood gas study shows an arterial PO₂ of 58 mm Hg. A chest radiograph reveals diffuse opacifications of both lungs and a normal-sized heart and no pleural effusion.

Which of the following is the most likely cause for this patient's reaction?

- A) Pulmonary embolism
- B) Antileukocyte antibodies
- C) Allergy to donor plasma proteins
- D) Circulatory overload
- E) All of the above

5. A 55-year-old man presents to the emergency department with severe headache that began 10 hours ago. His medical history is remarkable for poorly controlled hypertension treated with indapamide and atenolol. On physical examination, his pulse rate is 85/min, respiration rate is 14/min, and blood pressure is 210/150 mm Hg. Optic disc examination shows papilloedema and hemorrhagic exudates. Serum creatinine concentration is 2.8 mg/dL (247.5 $\mu\text{mol/L}$), and serum electrolytes are normal. An intravenous line is inserted to initiate therapy with nitroprusside, and an arterial line is inserted to monitor blood pressure. **Which of the following parameters is used to determine whether a loading dose of nitroprusside is required in this patient?**

- A) Half-life
- B) Bioavailability
- C) Clearance
- D) Volume of distribution
- E) All of the above

6. A 55-year-old man is scheduled for abdomen CT with contrast. He has type 2 diabetes; well controlled with pioglitazone, metformin, and glimepride. On the day of the procedure he is to receive nothing by mouth all morning except for medications until after the procedure. **Which of the following would be the most appropriate oral regimen on the day of the procedure?**

- A) Continue all medications
- B) Hold metformin, and continue glimepride and pioglitazone
- C) Hold glimepride and metformin, and continue pioglitazone
- D) Hold glimepride and pioglitazone and decrease metformin dose by half
- E) Hold metformin and pioglitazone, and continue glimepride

7. A 68-year-old man presents with chills and right upper quadrant abdominal pain. On examination the patient is icteric. His transaminase levels are mildly elevated, the direct bilirubin level is 6 mg/dl (102.6 $\mu\text{mol/l}$), and the leucocyte count is $18.0 \times 10^9/l$.

Which of the following is the most appropriate therapeutic approach?

- A) Perform an ERCP.
- B) Obtain CT scan of the liver.
- C) Order viral hepatitis serology
- D) Start broad spectrum IV antibiotics
- E) Obtain a magnetic resonance imaging (MRI) study of the liver

8. **Concerning pseudomyxoma peritonei: All are true EXCEPT**

- A) Begins with a mucinous cystadenocarcinoma, most commonly involving either the ovary or appendix.
- B) Rupture of the lesion results in diffuse metastatic spread with implantation of the mucin secreting lesions on the omentum as well as the peritoneum.
- C) Average age of presentation of this disease process is 45-55, with men making up 80% of cases.
- D) Presenting symptoms are non-specific, generally including pain, but also usually with a palpable mass.
- E) A 5-year survival of these patients is only approximately 50%.

9. A 42-year-old wig manufacturer returned 5 days ago from Iran where he was inspecting herds for raw material. He had initially experienced only mild upper respiratory tract symptoms, but 2 days later was brought to the emergency room with fever, severe dyspnea, cyanosis, and tachycardia. Blood cultures were drawn and after 16 hours of incubation, the smears revealed large, gram-positive rods with subterminal spores. The organism was non-hemolytic on blood agar and non-motile. **What is the most probable identity of this organism?**

- A) Clostridium tertium
- B) Bacillus anthracis
- C) Clostridium perfringens
- D) Bacillus subtilis
- E) None of the above

10. In chronic lymphocytic leukemia (CLL), patient are prone to develop all the following **EXCEPT**

- A) Hypogammaglobulinemia
- B) Autoimmune hemolytic anemia
- C) Opportunistic infections
- D) high-grade lymphoid neoplasm
- E) Conversion to a myeloid blast crisis

11. A 28-year-old man presents to the clinic asking for a treatment plan for his recently diagnosed multiple sclerosis. Three years ago, he had an episode of diplopia that resolved entirely after 2 months. One month ago, he had mild weakness and numbness of the right leg. MRI of the brain at that time showed multiple cerebral white-matter lesions in a periventricular distribution classic for multiple sclerosis. His leg weakness resolved without treatment. He is now asymptomatic and has a normal neurologic examination. **Which of the following is the most appropriate treatment recommendation at this time?**

- A) High-dose intravenous methylprednisolone
- B) Chronic oral prednisone
- C) Observation
- D) Plasmapheresis
- E) Give interferon beta as "Safety; tried and true" approach.

12. A 65-year-old man with long standing history of bronchial asthma, and recently diagnosed pulmonary tuberculosis presents to emergency department with breathlessness and wheeze. His current medications are rifampicin, isoniazid, salbutamol and beclomethasone inhalers and prednisolone 5mg once daily. On examination, he is afebrile. Widespread expiratory wheezes are heard throughout his chest. His Peak Expiratory Flow Rate (PEFR) is measured at 110 l/min. His chest x-ray does not show any significant change from last film taken in Chest Clinic.

Which of following options would be appropriate step in his management?

- A) Continue anti-tuberculous therapy and steroids at current dose.
- B) Continue anti-tuberculous therapy and reduce steroid dose.
- C) Continue anti-tuberculous therapy and increase steroid dose.
- D) Stop anti-tuberculous therapy and continue steroids at current dose.
- E) Stop anti-tuberculous therapy and steroids start broad-spectrum antibiotics.

13. A 48-year old female with rheumatoid arthritis presents to the emergency department with 2-week pain and tightness behind the left knee. Examination reveals cystic swelling over the left popliteal fossa. **Which of the following is the most appropriate next action?**

- A) Arthrogram of the left knee
- B) Synovial biopsy of left knee
- C) Ultrasound study of left knee and popliteal fossa
- D) Venogram of left lower limb
- E) None of the above

14. A 19-year old woman present with 10-day fever, myalgia, painful swelling of the small joints of the hands and right pleuritic chest pain. Her medical history is remarkable for acne, for which she is treated with minocycline. Examination reveals synovitis and respiratory examination is normal. Investigations: Chest X-ray shows right sided pleural effusion. Hemoglobin 10.9 g/dl, platelets $300 \times 10^9/l$, WBC $8.3 \times 10^9/l$. ESR 81mm in the first hour, CRP 2 g/l, U&Es and LFTs are normal. Rheumatoid factor 1/40, ANA 1/560, ENA negative, anti-ds-DNA negative and anti-histone is 1/320. **What is the most likely diagnosis?**

- A) Systemic sclerosis
- B) Systemic lupus erythematosus
- C) Drug induced lupus
- D) Mixed connective tissue disease
- E) Sarcoidosis

15. Five cases of prosthetic valve endocarditis caused by *Staphylococcus epidermidis* are observed in one hospital. Of the following available methods, **which is BEST for determining whether all five isolates were derived from a single source?**

- A) Serotyping
- B) Restriction fragment length polymorphism analysis
- C) Antimicrobial susceptibility testing
- D) Bacteriophage typing
- E) All of the above

16. A 45-year-old lady presents with fatigue. She is a known case of End Stage Renal Failure on hemodialysis for 3 hours three times a week. Her BP is 170/95 mm Hg. Investigations: Serum K 5.7 mmol/L, serum corrected calcium 2.0 mmol/L, hemoglobin 9.0 g/dl, serum creatinine 900 $\mu\text{mol/L}$. Post-dialysis Blood Pressure is recorded as 160/90. **Which of the following is the best management for this lady?**

- A) Increase dialysis hours
- B) Treat anemia with erythropoietin
- C) Treat hyperkalemia
- D) Treat hypocalcaemia
- E) Treat hypertension with ramipril

17. Primary prophylaxis to prevent acute infection in susceptible patients is recommended for all the following HIV Infected patients **EXCEPT**

- A) *Pneumocystis jiroveci* (formerly *carinii*) pneumonia.
- B) Disseminated *Mycobacterium avium* complex.
- C) Mucocutaneous candidiasis.
- D) Malaria for persons traveling to areas where malaria is endemic.
- E) *Toxoplasma gondii* encephalitis.

18. A 23 year-old female presents at 16 weeks into her first pregnancy with a blood pressure of 144/96 mmHg. A 24 hour urine collection reveals a protein excretion of 0.7 g/d. **What is the most likely explanation for these findings?**

- A) Essential hypertension
- B) Gestational hypertension
- C) Normal changes of pregnancy
- D) Pre-Eclampsia
- E) Secondary hypertension

19. An 82-year-old man weighing 154 lb with chronic kidney disease and a history of hemorrhagic stroke that occurred 4 months earlier, presents to the emergency department (ED) with cough and confusion. Rectal temperature is 104.1°F, respiratory rate is 32/min, and oxygen saturation is 91% on room air. On examination, rhonchi are noted as well as a pronounced neurologic deficit from his previous stroke. Laboratory testing reveals leukopenia and a blood urea nitrogen level of 70 mg/dL. A chest radiograph reveals a left lower lobe consolidation. The patient is diagnosed with community acquired pneumonia (CAP).

In addition to providing supplemental oxygen and antipyretics, which of the following is the most appropriate in the management of this patient?

- A) Administer an intravenous (IV) macrolide and discharge home on oral formulation
- B) Administer oral doxycycline within 4 hours and admit to a floor bed for observation
- C) Obtain blood cultures, administer IV ceftriaxone and a respiratory fluoroquinolone, and admit to the ICU
- D) Obtain blood cultures, administer IV piperacillin/tazobactam, and admit to the ICU
- E) Obtain blood cultures, administer IV vancomycin within 4 hours, and admit to the ICU

20. Which of the following is true of vasopressin in septic shock?

- A) Continuous infusion at low doses improves 28-day overall mortality
- B) Continuous infusion at low doses improves mortality in patients with severe septic shock
- C) Continuous infusion at low doses increases cardiac output
- D) Continuous infusion at low doses reduces the catecholamine infusion requirement
- E) None of the above

21. A fifty-year-old patient attending the hypertension clinic has refractory hypertension. Random aldosterone: plasma renin activity has shown a ratio of greater than 750. In order to differentiate the underlying cause of primary aldosteronism, demonstrated in this patient, you arrange for the patient to have aldosterone: plasma renin activity measured in the morning (at 8 a.m.) with the patient in the supine position and again at noon with the patient in the erect position.

This test helps to differentiate the causes of primary hyperaldosteronism because

- A) ACTH suppresses aldosterone secretion in adrenal adenoma
- B) ACTH has no effect on glucocorticoid suppressible hyperaldosteronism
- C) Erect posture increases plasma aldosterone in adrenal hyperplasia
- D) ACTH levels are higher at noon
- E) The supine position increases aldosterone secretion in glucocorticoid suppressible hyperaldosteronism.

22. A 40-year-old woman is brought to the emergency department by her daughter who states that she found her mother at home several hours ago, confused, lethargic, and unable to get up from her chair or speak. Her mother has a seizure disorder for which takes an antiseizure medication. She also has a history of alcohol abuse in the remote past. For the past several weeks, her mother has been complaining of difficulty sleeping and anxiety. The patient is stuporous and unresponsive to verbal stimuli. Her blood pressure is 100/60 mm Hg, heart rate is 50/min, and respiratory rate is 9/min. The pupils are pinpoint, and there is horizontal nystagmus. Asterixis is present. Investigations: white cell count 9×10^9 /L, sodium 150 mEq/L, BUN 18 mg/dL, creatinine 0.9 mg/dL (79.5 μ mol/L), glucose 50 mg/dL (2.7 mmol/L), calcium 5 mg/dL (1.25 mmol/L), ammonia 100 μ g/dL, albumin 3.0 g/dL, AST 100 U/L, ALT 80 U/L. The urinalysis and lumbar puncture are normal. A CT scan of the brain shows cerebral edema. Arterial blood gas shows a pH of 7.20, a pCO₂ of 46 mm Hg, and a pO₂ of 79 mm Hg. Osmolar gap is zero. The toxicology screen is negative for benzodiazepines and opioids. **What is the most likely substance that this patient overdosed on?**

- A) Phenytoin
- B) Carbamazepine
- C) Valproic acid
- D) Ethanol
- E) Diazepam

23. An obese 45-year-old female is referred to the clinic by her general practitioner as she has been found to have a raised alanine aminotransferase level. She is not on any medication and does not take alcohol. On examination she is obese.

In this patient you would expect:

- A) Type 2 diabetes mellitus
- B) Insulin resistance
- C) Hyperlipidaemia
- D) Acanthosis nigricans
- E) Hepato-splenomegaly

24. A 65-year-old man has been stable on the general medical ward following an admission with acute coronary syndrome several days previously. His drug history consists of aspirin, enalapril and glyceryl trinitrate (GTN) spray. He has developed dyspnea over the last few hours. On examination he has a raised jugular venous pressure (JVP) and crackles to his mid zones. His electrocardiogram (ECG) shows a rate of 140 beats per minute in atrial fibrillation.

Which of the following is the most appropriate management?

- A) Intravenous amiodarone
- B) Intravenous digoxin
- C) Intravenous flecainide
- D) Observe and screen for MI
- E) Synchronized DC cardioversion

25. Which single clinical feature has the most specificity in differentiating *Pseudomonas aeruginosa* sepsis from other causes of severe sepsis in a hospitalized patient?

- A) Ecthyma gangrenosum
- B) Hospitalization for severe burn
- C) Profound bacteraemia
- D) Recent antibiotic exposure
- E) Recent mechanical ventilation for >14 days

26. An 81-year-old diabetic woman with a history of atrial fibrillation is transferred to your emergency department (ED) from the local nursing home. The note from the facility states that the patient is complaining of abdominal pain, having already vomited once. Her vital signs in the ED are temperature 100.1°F, blood pressure (BP) 105/75 mm Hg, heart rate (HR) 95 beats per minute and respiratory rate (RR) 18 breaths per minute. You examine the patient and focus on her abdomen. Considering that the patient has not stopped moaning in pain since arriving to the ED, you are surprised to find that her abdomen is soft on palpation. You decide to order an abdominal radiographic series. **Which of the findings on plain abdominal film is strongly suggestive of mesenteric infarction?**

- A) Sentinel loop of bowel
- B) No gas in the rectum
- C) Presence of an ileus
- D) Pneumatosis intestinalis
- E) Air fluid levels

27. A 63-year-old woman is evaluated during a follow-up visit for a 4-week history of fatigue; pain in the proximal interphalangeal joints, knees, and hips; and low-grade fever. She has not had joint swelling, chest pain, or shortness of breath. Over the past 4 years, she has had progressive dryness of the eyes and mouth. She has a 5-month history of Raynaud phenomenon, which has been less symptomatic since beginning nifedipine 4 months ago. On physical examination, temperature is 38.2 °C (100.8 °F), blood pressure is 125/72 mm Hg, pulse rate is 74/min, and respiration rate is 18/min. Cardiac examination is normal, and the lungs are clear. She has bilateral parotid gland enlargement, a firm 4-cm left axillary lymph node, and a shotty 0.3-cm left anterior cervical lymph node. Musculoskeletal examination reveals bilateral crepitus of the knees. There is no joint swelling. Laboratory studies: Hemoglobin 11.6 g/dL (116 g/L); Leukocyte count 3400/μL ($3.4 \times 10^9/L$); Platelet count 120,000/μL ($120 \times 10^9/L$); Rheumatoid factor 76 U/mL (76 kU/L); Antinuclear antibodies Positive; Anti-Ro/SSA antibodies Positive; Anti-La/SSB antibodies Positive; Urinalysis Normal; Blood cultures No growth; A chest radiograph and mammogram are normal. **Which of the following is the next best step in this patient's management?**

- A) Excisional axillary lymph node biopsy
- B) Minor salivary gland biopsy
- C) Prednisone
- D) Transthoracic echocardiography
- E) No additional therapy

28. A 46-year-old asthmatic man complains of wheezing for 2 days despite regular use of his inhaled albuterol, ipratropium, fluticasone, and salmeterol. Yesterday he took 40 mg of prednisone on his family physician's phone advice. He now:

- A) Needs a chest x-ray and arterial blood gas prior to hospitalization, as he has failed outpatient therapy
- B) Should receive three more treatments of nebulized beta-agonist therapy, then be admitted if still not improving.
- C) Should be admitted to the hospital if, despite further therapy, his PEFr is 280 L/min.
- D) Is considered to have a "mild" asthma exacerbation with arterial blood gases: PaO₂ 78, PaCO₂ 38, pH 7.38.
- E) Requires arterial blood gas testing to determine degree of hypoxemia, especially if he appears clinically ill (i.e., deteriorating mental status, use of accessory muscles, and pulsus paradoxus).

29. A 70-year-old man with a history of hypertension and diabetes presents with numbness to the right face, arm, and leg without motor abnormalities.

Where is the neurological lesion?

- A) Left thalamus
- B) Left middle cerebral artery territory
- C) Left cerebellar hemisphere
- D) Left frontal cortex
- E) Left parietal cortex

30. A 22-year-old woman who is otherwise healthy undergoes an uneventful vaginal delivery of a full-term infant. One day postpartum she complains of visual changes and severe headache. Two hours after these complaints, she is found unresponsive and profoundly hypotensive. She is intubated and placed on mechanical ventilation. Her blood pressure is 68/28 mmHg, heart rate is regular at 148 beats/min, and oxygen saturation is 95% on FiO₂ 0.40. Physical exam is unremarkable. Her laboratories are notable for glucose of 49 mg/dL and normal hematocrit and white blood cell count. **Which of the following is most likely to reverse her hypotension?**

- A) Activated drotrecogin alfa.
- B) Hydrocortisone.
- C) Piperacillin/tazobactam.
- D) Thyroxine.
- E) Transfusion of packed red blood cells.

31. A 55-year-old insulin requiring diabetic man has two vessel coronary artery diseases that are amenable either to coronary artery bypass graft surgery or to angioplasty.

Which one of the following statements is true for this patient?

- A) Surgery is superior to angioplasty.
- B) Angioplasty is superior to surgery.
- C) Angioplasty and surgery are equivalent.
- D) Neither is superior to medical therapy.
- E) A combination of angioplasty and medical therapy.

32. A 45-years-old woman has had gradual onset of dysphagia that worsening (progressively) for year. She initially had dysphagia for solid, followed now by dysphagia of the liquids. She notes frequent episode of regurgitation of undigested food, cough and 6 kg's of weight loss. The most reliable test of diagnosis is:

- A) Barium swallow and meal.
- B) Upper GI endoscopy.
- C) Esophageal manometry.
- D) Ambulatory esophageal PH monitoring.
- E) CT chest.

33. A 57-year-old woman with primary biliary cirrhosis presents with progressive weight loss, diarrhea and jaundice. Stool examination reveals severe fat malabsorption. Because the patient is significantly malnourished, **which of the following measures would you take to encourage weight gain until liver transplantation?**

- A) Conversion of dietary protein source to branched chain amino acids.
- B) Dietary supplementation with medium chain triglycerides.
- C) Treatment with somatostatin analogues.
- D) Dietary supplementation with long chain triglycerides.
- E) Anabolic steroids.

34. A 20-years-old male just got married to a woman with acute hepatitis B. He is HBsAg negative. Regarding this couple all of the following are true **EXCEPT**:

- A) The husband should be given Hepatitis B Immunoglobulin
- B) The husband should receive rapid vaccination with three injections at monthly intervals
- C) The husband should use condoms until proven immunity
- D) The wife has 90% chance of developing lifelong hepatitis B immunity
- E) The husband has 50% chance of acquiring the infection

35. Herpes simplex encephalitis (HSE) is characteristic by all **EXCEPT**:

- A) It has a predilection for frontotemporal lobes.
- B) It is more common in neonates than adults.
- C) The CSF can contain RBCs (usually <500mm³) and can be xanthochromic.
- D) Early treatment with acyclovir can be effective.
- E) There are no pathognomonic clinical findings associated with HSE

36. A 50-year-old woman presents to you for evaluation. She complains of easy fatigability, as well as abdominal fullness and right upper quadrant pain. She also notes marked swelling in her legs. She has recently been diagnosed with asthma and is also undergoing evaluation for recurrent diarrhea. On examination, she has a BP of 100/60 mmHg. Heart rate is 96 bpm. There is elevation in jugular venous pressure, with a large a wave and a prominent v wave. Lungs are clear. Cardiac examination reveals a nondisplaced PMI. Rhythm is regular. S1 and S2 (including P2) are normal. A diastolic murmur is heard along the sternal border, which increases with inspiration. A pansystolic murmur is also heard in this area. Hepatomegaly is present, along with ascites and peripheral edema.

What is the most likely cause of this patient's signs and symptoms?

- A) Rheumatic heart disease
- B) Carcinoid tumor
- C) Primary pulmonary hypertension
- D) Cirrhosis of the liver secondary to chronic hepatitis
- E) noninfectious endocarditis

37. Postmyocardial infarction (Dressler's) syndrome is characterized by all of the following **EXCEPT**

- A) Chest pain
- B) Fever
- C) Pleuropericarditis
- D) Mediastinitis
- E) Pleural effusion

38. 62-yrs-old man is admitted to the hospital with two days history of headache, fever, nausea and vomiting. During the year before admission he had weakness, fatigue, cold intolerance and reduced libido. On physical examination Bp 80/55 mmHg, pulse 116/m temp 37.8C. On neurological examination the patient is obtunded with decreased visual acuity and impaired adduction of the right eye. The right pupil is dilated and unreactive to light. Initial laboratory data showed, plasma glucose 73 BUN 2, plasma Na 124, plasma K: 4, Plasma T4: 41 (60-150) plasma T3: 0.8 (1.2-3). **What is the most appropriate next diagnostic procedure?**

- A) Blood culture.
- B) MRI of pituitary fossa.
- C) Lumbar puncture.
- D) Conventional cerebral angiography.
- E) CT of orbits

39. A 50-year-old female presents with acute chest pain and dyspnea. Examination reveals bilateral ankle edema with 24 hr urine protein assessment showing 8g/d (<0.2). **Which is the most likely explanation for these findings?**

- A) Factor V Leiden
- B) Reduced antithrombin III activity
- C) Reduced concentration of Von Willebrand's factor
- D) Reduced fibrinogen concentration
- E) Reduced factor VIII

40. A 70-year-old man was referred by his GP with difficult to treat hypertension. He had long-standing hypertension which had been well controlled over many years but recently he was found to have a blood pressure of 190/110 mmHg which proved resistant to additional treatment. He was generally asymptomatic and complied with medication. Investigations showed normal U&Es. **Which one of the following is the most likely cause?**

- A) Chronic pyelonephritis
- B) Conn's syndrome (primary hyperaldosteronism)
- C) Pheochromocytoma
- D) Polycystic kidney disease
- E) Renovascular disease

41. A 66 year old woman has sudden onset of right-sided weakness. She has a history of HTN, DM and hyperlipidemia. O/E there is near paralysis of the right face and the arm (more than the leg), and loss of feeling and sensory neglect on the right side. There also appears to be right-sided visual field loss, all of the following could be results of testing **EXCEPT:**

- A) Carotid US with severe left carotid stenosis
- B) MRI showing a lacunar infarct in the left internal capsule
- C) Transesophageal ECHO revealing atrial fibrillation and thrombus in the left atrium
- D) TEE showing atherosclerosis of the ascending aorta with mobile plaque
- E) MRA showing severe intracranial stenotic atherosclerotic disease

42. A 65 year old man who had his first MI 10 years ago, comes for evaluation. His most recent ECHO shows and EF 25%, he denies syncope or palpitation. There is no history suggestive of angina or CHF he is receiving maximal medical therapy. The 12 lead ECG is normal. **You recommend:**

- A) Cardiac catheter and possible revascularization
- B) Exercise perfusion study to assess for ischemia
- C) Implantation of a cardioverter defibrillator
- D) Prolonged holter monitor to assess for malignant arrhythmias.
- E) Reassure the patient and arrange for outpatient follow up in 6 months.

43. All of the following are true concerning chylothorax **EXCEPT:**

- A) Lymphoma is the most common cause.
- B) It has an acute to subacute onset.
- C) Cholesterol level <200 mg/dL
- D) Triglyceride level >110 mg/dL
- E) It is associated with lung entrapment

44. A young man is referred by his GP following investigation for recurrent mouth ulceration. Subsequent blood count shows HB of 13.2 g/dL, WBC 3800/ μ L (neutrophil 1200, lymph 1500); platelets 332000/ μ L, examination reveals a fit young male with no evidence of organomegaly or lymphadenopathy, further questioning reveals the history of mouth ulceration occurring over the previous 3-4 years. **Select the most likely diagnosis**

- A) AML
- B) Post-viral neutropenia
- C) HIV infection
- D) Drug induced neutropenia
- E) Cyclical neutropenia

45. A 35-year-old woman presented with tender lesion on both legs. She had no respiratory symptoms and was not on any medications. O/E: she was febrile, pulses 90 regular and blood pressure 136/88. Her chest was clear. There were bilateral erythematous raised lesions on her shins. Chest x ray shows bi-hilar lymphadenopathy. **The most helpful test that would give a definitive diagnosis would be:**

- A) Kveim test
- B) Serum ACE level
- C) Serum calcium
- D) Skin biopsy
- E) Transbronchial needle biopsy

46. A 30-year-old man is evaluated for a thyroid nodule. The patient reports that his father died from thyroid cancer and that a brother had a history of recurrent renal stones. Blood calcitonin concentration is 2000 pg/mL (normal is less than 100); serum calcium and phosphate levels are normal. Before referring the patient to a surgeon, **the physician should do which of the following?**

- A) Obtain a liver scan
- B) Perform a calcium infusion test
- C) Measure urinary catecholamines
- D) Administer suppressive doses of thyroxine and measure levels of thyroid stimulating hormone
- E) Treat the patient with radioactive iodine

47. A 78-year-old man complains of increasing fatigue and bone pain, especially around the knees and ankles. He has a long-standing anemia with hemoglobin of 9 to 10 g/dL and MCV of 102. He had not responded to therapeutic trials of iron and vitamin B12, but had been symptomatically stable until the past month. Examination reveals pallor and spleen tip just palpable at the left costal margin. CBC reveals hemoglobin of 8.2 g/dL, but for the first time his platelet count is low (15,000); the white blood cell count is 14,000. **What is the likely cause of his worsening anemia?**

- A) Folic acid deficiency
- B) Acute myeloid leukemia
- C) Myelofibrosis
- D) Tuberculosis
- E) Viral infection

48. A 78-year-old man is evaluated in the hospital for poor glycemic control before undergoing femoral popliteal bypass surgery. He has been on the vascular surgery ward for 3 weeks with a non-healing foot ulcer. The patient has an extensive history of arteriosclerotic cardiovascular disease, including peripheral vascular disease, and a 20 year history of DM 2, his most recent Hb A1c obtained 2 months before admission was 8.9%, his diabetes regimen consists of glibenclamide 15 mg/day. While in the hospital his plasma glucose levels have generally been in the 200 to 250 mg/dl range and he is eating well. In addition to stopping glibenclamide, **which of the following is the most appropriate treatment for this patient?**

- A) Basal insulin and rapid acting insulin before meals
- B) Insulin infusion
- C) NPH insulin twice daily
- D) Sliding scale regular insulin
- E) Insulin glargine once daily

49. In familial Mediterranean fever, **which of the following is correct?**

- A) Symptoms usually starts after the age of 15
- B) The acute attack usually lasts 7-9 days
- C) Pregnancy is associated with less frequent attacks
- D) Colchicine is not safe in pregnancy
- E) Corticosteroids helps reducing the duration of the attack

50. A 55-year-old female undergoes a DXA scan which reveals a bone mineral density T score of -2.5 at the hip and lumbar spine. **Which of the following may contribute to such a result?**

- A) Acromegaly
- B) Delayed menopause
- C) Hypothyroidism
- D) Multiple myeloma
- E) Obesity

51. A 43-year-old man experienced cellulitis of his left lower extremity but resisted medical evaluation for nearly 10 days. When it did not improve, he saw his physician, who admitted him to the hospital. His admission serum creatinine was 106 $\mu\text{mol/L}$. He was treated with a 2-week course of IV antibiotics that consisted of nafcillin, clindamycin, and gentamicin. Ten days into this treatment, a serum creatinine was obtained and was 309 $\mu\text{mol/L}$. Renal ultrasound showed normal-sized kidneys without hydronephrosis. **Possible causes of this patient's acute renal failure include**

- A) ATN
- B) Acute glomerulonephritis
- C) Allergic interstitial nephritis
- D) A, B, and C
- E) Only A and C

52. All of the following vaccine can be given to pregnant lady **EXCEPT:**

- A) Flu vaccine
- B) H1N1
- C) Hepatitis B vaccine
- D) Rubella vaccine
- E) Tetanus vaccine

53. A 72-year-old man with non-Hodgkin's lymphoma, who is 10 days post chemotherapy, has persistent fevers. Of note, 3 days after his chemotherapy finished, he had a temperature of 38.5 C (101.3 F). He was started on ceftazadime and tobramycin. His fever resolved initially. However, now it is 7 days later and he again has similar temperature elevations. He has also developed some minimal hemoptysis. His blood pressure is 115/85 mm Hg, pulse 82/min, and respirations 20/min. Heart has a regular rhythm with no murmurs, lungs have some dry basilar crackles, abdomen is benign, and extremities have 1+ edema, but no erythema. Laboratory studies show a leukocyte count of 3,200mm³, hematocrit 28%, and platelets 18,000mm³. A chest x-ray shows development of some bilateral nodular densities. A CT scan of the lungs confirms multiple lung nodules, many of which have small hazy borders consistent with minimal perinodular hemorrhage. **What is the most appropriate next step in the management?**

- A) Add amphotericin B intravenous therapy to his current therapy
- B) Change the chemotherapy regimen due to treatment failure
- C) Continue the ceftazidime and tobramycin and give it time to work
- D) Refer the patient to radiation oncology for emergent bilateral lung radiation
- E) Send him for a transesophageal echocardiogram

54. A 32-year-old man comes to the office for his annual checkup. He is asymptomatic and his physical exam is normal. He reports that his father died of colon cancer at age 46 and his older brother was recently diagnosed with colon cancer at age 37. His paternal aunt was previously diagnosed and treated for endometrial cancer. He is concerned about his family history of malignancy and wants to discuss cancer screening. **What would be the most appropriate recommendation at this time?**

- A) Flexible sigmoidoscopy
- B) Fecal occult blood testing, with referral for endoscopy if positive
- C) Screening colonoscopy
- D) Screening colonoscopy starting at age 50
- E) Prophylactic colectomy

55. A 62-year-old man presents to his physician complaining of shortness of breath. All of the following findings are consistent with left ventricular dysfunction as a cause of the patient's dyspnea **EXCEPT:**

- A) Feeling of chest tightness
- B) Nocturnal dyspnea
- C) Orthopnea
- D) Pulsus paradoxus greater than 10 mmHg
- E) Sensation of air hunger

56. All of the following are common manifestations of bleeding caused by von Willebrand disease **EXCEPT:**

- A) Angiodysplasia of the small bowel
- B) Epistaxis
- C) Menorrhagia
- D) Postpartum hemorrhage
- E) Spontaneous hemarthrosis

57. A 37-year-old woman is admitted to accident and emergency with severe facial burns. Despite prompt management, she develops acute respiratory distress syndrome (ARDS).

Which of the following is not associated with the diagnostic criteria for ARDS?

- A) Bilateral infiltrates on chest x-ray
- B) Acute onset
- C) Pulmonary capillary wedge pressure >19
- D) Refractory hypoxemia ($\text{PaO}_2:\text{FiO}_2 <200$)
- E) Lack of clinical congestive heart failure

58. A 37-year-old woman has a 2-week history of intermittent headache and general malaise. Over the last 24 hours, she has developed back pain, hematuria, vomiting, fever, and confusion. She denies recent travel or insect bites. There is no history of dysuria, urgency, frequency, or kidney stones. Her oral temperature is 38°C and her heart rate is 100/min. Physical findings include pale conjunctivae, borderline tachycardia, bilateral costovertebral tenderness, and several purpuric skin lesions. Her urine dipstick is strongly positive for hemoglobin, but negative for nitrites and leukocyte esterase.

The test that will most likely reveal the correct diagnosis is:

- A) Intravenous pyelogram.
- B) CBC with differential and peripheral smear.
- C) Complete urinalysis with microscopic examination.
- D) Blood cultures.
- E) Liver function tests.

59. A 57-year-old man with a history of diabetes mellitus and chronic kidney disease with a baseline creatinine of 1.8 mg/dL undergoes cardiac catheterization for acute myocardial infarction. He is subsequently diagnosed with acute kidney injury related to iodinated contrast.

All of the following statements are true regarding his kidney injury **EXCEPT**:

- A) Fractional excretion of sodium will be low.
- B) His creatinine is likely to peak within 3–5 days.
- C) His diabetes mellitus predisposed him to develop contrast nephropathy.
- D) Transient tubule obstruction with precipitated iodinated contrast contributed to the development of his acute kidney injury.
- E) White blood cell casts are likely on microscopic examination of urinary sediment.

60. A 42-year-old man presented to the hospital with right upper quadrant pain. He was found to have multiple masses in the liver that were found to be malignant on H&E staining of a biopsy sample. Your initial history, physical examination, and laboratory tests, including prostate-specific antigen, are unrevealing. Lung, abdominal, and pelvic CT scans are unremarkable. He is an otherwise healthy individual with no chronic medical problems.

Which immunohistochemical markers should be obtained from the biopsy tissue?

- A) α -Fetoprotein
- B) Cytokeratin
- C) Leukocyte common antigen
- D) Thyroglobulin
- E) Thyroid transcription factor 1

A 26-year-old woman, presents with fever for the last 6 weeks. She has low backache and 10-pounds eight loss. She is otherwise healthy. On examination, she has a prominent holosystolic murmur heard best at the apex with radiation to the axilla. There is no rash, and the remainder of the exam is normal. Investigations: Hemoglobin 10.9 g/dl, platelets $300 \times 10^9/l$, WBC $8.3 \times 10^9/l$. ESR 81 mm in the first hour, U&Es and LFTs are normal. Urine analysis shows +2 RBCs.

61. What is the appropriate diagnostic test at this moment?

- A) Transthoracic echocardiogram
- B) Transesophageal echocardiogram
- C) Chest CT scan
- D) Blood culture
- E) ASO titer

62. If diagnosis with infective endocarditis is established, which of the following is the most likely causative organism?

- A) *Escherichia coli*
- B) *Staphylococcus aureus*
- C) *Streptococcus pneumoniae*
- D) *Klebsiella pneumoniae*
- E) *Streptococcus mitis*

63. This lady has no history of cardiac disease. What is the most likely underlying valvular disorder?

- A) Mitral valve prolapse
- B) Tricuspid valve regurgitation
- C) Aortic valve stenosis
- D) Mitral valve stenosis
- E) None of the above

64. All of the following drugs increase blood level of theophylline EXCEPT?

- A) Ciprofloxacin
- B) Rifampicin
- C) Erythromycin
- D) Allopurinol
- E) Cimetidine

65. A 51-year-old man has recurrent bouts of lightheadedness and mild confusion. Episodes of hypoglycemia were recently documented that are improved with ingestion of food. The patient has no headache, blurred vision, or double vision. He has gained approximately 4.5 kg (10 lb) in the past 2 months. Medical and family histories are noncontributory. Physical examination is normal. The following laboratory data are obtained after an overnight fast: plasma glucose 30 mg/dL (1.67 mmol/L), serum insulin 30 mIU/L (215.25 pmol/L), and an elevated serum C-peptide level. Screening for sulfonylurea is negative and CT scan of the abdomen is normal.

Which of the following diagnostic studies should be done next?

- A) Endoscopic retrograde pancreatography.
- B) Transabdominal (Endoscopic) ultrasonography.
- C) MRI of the abdomen.
- D) Positron emission tomography.
- E) Somatostatin receptor scintigraphy.

66. The following conditions can cause bronchiectasis **EXCEPT**:

- A) Asbestos exposure
- B) Cystic fibrosis
- C) Pulmonary tuberculosis
- D) α 1-antitrypsin deficiency
- E) hypogammaglobulinemia

67. A 64-year-old woman is evaluated in the emergency department for a 4-day history of progressive leg weakness and numbness and a 1-day history of urinary incontinence. She has also had increasingly severe midback pain for the past 2 months. She has a history of breast cancer diagnosed 2 years ago, treated with surgery and local radiation therapy. Her only current medication is tamoxifen. Physical examination shows normal mental status and cranial nerves. Strength in the arms is normal. Legs are diffusely weak, 3/5 proximally and 4/5 distally. Sensory examination shows diminished pin sensation from the nipples downward; vibratory sense is severely diminished in the feet. Reflexes are 2+ in the biceps and triceps and 3+ in the knees and ankles. An extensor plantar response is present bilaterally. Anal sphincter tone is diminished. **Which of the following is the most appropriate diagnostic study at this time?**

- A) Plain radiographs of the entire spine
- B) Electromyography and nerve conduction studies
- C) CT of the lumbar spine
- D) MRI of the brain
- E) MRI of the entire spine

68. **Bronchopulmonary aspergillosis is characterized by all of the following EXCEPT:**

- A) Underlying asthma
- B) Central bronchiectasis
- C) Elevated serum immunoglobulin E level
- D) Positive serum precipitins for *Aspergillus*
- E) Positive delayed hypersensitivity skin test to *Aspergillus* antigens

69. A 42-year-old woman has a 12-year history of ulcerative colitis that has responded well to mesalamine and occasional corticosteroid enemas. Recent surveillance colonoscopy with biopsies showed low-grade dysplasia. **Which of the following would be the most appropriate next step in the management of this lady?**

- A) No intervention, repeat colonoscopy in 6 months
- B) No intervention, repeat colonoscopy in 1 year
- C) Administer continuous corticosteroid enemas
- D) Refer to the surgeon for colectomy
- E) Administer a high-dose corticosteroid intravenously

70. A 50-year-old woman known to have metastatic uterine adenocarcinoma to the liver is diagnosed with bilateral pulmonary emboli. Her medical history is remarkable for right leg deep venous thrombosis one year ago, at that time she was diagnosed with stage II uterine cancer. She received anticoagulation therapy with warfarin for 6 months. After an initial 7-day course of low-molecular-weight heparin, **which of the following is the most appropriate for preventing recurrent venous thromboembolism in this patient?**

- A) Transition to new oral anticoagulants (NOACs)
- B) Continue low-molecular-weight heparin.
- C) Place an inferior vena cava filter.
- D) Transition to warfarin with a target INR of 2 to 3
- E) Transition to warfarin with a target INR of 3 to 4.

71. A 26-year-old man presents to emergency with fever, malaise, back pain and sore throat. One day later he notices gross hematuria. The past medical history is unremarkable. Investigations: serum creatinine is 79.2 $\mu\text{mol/l}$ and urine analysis shows 2+ protein, and 30-40 RBCs/hpf with acanthocytes. **The most likely cause of the urine findings is:**

- A) Nephrolithiasis
- B) Lupus nephritis
- C) IgA nephropathy
- D) Granulomatosis with polyangitis (Wegener's granulomatosis)
- E) Acute post-streptococcal glomerulonephritis.

72. Which is the most accurate statement about lung cancer?

- A) A history of radiotherapy to the thorax is a risk factor for the development of lung cancer
- B) 40% of all lung cancers are due to smoking
- C) Quitting smoking does not affect the chances of developing lung cancer
- D) The outlook is generally very good
- E) People who have never smoked, never develop lung cancer

73. A 42-year-old nurse who has no chronic illness, is found collapsed outside her apartment. When she is brought to the casualty, her glucose level is found to be 1.9 mmol/l. **What are the investigations that should be performed immediately?**

- A) Blood sulphonylurea levels
- B) Insulin plus C-peptide levels
- C) Glucose tolerance test
- D) HbA1c
- E) A&B

74. A 25-year-old woman presents with a 8-week history of headache that is worse in the morning and when lying down. She also has diplopia and short-lasting visual loss (seconds) on standing up. Clinical examination reveals an obese lady with blood pressure of 120/70 mmHg. Fundoscopy shows bilateral blurring of optic disks and horizontal diplopia when looking towards the right. A CT scan of the brain without contrast was normal. **What is the most appropriate next investigation this patient?**

- A) Cerebral angiogram
- B) Lumbar puncture
- C) MRI brain
- D) Repeat CT brain contrast
- E) Visual evoked potential

75. Middle East respiratory syndrome coronavirus (MERS-CoV), all of the following are true **EXCEPT:**

- A) Typical MERS symptoms include fever, cough and shortness of breath.
- B) Pneumonia is common, but not always present.
- C) Camels are likely to be a major reservoir host for MERS-CoV and an animal source of infection in humans.
- D) The virus does not appear to pass easily from person to person unless there is close contact, such as providing unprotected care to an infected patient.
- E) Approximately 60% of reported patients with MERS have died.

76. A 30-year-old man is evaluated for a mass in the right side of his neck that he noticed while shaving. He has had no neck pain, hoarseness, or dysphagia. He has no history of therapeutic radiation exposure to his head and neck. He has no family history of thyroid tumors or disorders. Examination of the neck shows a 2.5-cm right thyroid nodule that is moderately mobile and non-tender. There are no palpable cervical lymph nodes. **Which of the following serum tests is the most important to order, Prior to a fine-needle aspiration biopsy or imaging procedures?**

- A) Thyroid-stimulating hormone (TSH)
- B) Thyroglobulin
- C) Antithyroid peroxidase and antithyroglobulin antibodies
- D) Total triiodothyronine (T₃)
- E) Calcitonin

77. A 25-year-old women known to have Grave's disease on methimazole 45 mg daily discover that she is pregnant. **Appropriate therapy includes:**

- A) Continue methimazole with the goal of maintaining her thyroid function tests in the high-normal or slightly high range.
- B) Continue methimazole with care taken to maintain her thyroid function tests in the mid-normal range.
- C) Propylthiouracil therapy with the goal of maintaining her thyroid function tests in the high-normal or slightly high range.
- D) Surgical intervention.
- E) Propylthiouracil therapy with care taken to maintain her thyroid function tests in the mid-normal range.

78. Regarding osteoporosis: All are true EXCEPT:

- A) Decreased bone mass is the major risk factor for fractures after minor trauma.
- B) If bone density testing is not available, plain X-ray can suggest the presence of osteopenia.
- C) Multiple thoracic fractures may result in restrictive lung disease.
- D) Lifestyle factors such as low calcium intake, cigarette smoking and excessive ethanol use may modify bone mass.
- E) Among all osteoporotic fractures, fractures of vertebrae are the most serious.

79. A 56-year-old man with 8-year history of T2DM and hypertension presents to the emergency department with 2-month shortness of breath and bilateral lower limbs swelling. He is on metformin 1500 mg, sitagliptin 100 mg, glimepiride 8 mg, pioglitazone 30 mg and valsartan 160 mg. His other medications include atorvastatin 40 mg and aspirin 100 mg. on examination patient looks sick, he is dyspneic has a body mass index of 27 kg/m². His BP is 150/90 mmHg, and pulse 120/minute. JVP is elevated and there is gallop rhythm. Investigations: sodium is 128 mmol/l, potassium 3.9 mmol/l, bicarbonate 30 mmol/l, serum creatinine 86 μmol/l and HgA1c 8.6%. Chest x-ray shows cardiomegaly and alveolar edema. **After controlling his heart failure, what would be your next choice for pharmacological therapy to control his blood sugar?**

- A) Stop pioglitazone and start sodium-glucose co-transporter 2 (SGLT2) inhibitors.
- B) Stop pioglitazone and start insulin therapy.
- C) Add dipeptidyl peptidase-4 (DPP-4) inhibitors.
- D) Stop pioglitazone and start DPP-4 inhibitors.
- E) Add insulin therapy

80. Regarding *M. tuberculosis*: all are true EXCEPT:

- A) Sputum cultures may remain positive for weeks after effective therapy.
- B) Among patients with untreated cavitory pulmonary disease, a negative sputum smear for acid-fast-bacilli is unusual.
- C) Extrapulmonary tuberculosis is rare in HIV-infected individuals.
- D) Lifelong risk of clinical tuberculosis is less than 10% in HIV-negative, skin test positive patients
- E) HIV-infected patients with clinical tuberculosis generally do not require chronic suppressive antimycobacterial therapy after effective treatment.

81. A 44-year-old male engineer from India presents with a 2-week history of fever and right upper quadrant pain. The patient lives in Qatar but visits his family in Bombay annually, and he returned from a visit 5 weeks ago. The patient denies illness while in India, but he admits to a recent 3-kilogram weight loss. Physical examination reveals a chronically ill appearing man with fever (38.3°C) in moderate distress. There is moderate right upper quadrant tenderness and moderate hepatomegaly but no splenomegaly. There are no other physical findings. An abdominal ultrasonogram reveals a non-calcified 7 × 6-cm solitary mass in the right hepatic lobe. A plain radiograph of the abdomen is normal. Each of the following are possible causes for his current symptoms and radiologic findings, **EXCEPT**

- A) Hepatoma
- B) Pyogenic liver abscess
- C) Amebic liver abscess
- D) Echinococcal cyst
- E) Metastatic carcinoma

82. What is the best laboratory goal to use to guide fluid resuscitation in acute pancreatitis?

- A) Hematocrit
- B) Blood urea nitrogen
- C) Serum creatinine
- D) Amylase
- E) Lipase

83. A 32-year-old man has a 15-year history of diabetes; serum creatinine is 203 μmol/ L. A diagnosis of diabetic nephropathy is established by renal biopsy.

Which of the following is true of this patient?

- A) Angiotensin-converting enzyme (ACE) inhibitors are unlikely to help this condition at this time.
- B) He has a less than 30% chance of having hypertension at this time.
- C) He has a 50% chance of having the nephrotic syndrome at this time.
- D) Because of his age, nephropathy is likely to be his only major organ system diabetic complication to date.
- E) He is likely to experience ESRD requiring dialysis within the next 4 years

84. Which of the following produces the greatest increase in bone mineral density (BMD) in patients with osteoporosis?

- A) Estrogen
- B) Calcitonin
- C) Alendronate
- D) Teriparatide
- E) Raloxifene

85. All of the following diseases are associated with massive splenomegaly (spleen extends 8 cm below the costal margin or weighs >1000 g) **EXCEPT:**

- A) Autoimmune hemolytic anemia
- B) Chronic lymphocytic leukemia
- C) Cirrhosis with portal hypertension
- D) Marginal zone lymphoma
- E) Myelofibrosis with myeloid metaplasia

86. A 48-year-old man is evaluated for hypoxia of unknown etiology. He recently has noticed shortness of breath that is worse with exertion and in the upright position. It is relieved with lying down. On physical examination, he is visibly dyspneic with minimal exertion. He is noted to have a resting oxygen saturation of 89% on room air. When lying down, his oxygen saturation increases to 93%. His pulmonary examination shows no wheezes or crackles. His cardiac examination findings are normal without murmur. His chest radiograph reports a possible 1-cm lung nodule in the right lower lobe. On 100% oxygen and in the upright position, the patient has an oxygen saturation of 90%. What is the most likely cause of the patient's hypoxia?

- A) Circulatory hypoxia
- B) Hypoventilation
- C) Intracardiac right-to-left shunting
- D) Intrapulmonary right-to-left shunting
- E) Ventilation-perfusion mismatch

87. A patient you treated for duodenal ulcer with *Helicobacter pylori* for 1 week with triple therapy. He is asymptomatic now. Which of the following is the best follow up?

- A) Urea breath test
- B) Endoscopy
- C) Serology
- D) Histological examination
- E) Culture

88. A 35-year-old woman who is generally healthy complains of fever and cough with sputum production. Vital signs: heart rate 115/min; respiratory rate 24/min; blood pressure 126/88 mm Hg; pulse oximetry, 97% on room air. You initially hear wheezing, but she improves with nebulized albuterol. Chest x-ray shows a right lower lobe infiltrate with effusion. **The most appropriate next step is to:**

- A) Obtain decubitus films and begin intravenous ceftriaxone for possible empyema.
- B) Obtain CBC and sputum and blood cultures and begin intravenous ceftriaxone and intravenous azithromycin.
- C) Obtain urgent echocardiography to determine ejection fraction and evidence of pericardial effusion.
- D) Begin oral azithromycin and discharge home.
- E) Begin oral penicillin V and discharge home.

89. The following investigations are important in the diagnosis of obstructive sleep apnea **EXCEPT:**

- A) Serum T4, TSH level
- B) Serum IGF-1
- C) Arterial PCo₂
- D) Polysomnography
- E) Bronchoscopy

90. A 65-year-old man presents to the emergency room with complaints of weakness, generalized swelling in his extremities, and right leg pain. At the time of presentation, he appears to be in moderate distress from the leg pain. The patient states that his symptoms started two days ago. The patient also has frequent urination and increased thirst. He states that he has felt weak for the past few months. Physical examination reveals a tender, erythematous, and swollen right calf. He also has 2+ pitting edema in all extremities. Blood pressure is 107/55 mm Hg, and temperature is 100.3 F. Venous ultrasound is positive for lower extremity deep vein thrombosis. Laboratory studies reveal: White cell count 11×10^9 /L; hematocrit 32.3%; platelets 105×10^9 /L; K^+ 4.0 mEq/L; BUN 24 mg/dL; creatinine 1.7 mg/dL. The PT and aPTT are normal. Total bilirubin 0.4 mg/dL, AST 28 U/L, albumin 1.9 g/dL, cholesterol 326 mg/dL, triglycerides 425 mg/dL. Urine dipstick shows protein 3+, hemoglobin 1+, white cells 1+; 24-hour urine shows 6.2 grams of protein. **What is the next step in the treatment of this patient?**

- A) Renal biopsy
- B) Plasmapheresis
- C) Anticoagulation
- D) Cyclophosphamide
- E) Prednisone

91. A 53-year-old woman is evaluated for a 3-month history of bilateral knee pain on ambulation. Her pain is more notable in her right knee. She has approximately 15 minutes of stiffness each morning. She has swelling of the proximal and distal interphalangeal joints. She does not have fever, rash, photosensitivity, or oral ulcers. Her sister has systemic lupus erythematosus. Musculoskeletal examination reveals no redness or palpable synovial swelling, but she has bilateral bony hypertrophy at the third and fourth distal and proximal interphalangeal joints. Range of motion elicits bilateral knee crepitus. There is evidence of a small right knee effusion. **Which of the following studies will be most useful in establishing this patient's diagnosis?**

- A) Erythrocyte sedimentation rate
- B) Antinuclear antibody assay
- C) Rheumatoid factor assay
- D) Anti-cyclic citrullinated peptide antibody assay
- E) No additional studies

92. Out of 42 patients with CHF given experimental anti-failure drug, 13 (31%) reported improvement in their symptoms and 29(69%) reported no changes. Bases on the results which one of the following statements is correct:

- A) Since no patient deteriorated and some patients improved, the drug should give.
- B) Data must be analyzed by chi-square method to permit conclusions.
- C) data must be analyzed by student- test method to permit conclusion
- D) The data doesn't permit any conclusion to be drawn because of lack of control group.
- E) The data don't permit any conclusion to be drawn because the sample is too small

93. Regarding sitagliptin, which of the following is **FALSE**?

- A) Is a DPP-4 inhibitor
- B) Neutral effect on weight
- C) May improve chronic beta-cell function
- D) Only indicated for use in conjunction with insulin
- E) All of the above are TRUE

94. What is an alternate bedside test, with the most number of clinical studies to support its use in the diagnosis of acute pancreatitis in emergency department?

- A) Urinary trypsinogen activation peptide (TAP)
- B) Urinary trypsinogen-1
- C) Urinary trypsinogen-2
- D) Urinary elastase.
- E) Urinary lipase

95. Which of the following concerning the pH of urine is correct?

- A) Is a useful indicator of the acid/base balance of the blood
- B) Is elevated by a vegetarian diet
- C) Is determined by the concentration of ammonium
- D) Is lower than 5.5 in renal tubular acidosis (RTA)
- E) Would be above 7.0 after prolonged and severe vomiting

96. A 16-year-old female presents with a three year history of recurrent colicky loin pain. One year ago she passed a renal calculus. 24-hour urine collection showed normal levels of calcium, phosphate and urate, but elevated levels of arginine, cystine, lysine and ornithine. Which one of the following features is characteristic of this condition?

- A) Accumulation of cystine in collecting system
- B) Autosomal dominant inheritance
- C) Cystine deposits within the cornea
- D) Functional defects within the glomeruli
- E) Radiolucent renal stone formation

97. A 53-year-old man with NYHA class III, stage C heart failure presents to your clinic for further management of his symptomatic cardiomyopathy. His current medications include aspirin, carvedilol, furosemide and enalapril, which are all titrated to goal dose.

In addition to his current regimen, what medication or medications can be added that will improve this patient's outcome?

- A) Digoxin
- B) Warfarin
- C) Hydralazine and Isosorbide dinitrate
- D) Add filodipine
- E) Clopedogril

98. A 45 year old woman with a history of arthritis has had severe heartburn and indigestion for 6 months that has been refractory to antacid use. Her history is remarkable for arthritic pain in her hands and Raynaud's phenomenon. Her physical examination shows multiple telangiectasias on her face and arms. You obtain an esophageal manometry study:

What finding a consistent with this diagnosis

- A) Vigorous peristalsis and elevated lower esophageal sphincter (LES) pressure
- B) Absent peristalsis and elevated LES pressure
- C) Absent peristalsis and decreased LES pressure.
- D) Vigorous peristalsis and decreased LES pressure
- E) Normal manometric reading

99. A 46-year-old woman is referred for preoperative evaluation before undergoing resection of newly diagnosed glioblastoma. Her HB is 12 gm/dl, leukocyte count $6.7 \times 10^9/L$, and PLT $198 \times 10^9/L$, the surgeon is particularly interested in an opinion concerning her risk of bleeding.

Which of the following will provide the best estimate of her surgical risk of bleeding?

- A) Bleeding time
- B) PLT function analyzer-100 analysis
- C) PLT aggregation studies
- D) Medical history, including outcomes of previous surgical procedures
- E) PT and partial thromboplastin time

100. Which one of the following individuals should be treated with preventive therapy for tuberculosis?

- A) 48-year-old asymptomatic rural school teacher who has never had a purified protein derivative (PPD) test but presents with 10 mm of induration on a routine pre-employment screen. Her chest radiograph shows a calcified granuloma.
- B) A 22-year-old asymptomatic medical student whose prematriculation PPD measures 12 mm of induration at 48 hours. His chest radiograph is normal.
- C) A 46-year-old chronic renal failure patient whose annual PPD test measures 6 mm of induration and was negative last year. His chest radiograph shows osteopenia.
- D) A 30-year-old African whose PPD measures 8 mm of induration. Her chest radiograph shows bilateral apical fibrotic lesions.
- E) A 55-year-old diet-controlled diabetic whose PPD measures 8 mm. His chest radiograph shows questionable cardiomegaly.

101. All of the following are associated with pleural fluid acidosis (pH <7.30) **EXCEPT:**

- A) Esophageal rupture
- B) Malignancy
- C) Complicated parapneumonic effusion
- D) Chylothorax
- E) Rheumatoid pleurisy

102. A nursing student has just completed her hepatitis B vaccine series. On reviewing her laboratory studies (assuming she has no prior exposure to hepatitis B), **you should expect which of the following?**

- A) Positive test for hepatitis B surface antigen
- B) Antibody against hepatitis B surface antigen (anti-HBs) alone
- C) Antibody against hepatitis core antigen (anti-HBc)
- D) Antibody against both surface and core antigen
- E) Antibody against hepatitis E antigen

103. A 50 year old woman presents with dry eyes, a dry mouth, an erythematous rash and polyarthralgia. Investigations: ANA strongly positive (1:1600), anti-Ro/SSA antibodies strongly positive, rheumatoid factor positive, IgG markedly elevated at 45 g/l (normal - <15 g/l), IgM and IgA levels are normal and the kappa/lambda ratio is normal. What is the most likely diagnosis?

- A) Hyperviscosity syndrome
- B) Myeloma associated vasculitis
- C) Primary Sjogren's Syndrome
- D) Rheumatoid arthritis with secondary Sjogren's Syndrome
- E) Systemic Lupus Erythematosus

104. The type of diabetic neuropathy that is associated with increased mortality is:

- A) Distal symmetrical sensory polyneuropathy
- B) Autonomic neuropathy
- C) Proximal symmetrical motor neuropathy
- D) Cranial neuropathy
- E) Mono-neuritis multiplex

105. A 21-year-old woman comes to the university health clinic complaining of a 2-week history of fatigue, lethargy, and fever. She has also noticed a mild sore throat. Her past medical history is otherwise unremarkable and she takes only oral contraceptive pills for birth control and acne. Her temperature is 39.0 C (100.4 F), blood pressure is 120/75 mm Hg, pulse is 82/min, and respirations are 18/min. She appears somewhat ill, but in no clear distress. Her pharynx appears erythematous and she has mild splenomegaly. **Supportive therapy and avoidance of contact sports is the appropriate treatment if laboratory studies show:**

- A) Leukopenia with atypical leukocytosis
- B) Positive culture for group A beta-hemolytic *Streptococcus*
- C) Positive *Mycoplasma* PCR
- D) Positive RNA p24 antigen PCR
- E) Positive serum HSV PCR

106. You see a 70-year-old man diagnosed with hypersensitivity pneumonitis following a four-month history of shortness of breath at rest and cyanosis. Which of the following does not fall under the category of hypersensitivity pneumonitis?

- A) Coal worker's lung
- B) Pigeon fancier's lung
- C) Mushroom picker's lung
- D) Farmer's lung
- E) Malt worker's lung

107. Which of the following statements is NOT true of primary pulmonary tuberculosis?

- A) It is characteristically asymptomatic
- B) Miliary spread is commoner in a younger age group
- C) The initial immunological response causes hilar lymphadenopathy
- D) pleural effusion occurs before tuberculin skin testing is positive
- E) A positive tuberculin skin test develops within two weeks of infection

108. A 47-year-old man is evaluated in the emergency department for chest pain that developed at a restaurant after swallowing a piece of steak. He reports intermittent episodes of meat getting stuck in his lower chest over the past 3 years, but none as severe as this event. He denies food regurgitation outside of these episodes or heartburn symptoms. He is able to swallow liquids without difficulty and has not had any weight loss. **Which of the following is the most likely diagnosis?**

- A) Achalasia
- B) Adenocarcinoma of the esophagus
- C) Esophageal diverticula
- D) Plummer-Vinson syndrome
- E) Schatzki's ring

109. A previously fit 47 year old male presents with lower back pain from a vertebral collapse due to osteoporosis. **Which of the following investigations would be the most appropriate for this man?**

- A) 1, 25-dihydroxyvitamin D
- B) Prostate-specific antigen concentration
- C) Prolactin concentration
- D) Testosterone concentration
- E) Thyroid function tests

110. A 21 year old woman is known to suffer from anorexia nervosa.

Which of the following metabolic disturbances would be a characteristic finding?

- A) A decrease in cortisol levels
- B) An increase in LH levels
- C) Hyperkalemia
- D) Impaired glucose tolerance
- E) Raised androgen levels

111. A 25 year-old male presents with an eight week history of difficulty walking. On examination he had increased tone and pyramidal weakness of the right leg. There was impairment of pinprick sensation in the left leg up to the groin. **Which one of the following is the cause of these signs?**

- A) A central cauda equina lesion.
- B) A cervical spinal cord lesion.
- C) A lesion at the foramen magnum.
- D) A right-sided thoracic spinal cord lesion.
- E) Bilateral cerebral hemisphere lesions.

112. A female patient aged 30 has a 5 years history of difficulty getting upstairs and out of a low chair and mild upper limb weakness but no pain. There is no family history. She presented with severe type 2 respiratory failure. EMG showed evidence of myopathy.

The most likely diagnosis is:

- A) Polymyositis
- B) Inclusion body myositis
- C) Acid maltase deficiency
- D) Miller-Fisher Syndrome
- E) Lambert-Eaton Myasthenic syndrome

113. A 53-year-old man presented with hypertension of 150/110 mmHg. He is generally asymptomatic and has no previous medical history of note. He is a smoker of 5 cigarettes daily and drinks modest quantities of alcohol. He takes no prescribed medications. Examination reveals a BMI of 33.5 kg/cm² but nil else. Investigations: Serum sodium 146 mmol/l (NR 133-145); Serum potassium 3.2 mmol/l (NR 3.5 - 5); Urinary potassium excretion 42 mmol/l (NR less than 30). **What is the likely diagnosis?**

- A) adrenocortical adenoma
- B) Bartter's syndrome
- C) Liddle's syndrome
- D) liquorice ingestion
- E) pheochromocytoma

114. A 43-year-old man has had vague malaise for three weeks. Physical examination is normal, except for a blood pressure of 150/95 mmHg and pitting oedema of the legs to the knees. Dipstick urinalysis shows no glucose, blood, ketones, nitrite, or urobilinogen, and the microscopic urinalysis reveals no RBC/hpf and only 1 WBC/hpf. Additional laboratory testing reveals a 24 hour urine protein of 4.1 gm. His serum creatinine is 350 $\mu\text{mol/L}$ with urea of 30 mmol/L. His hepatitis B surface antigen is positive. What is the most likely diagnosis?

- A) Membranous GN
- B) SLE
- C) Acute tubular necrosis
- D) diabetic nephropathy
- E) post streptococcal GN

115. A 30-year-old intravenous drug abuser develops acute aortic regurgitation due to infective endocarditis. Which of the following is not typical of acute aortic regurgitation?

- A) Increased cardiac output.
- B) Decrescendo diastolic murmur.
- C) Hypotension.
- D) Mitral valve pre-closure.
- E) Peripheral vasodilatation.

116. Organisms commonly found in brain abscess associated with sinusitis include all of following **Except:**

- A) Streptococcus milleri group.
- B) Bacteroides species.
- C) *Pseudomonas aeruginosa*.
- D) Anaerobic streptococci
- E) Hemophilus species.

117. An 88-year-old male has been hospitalized for the past 3 days after being found on the floor of his home by a neighbor and transported to the hospital by ambulance. He was cachectic and dehydrated at the time of admission, with a serum albumin level of 1.9 g/dL (N 3.5-4.7). He has received intravenous fluids and is now euvolemic. He began nasogastric tube feeding 2 days ago and has now developed nausea, vomiting, hypotension and delirium. Which one of the following is the most classic electrolyte abnormality with this condition?

- A) Hypocalcemia
- B) Hypercalcemia
- C) Hyperkalemia
- D) Hypophosphatemia
- E) Hyperphosphatemia

118. When prescribing an inhaled corticosteroid for control of asthma, the risk of oral candidiasis can be decreased by:

- A) using a valved holding chamber
- B) limiting use of the inhaled corticosteroid to once daily
- C) adding nasal fluticasone propionate
- D) adding montelukast
- E) adding salmeterol

119. A 30-year old woman comes to your office for evaluation of deep venous thrombi. Last year she developed a lower extremity venous clot. She was on oral contraceptives but has subsequently stopped. She was successfully treated with coumadin for six months. Three weeks ago she developed a femoral venous thrombosis, and now she is again treated with coumadin. Her mother died of a pulmonary embolus, and her aunt on her mother's side had a history of venous thrombosis. All routine laboratory studies are normal, including the complete blood count, prothrombin time, activated thromboplastin time, and liver function tests. She has a test that is positive for the factor V Leiden mutation by polymerase chain reaction (PCR).

What will you recommend to the patient?

- A) Coumadin for another three months
- B) Low-molecular-weight heparin for six months
- C) Intravenous heparin, then coumadin for six months
- D) Lifelong coumadin
- E) Inferior vena cava filter placement

120. Which of the following liver function test is used to differentiate between alcohol and virus induced in hepatitis?

- A) Alkaline phosphatase
- B) Gamma Glutamyl transferase
- C) Aspartate to alanine transferase ratio
- D) Prothrombin time
- E) Albumin to globulin ratio

B: For each question below determine which answer is true or false

121. In diabetic ketoacidosis,

- A) Only short-acting insulin is used for correction of hyperglycemia.
- B) Subcutaneous absorption of insulin is reduced in DKA because of dehydration.
- C) Allowing blood glucose to drop to hypoglycemic levels is harmful and may result in a rebound ketosis derived by counter-regulatory hormones.
- D) In severe hypokalemia, starting IV insulin therapy before potassium replacement is safe.
- E) IV insulin infusion need not be discontinued until subcutaneous insulin is given.

122. Normally the uptake of oxygen by haemoglobin:

- A) Increases its buffering capacity.
- B) Changes its iron from the ferrous to the ferric form.
- C) Decreases the ease with which carbamino haemoglobin is formed.
- D) is higher for haemoglobin F than for haemoglobin A.
- E) At P50 is increased by 2,3 diphosphoglycerate (DPG).

123. In congenital adrenal hyperplasia due to 21-hydroxylase deficiency, the circulating concentrations of the following are elevated:

- A) 17-alpha-hydroxyprogesterone.
- B) Cortisol.
- C) ACTH.
- D) Aldosterone.
- E) 11-deoxycortisol.

124. Concerning Fibromyalgia:

- A) Most frequent in women ages 20–50.
- B) Symptoms include chronic aching pain and stiffness of trunk and extremities, especially around the neck, shoulder, low back, and hips.
- C) Must have 11 of 18 bilateral tender points: occiput, low cervical, trapezius, supraspinatus, second rib at costochondral junction, lateral epicondyle, gluteal region, greater trochanter, and medial fat pad of the knee.
- D) Associated with fatigue, headaches, subjective numbness, sleep disorders, irritable bowel symptoms, and history of sexual or domestic abuse.
- E) Characterized by absence of objective signs of inflammation; normal laboratory studies, including erythrocyte sedimentation rate.

125. Concerning Hemolytic-Uremic Syndrome:

- A) Often is preceded by gastroenteritis or exposure to offending medication.
- B) Frequently associated with antecedent campylobacter infection (may be very mild to occult).
- C) Characterized by thrombocytopenia, anemia, and renal failure.
- D) Prothrombin time and partial thromboplastin time as well as fibrin and fibrinogen degeneration products are usually normal.
- E) Neurologic symptoms are very common.

126. Anemia of chronic disease characterized by:

- A) Anemia is usually moderate (Hct \geq 25%).
- B) Transferrin saturation value is low to low-normal.
- C) Low serum iron with low to low-normal total iron-binding capacity.
- D) The serum transferrin is usually low to low-normal.
- E) Normal or increased bone marrow iron stores.

127. Hepatocellular carcinoma (HCC):

- A) Hepatitis B, hepatitis C, alcoholic cirrhosis and Hemochromatosis, are among the important risk factors.
- B) It is now the third leading cause of cancer deaths worldwide.
- C) Tumors progress with local expansion, intrahepatic spread, and distant metastases.
True
- D) Alpha-fetoprotein level is almost always markedly increased.
- E) Patients are discovered either during routine screening or when symptomatic because of tumor size or location.

128. Which of the following are recognized causes of central cyanosis?

- A) Methemoglobinemia.
- B) Ventilation-perfusion mismatch.
- C) Pulmonary arteriovenous fistula.
- D) Heatstroke.
- E) Heavy physical exercise.

129. Which of the following conditions show an X-linked inheritance pattern?

- A) Glucose-6-phosphate dehydrogenase deficiency.
- B) Hurler's syndrome.
- C) Duchenne's muscular dystrophy.
- D) Lesch-Nyhan syndrome.
- E) Vitamin D resistant rickets.

130. Which of the following *Plasmodium* species have a chronic intra-hepatic phase?

- A) *P. malariae*.
- B) *P. ovale*.
- C) *P. vivax*.
- D) *P. falciparum*.
- E) All of the above

131. In chronic idiopathic thrombocytopenic purpura the following(s) is/are TRUE:

- A) Bone marrow examination should be undertaken in all patients
- B) Detectable platelets associated IgG is specific for the disease
- C) Glucocorticoids therapy normalized platelet count is up to 50% of
- D) Danazole is highly effective in steroid resistant patient → false
- E) Response to splenectomy usually occur 4 weeks after the surgery

132. Hand signs:

- A) Clubbing may be caused by uncomplicated chronic bronchitis
- B) Koilonychia usually indicates liver disease
- C) Osler's nodes and Heberden's nodes both occur in osteoarthritis
- D) Splinter hemorrhages are due to embolic rather than immunological phenomena
- E) Psoriatic arthritis affects most joints in the hand but usually spares the distal interphalangeal (DIP) joints

133. Pyoderma gangrenosum may be associated with:

- A) Streptococcal throat infection
- B) Ulcerative colitis
- C) Gluten sensitive enteropathy
- D) Rheumatoid arthritis
- E) Hematologic malignancy

134. Leukemia:

- A) The common presenting triad is infection, bleeding, and fatigue
- B) Acute myeloid leukemia (AML) may result spontaneously or follow on from CML, polycythemia rubra vera or myelosclerosis
- C) The usual development of chronic lymphocytic leukemia is a transformation to acute lymphoblastic leukemia
- D) A platelet count of $40 \times 10^9/L$ would not normally give rise to spontaneous bleeding
- E) Bone marrow transplantation is a recognized treatment for AML

135. The following are possible causes of electromechanical dissociation:

- A) Pulmonary embolus
- B) Tension pneumothorax
- C) Hypertension.
- D) Dehydration
- E) Hypocalcaemia

136. Secondary hypertension may be due to the following:

- A) Renal artery stenosis
- B) Renal cell carcinoma
- C) Cushing's syndrome
- D) Pregnancy
- E) Oral contraceptive pill

137. The following are risk factors for the development of critical illness polyneuromyopathy:

- A) Sepsis
- B) Corticosteroids
- C) Neuromuscular blocking agents
- D) Poor glycemic control
- E) Multiple organ failure

138. A lesion of the medulla on one side may give rise to:

- A) An ipsilateral hemiparesis
- B) A contralateral hemiparesis
- C) Ipsilateral weakness of the palate
- D) Contralateral weakness of the tongue
- E) Contralateral third nerve palsy

139. The following statements regarding post-streptococcal glomerulonephritis are true:

- A) Both sexes are equally affected
- B) The elderly are more susceptible to this complication of streptococcal infection than the young
- C) Middle-aged men have the worst prognosis
- D) Nephrotic-range proteinuria is common
- E) Renal biopsy is essential to the management

140. The following peripheral smear findings are matched to correct clinical condition:

- A) Cabot rings: pernicious anemia
- B) Howell–Jolly bodies: sickle-cell disease
- C) Acanthocytes: chronic liver disease
- D) Basophilic RBC stippling: myelodysplasia
- E) Rouleaux formation: paraproteinaemia

141. The following statements concerning vasoactive factors are true:

- A) Endothelin-I is a potent vasoconstrictor with mitogenic properties
- B) Endothelin-I is broken down by endothelin-converting enzyme
- C) Nitric oxide is synthesized from L-arginine
- D) Infusion of nitric oxide antagonists causes vasoconstriction in normal humans
- E) Nitric oxide activity is enhanced by cyclic GMP phosphodiesterase inhibitors

142. The following are true concerning nephrotic syndrome:

- A) Plasma volume is increased
- B) It is usually associated with renal sodium wasting
- C) It occurs with diffuse or focal forms of glomerulonephritis
- D) Patients are susceptible to infections
- E) Albumin infusions are beneficial

143. Patchy hypopigmentation is a feature of:

- A) Lichen sclerosus et atrophicus
- B) Tuberous sclerosis
- C) Pityriasis rosea
- D) Morphea
- E) Facial eczema

144. Human immunodeficiency virus:

- A) Is a DNA virus
- B) Its genome encodes for reverse transcriptase
- C) Its primary target cell is the CD8+ T lymphocytes
- D) Anti-HIV antibody is detectable 6-12 weeks after exposure
- E) Can be cultured from the peripheral blood of infected individuals even before the antibody titer rises

145. The following are features of primary pulmonary hypertension:

- A) Finger clubbing
- B) Right axis deviation on the ECG
- C) Reduced right ventricular ejection fraction
- D) Austin Flint murmur
- E) Pulmonary plethora on the chest radiograph

146. The following is true of viral hepatitis:

- A) Hepatitis C commonly presents with jaundice
- B) Hepatitis E is fatal particularly in pregnant women
- C) Hepatitis Be Ag is a marker of viral replication
- D) Hepatitis A is a risk factor for hepatoma
- E) Hepatitis D occurs only in association with hepatitis C

147. The following is true of Crohn's disease:

- A) The rectum is always affected
- B) Commonly affects the terminal ileum
- C) More commonly occurs in smokers
- D) Can result in vitamin B12 deficiency with a negative Schilling test
- E) Commonly presents with bloody diarrhea

148. Helicobacter pylori:

- A) Causes ulceration in the duodenum
- B) Causes Barrett's metaplasia in the esophagus
- C) Is associated with hypergastrinaemia
- D) Is often resistant to certain antibiotics
- E) Can convert urea to ammonia and carbon dioxide

149. A dissociated sensory loss may be seen in:

- A) Syringomyelia
- B) Anterior spinal artery occlusion
- C) A radiculopathy
- D) Occlusion of a middle cerebral artery
- E) Compression of the spinal cord by a prolapsed intervertebral disc

150. The following are characteristic of pericarditis:

- A) The chest pain is dull in nature
- B) There may be an associated pericardial effusion
- C) The pericardial rub may come and go
- D) The ECG usually shows regional ST elevation
- E) The ST elevation is concave

151. Concerning renal tubular acidosis (RTA)

- A) Renal stone formation occurs in RTA-1.
- B) Hypokalemia occur in all types of RTA.
- C) Primary RTA-1 is an autosomal dominant disorder.
- D) RTA-2 associated with aminoaciduria.
- E) Oral bicarbonate requirement is greater in RTA-2 than RTA-1.

152. Clinical features consistent with diagnosis of Friedreich's ataxia include:

- A) A positive Romberg test
- B) Delayed latency on visual evoked potential testing
- C) Widespread T-wave inversion on ECG
- D) Extensor plantar reflex
- E) Axonal sensory neuropathy demonstrated on electrophysiology

153. The following are increased as an acute-phase response:

- A) Haptoglobin
- B) Ceruloplasmin
- C) Alpha-1 antitrypsin
- D) Albumen.
- E) Ferritin

154. The following should receive influenza vaccine routinely:

- A) Persons aged 65 years or older
- B) Diabetic patients regardless to age and duration of illness
- C) Nursing home residents
- D) Solid organ transplant recipients
- E) Anyone wishing to reduce the risk of influenza

155. After infection with *Salmonella typhi*:

- A) Children are especially likely to be carriers.
- B) Most of those becoming carriers are male.
- C) The duration of enteric fever is not reduced by ceftriaxone treatment.
- D) Relapse does not occur if appropriate antibiotics are taken for 2 weeks.
- E) Faecal culture is almost always positive during the first week of illness.

156. Plasma natriuretic peptides (i.e., BNP and NT-proBNP)

- A) Normal level means heart failure is unlikely and other causes for symptoms should be determined.
- B) Elevated natriuretic peptide levels may help confirm a suspected diagnosis of heart failure.
- C) Elevated levels alone can be used to confirm a heart failure diagnosis.
- D) Elevated levels can be found in atrial fibrillation, ischaemic heart disease and renal dysfunction.
- E) Measurement of BNP or NT-proBNP is useful for establishing prognosis or disease severity in chronic heart failure.

157. Recognized clinical findings in classical mitral stenosis:

- A) Reduced lung bases perfusion in the upright position
- B) A long diastolic murmur in severe stenosis
- C) A left ventricular third heart sound
- D) A loud first heart sound
- E) Increased dynamic lung compliance

158. Features consistent with *Plasmodium malariae* infection include:

- A) Seizures.
- B) Marked splenomegaly.
- C) Primaquine is required to eradicate the extraerythrocytic phase.
- D) Low-grade parasitemia.
- E) Nephritic syndrome.

159. Concerning SLE

- A) Although renal glomerular disease is common, renal tubular and interstitial inflammation is rare.
- B) Anti-SS-A antibodies (Anti-Ro) have been associated with the development of congenital heart disease in infants of mothers with SLE.
- C) Vasculitic lesions of the skin usually portend CNS vasculitis.
- D) Pleural fluid from patients with active SLE is usually exudative, with a mildly low glucose level.
- E) Pericarditis is the most common cardiac feature of SLE.

160. Prognosis in Hodgkin's disease

- A) Is adversely affected by a low lymphocyte count at presentation
- B) Is favorably affected by eosinophilia.
- C) Is better in those patients who have been fully histologically staged by laparotomy and splenectomy.
- D) Is poorer in those with bulky mediastinal disease of nodular sclerosing histology than other presentations with the same histology.
- E) Currently the overall 5-year survival rate is 70-80%.

161. Cushing's syndrome:

- A) May give rise to hypertension, diabetes, and truncal obesity. (True)
- B) Is usually diagnosed by estimation of the urinary free cortisol followed by an overnight dexamethasone suppression test. (True)
- C) Could be associated with pigmentation. (True)
- D) The most common cause is probably iatrogenic. (True)
- E) Nelson's syndrome is a complication of bilateral adrenalectomy for pituitary-dependent Cushing's disease. (True)

162. The following are causes of acute life-threatening dyspnea:

- A) Myocardial infarction. (True)
- B) Pulmonary embolus. (True)
- C) Pneumothorax. (True)
- D) Ventricular or supraventricular tachyarrhythmia. (True)
- E) Bacterial endocarditis. (True)

163. Subdural hematomas can cause:

- A) Dementia. (True)
- B) Pupillary change. (True)
- C) Bradycardia. (True)
- D) Changing level of consciousness. (True)
- E) Blood-stained cerebrospinal fluid (CSF). (False)

164. The following is /are common features of medullary sponge kidney

- A) Nephrocalcinosis—true
- B) Renal colic—true
- C) Hematuria—true.
- D) Chronic renal failure--false.
- E) Dysuria is extremely rare--false.

165. In Amyloidosis the following(s) is/are:

- A) Is common after chronic viral illnesses False
- B) Rarely seen in patients with familial Mediterranean fever False
- C) Usually presents with nephritic renal failure False
- D) Usually occurs in people with plasma cell dyscrasias True
- E) It is a common cause of renal failure in paraplegic who has chronic decubitus ulcers or osteomyelitis True

- 166.** The following features favor the diagnosis of Crohn's disease rather than Ulcerative colitis:
- A) Transmural inflammation of the bowel wall True
 - B) Passage of blood on mucus per rectum False
 - C) Pyoderma gangrenosum False
 - D) Response to treatment with sulfasalazine False
 - E) Oxalate renal stones True
- 167.** In Carpal Tunnel syndrome the following(s) is /are correct:
- A) Often bilateral in Amyloidosis
 - B) A recognized cause of wasting of abductor pollicis brevis
 - C) Phalen's sign is pathognomonic
 - D) A possible cause of pain in the forearm
 - E) Associated directly with diabetes
- 168.** The following actions have been shown to reduce mortality in patients with septic shock
- A) Antithrombin III
 - B) Activated protein C
 - C) Anti-TNF- α antibody
 - D) High dose methylprednisolone
 - E) Heparin
- 169.** In syndrome of hemolysis, elevated liver enzymes, and low platelets (HELLP):
- A) Schistocytes are seen on blood film
 - B) Lactate dehydrogenase is elevated
 - C) This syndrome occurs only in association with pre-eclampsia
 - D) Delivery is the mainstay of treatment
 - E) Hypoglycemia and acute liver failure are uncommon
- 170.** In pyogenic hepatic abscess; surgical drainage is usually preferred in the following circumstances:
- A) Multiple abscesses
 - B) Loculated abscesses
 - C) Abscesses with viscous contents obstructing the drainage catheter
 - D) Underlying disease requiring primary surgical management
 - E) Inadequate response to percutaneous drainage within seven days
- 171.** Treatment of severe malaria:
- A) Parenteral antimalarial agents should be started for a minimum of 24 hours, even if the patient is able to tolerate oral medication earlier.
 - B) Artemisinin derivatives clear parasitemia faster than quinine and are associated with lower mortality rates in both adults and children
 - C) Artemisinins are active against a broader life cycle range of blood stage parasites than quinine and they are active against gametocytes
 - D) Suppository formulations of artemisinin and its derivatives should be given as pre-referral treatment where parenteral therapy with artesunate or quinine is not possible or feasible.
 - E) A full course of oral artemisinin-based combination therapy is as effective as parenteral artemisinin in treating this condition

172. Serotonin syndrome

- A) May be precipitated by monoamine oxidase inhibitors
- B) Cyproheptadine is part of treatment of this syndrome
- C) Extrapyramidal signs are not present
- D) Onset is rapid over a period of hours
- E) It is an idiosyncratic drug reaction

173. A head CT should be performed **before lumbar puncture in adults with suspected bacterial meningitis who have one or more of the following risk factors:**

- A) Immunocompromised state (e.g., HIV infection, immunosuppressive therapy, solid organ or hematopoietic cell transplantation)
- B) History of central nervous system (CNS) disease (mass lesion, stroke, or focal infection)
- C) New-onset seizure (within one week of presentation)
- D) Papilledema
- E) Abnormal level of consciousness

174. Nystagmus may be seen in:

- A) A patient with an internuclear ophthalmoplegia. (True)
- B) A lesion of the pons. (True)
- C) A patient who is blind. (True)
- D) A patient with cerebellar dysfunction. (True)
- E) A lesion of the foramen magnum. (True)

175. Choreic movements are:

- A) Slow and writhing. (False)
- B) Shock-like asymmetrical and irregular. (False)
- C) Brief, jerky and irregular. (True)
- D) A sign of restlessness. (False)
- E) Rhythmical and oscillatory. (False)

176. Cardiac causes of clubbing are as follows:

- A) Uncomplicated atrial septal defect. (False)
- B) Chronic infective endocarditis. (True)
- C) Atrial fibrillation. (False)
- D) Acute endocarditis. (False)
- E) Empyema. (False)

177. The following statements are true of thiazide diuretics:

- A) They act at the level of the distal convoluted tubule. (True)
- B) They may cause gout. (True)
- C) Diabetic control may deteriorate. (True)
- D) Hypokalemia may occur. (True)
- E) They cause ototoxicity. (False)

178. Hypernatremia

- A) Hypernatremia should not be corrected at a rate greater than 1 mEq/L per hour
- B) Hypovolemic patients require stabilization isotonic sodium chloride solution before correcting free water deficits
- C) Euvolemic patients can be treated with hypotonic fluids, either orally or intravenously
- D) Hypervolemic patients require removal of excess sodium, which can be accomplished by a combination of diuretics and D5W infusion.
- E) Patients with acute renal failure may require dialysis.

179. Ebola Virus Infection

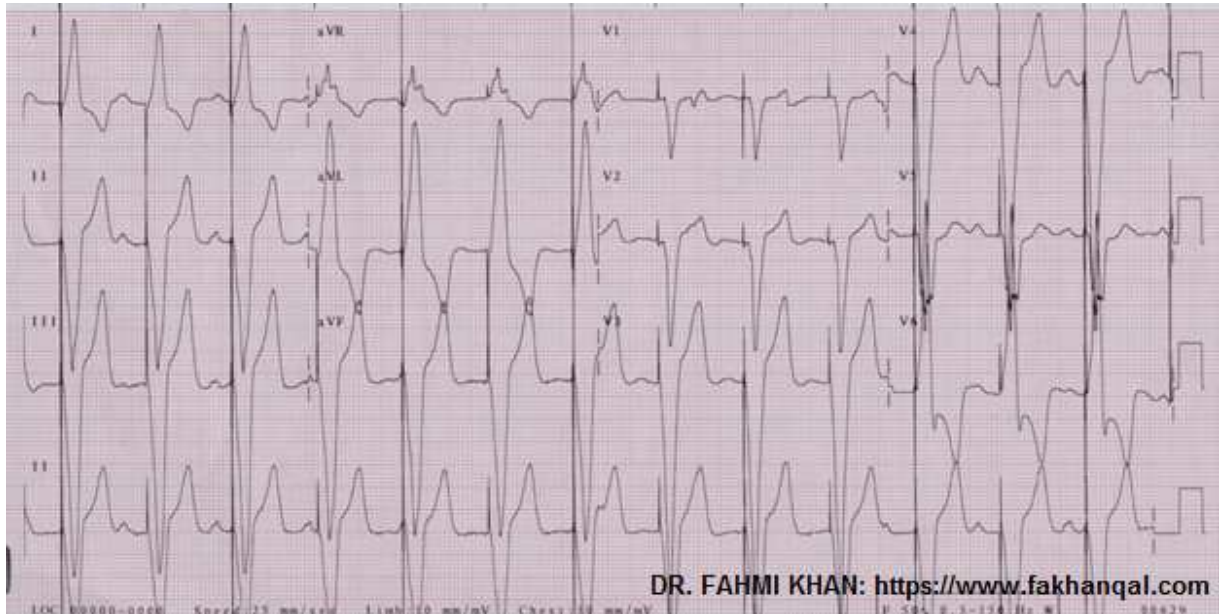
- A) The onset of clinical symptoms is sudden
- B) The disease can be transmitted through a semen of recovered man
- C) The disease is self-limited characterized by rapid recovery within one week
- D) There are commercially available Ebola vaccines.
- E) Treatment is supportive, no specific therapy is available that has demonstrated efficacy in the treatment of Ebola hemorrhagic fever.

180. Chronic lymphocytic leukemia (CLL):

- A) Trisomy 12 is observed in 15% of CLL patients
- B) The cells of origin in most patients with CLL are clonal T cells
- C) An abnormal karyotype is observed in the majority of patients; the most common abnormality is deletion of 13q, which occurs in more than 50% of patients
- D) Richter syndrome is a recognized complication of CLL
- E) Peripheral blood flow cytometry is the most valuable test to confirm a diagnosis of CLL

C. Each slide followed by best of five question, choose the best answer

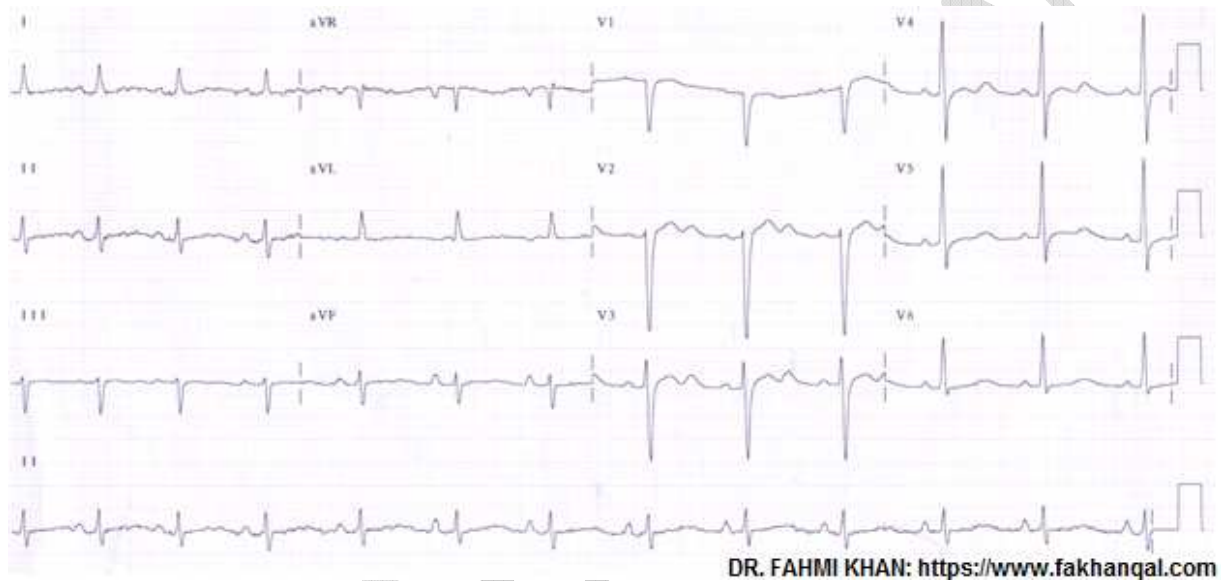
181. This patient presents to the emergency department with palpitations, dizziness and near syncope during the past two days.



Choose the best answer to interpret this ECG

- A) LBBB
- B) RBBB
- C) Inferior STEMI
- D) Pacemaker rhythm
- E) Ventricular tachycardia

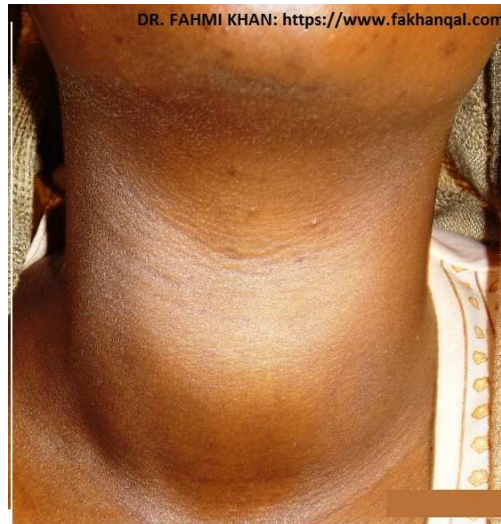
182. A 23-year-old Nepali man, who works as laborer, presents to the emergency department because of recurrent episodes over lower limbs weakness that last 24 hours. He has had worsening weakness after a working heavily during the last 3 months. He denies having fevers, chills, dyspnea, nausea, vomiting, abdominal pain, or urinary symptoms. He lost 7 Kg during the last 6 months. Otherwise he has no significant medical history. On physical examination, his blood pressure is 125/80 mm Hg, his temperature is 37.5°C, and his heart rate is about 120/min and regular, with no abnormal heart sounds. He has normal sensation over his body with diminished symmetric deep tendon reflexes and diffuse weakness in all major muscle groups. His mental status is normal. ECG is performed.



What endocrine abnormality can cause the findings on this ECG? Choose the best answer:

- A) Hyperthyroidism
- B) Cushing syndrome
- C) Con's syndrome
- D) All of the above
- E) None of the above

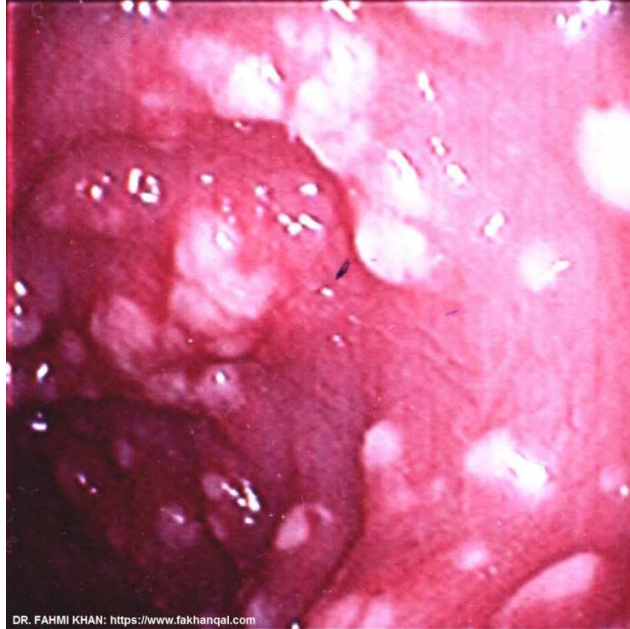
183. A 24-year-old female presents with a two-week history of puffy eyes, palpitations, heat intolerance, nervousness, loose stools, and fatigue. She denies experiencing weight loss or insomnia. On examination, the patient's heart rate is 120 beats per minute, her respiratory rate is 22 breaths per minute, and her blood pressure is 120/68 mm Hg. She has mild exophthalmos, lid lag, and a fine hand tremor. The thyroid gland is diffusely enlarged and non-tender (see image). Her skin is very warm and moist. Results of the rest of the examination are normal. Laboratory investigations show a thyroid-stimulating hormone (TSH) level of less than 0.01 mIU per L and a free thyroxin (T_4) level of 100 pmol/L.



Expected eye symptoms in this lady include all of the following except:

- A) Exophthalmia
- B) Dry, irritated eyes and puffy eyelids
- C) Cataracts
- D) Light sensitivity
- E) Ophthalmoplegia

184. A 67-year old male with ESRD on regular dialysis, presents with 2-day history of bloody diarrhea. On questioning the patient admits that he is taking ampicillin for sore throat since 6 days. Sigmoidoscopy is performed. (See image)



What is the probable diagnosis?

- A) Pseudomembranous Colitis
- B) Ischemic colitis
- C) Chemical colitis
- D) Fungal colitis
- E) Diverticulosis

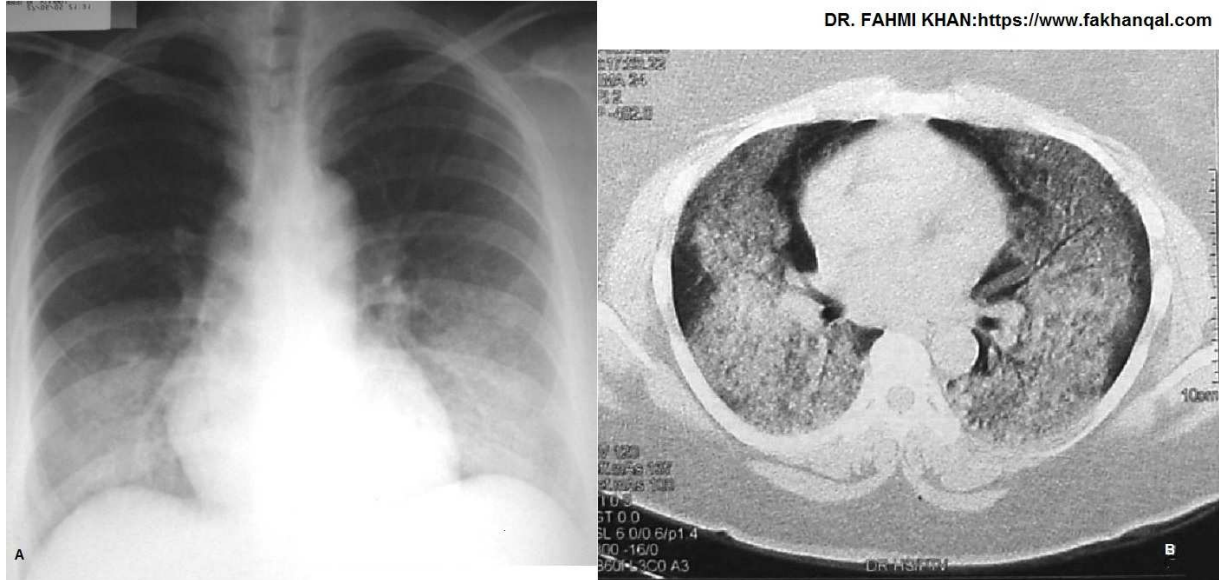
185. A 17- year old male patient presents to emergency department with 10-day fever, followed by diarrhea, abdomen pain, joints pain and skin rash, which began on his lower extremities and rapidly progressed over the previous 10 days to his upper extremities, chest, and back.



Which of the following is true about this condition?

- A) No form of therapy has been found to shorten the duration of this condition to any significant degree
- B) It is common in adults
- C) The underlying cause is usually well known
- D) It is an immune complex-mediated vasculitis associated with immunoglobulin G (IgG) deposition in small vessels
- E) Early and aggressive oral prednisone has been found to shorten the duration of this condition significantly

186. A 25-year-old male presents to the emergency department with shortness of breath and hematuria. Chest x-ray and chest CT are done. A high value for diffusing capacity is noted during pulmonary function testing.



These findings are consistent with which of the following disorders?

- A) Cystic fibrosis
- B) Emphysema
- C) Intrapulmonary hemorrhage
- D) Anemia
- E) Pulmonary edema

187. A 65-year old man has a history of colicky abdominal pain since two years.



The most likely cause of this finding include: choose the best answer,

- A) A biliary-enteric surgical anastomosis
- B) An incompetent sphincter of Oddi
- C) A spontaneous biliary-enteric fistula, secondary to gallstone erosion through the gallbladder wall to an adjacent viscus.
- D) All of the above
- E) None of the above

188. A 51-year-old woman is admitted to the hospital with 5-day fever, productive cough (minor greenish sputum) and right pleuritic chest pain. She is non-smoker and she has a history of type 2 diabetes mellitus and rheumatoid arthritis. Her temperature is 39°C and her blood pressure is 160/75 mmHg. Pulmonary auscultation reveals right rales. The physical examination was otherwise unremarkable. The white blood cell count is $12.9 \times 10^9/l$ (88% neutrophils, 10% bands and 2% lymphocytes). The hemoglobin level is 8.8 g/dl and the erythrocyte sedimentation rate is 118 mm. The PaO₂ when the patient is breathing ambient air is 55 mmHg. A Gram stain of the sputum reveals Gram-positive cocci. Two blood cultures that are obtained on admission yielded *Streptococcus pneumoniae*. A chest X-ray is done.(figure 1&2).



What is the most likely diagnosis?

- A) Necrotizing pneumonia
- B) Lung abscess
- C) Necrotizing pulmonary malignancy
- D) Pulmonary tuberculosis superimposed with bacterial infection
- E) Granulomatosis with polyangiitis

189. This 35-year-old man presents with a painful skin rash of two days duration (see image).



Recognized complications of this condition include all of the following EXCEPT:

- A) Guillain-Barré syndrome
- B) Bell's palsy
- C) Hepatitis
- D) Pneumonitis
- E) Stroke

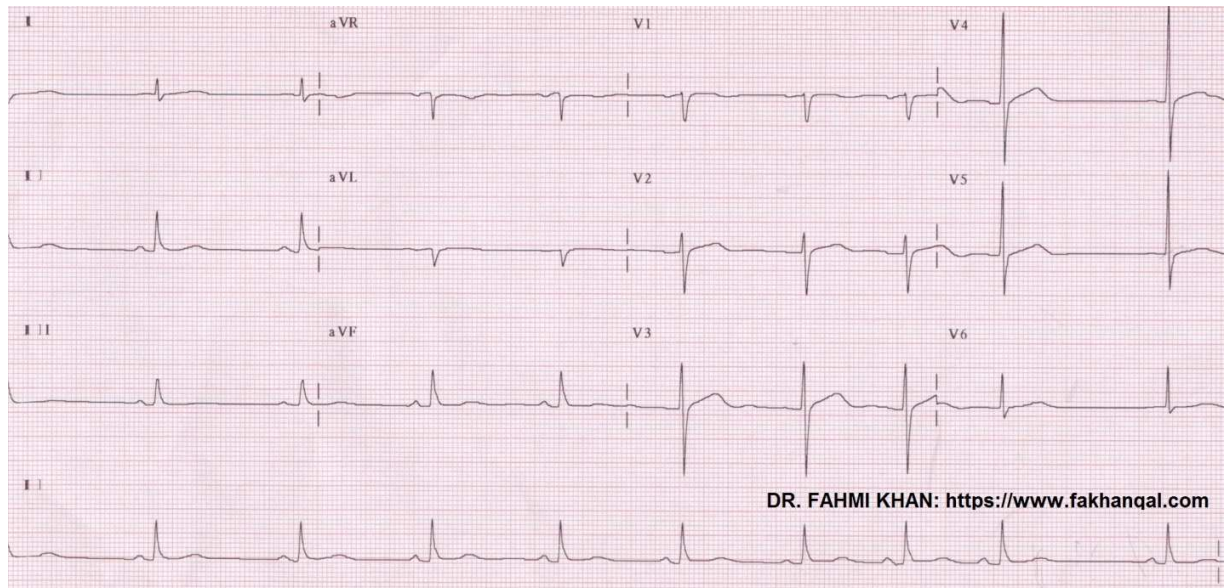
190. A 25-year-old Indian man, presents with neck swelling of one month duration. He denies fever, night sweat and anorexia.



Regarding this condition, all of the following statements are true EXCEPT

- A) Patients with HIV infection usually present with fever, night sweats, and weight loss
- B) Patients without HIV infection typically present with chronic, nontender lymphadenopathy
- C) A small number of patients have positive tuberculin skin test result and normal result on chest radiography
- D) Excisional biopsy of the lymph nodes with histology, AFB stain, and mycobacterial culture is the diagnostic procedure of choice.
- E) In patient with HIV infection, fine-needle aspiration is more reliable because of the higher mycobacterial burden, and should be the initial diagnostic procedure.

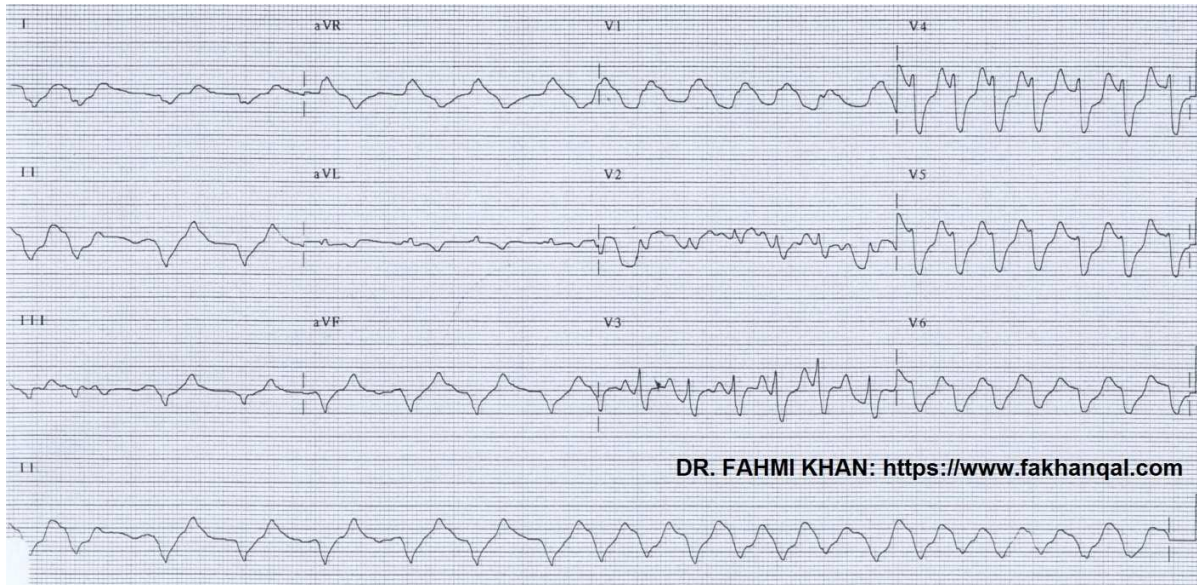
191. This young patient presents to the emergency complaining of palpitation.



Choose the best answer to interpret this ECG

- F) Sinus bradycardia
- G) Atrial fibrillation
- H) Sinus arrhythmia
- I) Premature atrial contraction
- J) A-V block

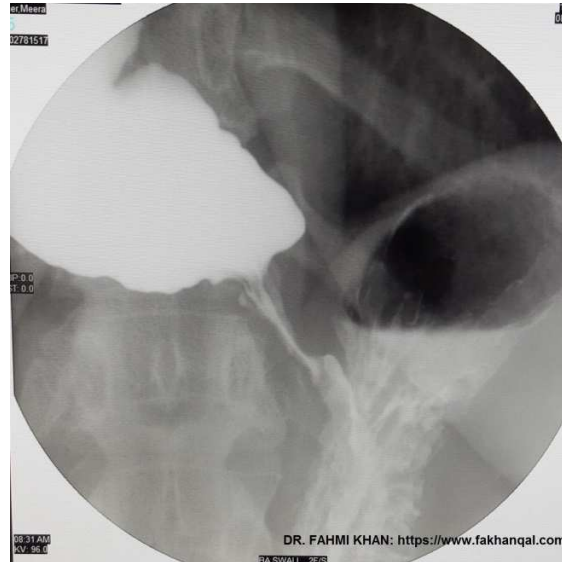
192. A 56-year-old man, known to have ESRD is brought to the emergency department with conscious disturbance. The patient had lost three sessions of hemodialysis. ECG is performed (see image).



What is the appropriate diagnostic test at this moment?

- A) Echocardiogram
- B) Holter monitoring
- C) Repeat ECG
- D) Chest x-ray
- E) Urea & electrolyte

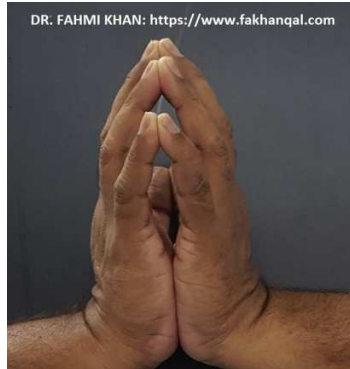
193. A 60-year-old woman presents with difficulty in swallowing both liquid and solid materials for more than one year. Barium swallow has been done. Her medical history was significant for chronic cough and gastroesophageal reflux disease.



Which of the following is the best step to take next in the evaluation of this patient?

- A) Start PPI
- B) Trial long acting nitrates
- C) Refer for surgical myomectomy
- D) CT scan of the neck
- E) Esophagogastroduodenoscopy (EGD)

194. A 23-year-old male with DMT1 of 8 years duration, presents with stiffness, weakness of grip, clumsiness, and decreased dexterity due to reduced ability to perform fine movements. This patient has been asked to put his hands together in a praying position with the fingers fanned and to press together the palmar surfaces of the interphalangeal joints and the palms.



What is the likely diagnosis?

- A) Palmar fasciitis/fibromatosis
- B) Diabetic cheiroarthropathy
- C) Tenosynovitis of the finger flexor tendons
- D) Scleroderma
- E) Paraneoplastic arthropathy

195. A 71- year-old male patient presents to emergency complaining he has been seeing double since yesterday afternoon. He denies head trauma. He had a history of type 2 diabetes mellitus on regular treatment. On exam, he has right-sided ptosis, and is unable to move his eye upward, downward, or inward. The pupils are equal and reactive to light. This photo is taken while patient is looking forward.



What is the probable diagnosis?

- A) Myasthenia gravis
- B) Internuclear ophthalmoplegia
- C) Aneurysm of the posterior communicating artery.
- D) Diabetic right oculomotor nerve palsy
- E) Vertebrobasilar occlusion

196. A 45-year-old male presents to the clinic complaining of spontaneous separation of the nail plate starting at the distal free margin and progressing proximally.



This nail disorder can be caused by all EXCEPT:

- A) Psoriasis
- B) Tinea unguium
- C) hyperthyroidism
- D) Tetracycline
- E) Hypoproteinemia

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197. A 45-year-old man, presents with severe bilateral hip joint pain that prevent him from walking. He has no chronic illness before. He denies any trauma. Pelvic X-ray is done.



What is the likely diagnosis?

- A) Hip osteoarthritis
- B) Sacroiliitis
- C) Hip fracture-osteoporosis
- D) Legg-Calve-Perthes Disease
- E) Hip avascular necrosis

198. A 35-year-old man presents with 2-day fever and skin rash of itchy blisters over the trunk and face.



Regarding this condition, all of the following are true EXCEPT:

- A) It is a very contagious illness
- B) The disease spreads through contact with an infected person's blisters or through the air by infected people when they sneeze or cough
- C) The patient is infectious from 2 days prior to developing the rash until all the vesicles are crusted.
- D) people who never had this disease or the vaccine can get it just by being in a room with someone who has it
- E) After recovery, this man will never get this disease again

199. A 51-year-old woman is admitted to the hospital with increased abdominal girth. She has chronic hepatitis C infection. Her temperature was 37°C and her blood pressure was 130/75 mmHg.



Which of the following is recommended by the American association for the study of liver disease (AASLD) as the preferred site for needle insertion when performing a diagnostic paracentesis? Choose the best answer.

- A) Midline 2 finger breadths above the umbilicus.
- B) Midline 2 finger breadths below the umbilicus.
- C) Left lower quadrant 2 finger breadths above and 2 finger breadths medial to the anterior superior iliac spine.
- D) Right lower quadrant 2 finger breadths above and 2 finger breadths medial to the anterior superior iliac spine.
- E) Midline 2 finger breadths right to the umbilicus.

200. A 32-year-old woman presents with persistent nipple discharge. She is unmarried and has no children.



Which of the following clinical characteristics is common in this woman?

- A) Menstrual irregularities
- B) Darkened skin
- C) Increased weight
- D) Increased blood glucose
- E) All of the above

Answer key in the next page. best luck

Paper 1: Answer key

I: Best answer				II: False or true			
1. D	31. A	61. D	91. E	121. TTTFT	148. TFTTT	175. FFTFF	
2. E	32. C	62. E	92. D	122. FFTTF	149. TFFFF	176. FTFFF	
3. A	33. B	63. A	93. D	123. TFTFF	150. FTTFT	177. TTTTF	
4. B	34. E	64. B	94. C	124. TTTTT	151. TFTTT	178. TTTTT	
5. A	35. B	65. B	95. B	125. TTTTF	152. TTTTT	179. TTFFT	
6. C	36. B	66. A	96. A	126. TTTTT	153. TTTFT	180. TFTTT	
7. A	37. D	67. E	97. C	127. TTTFT	154. TTTTT		
8. C	38. B	68. B	98. C	128. TTTFF	155. FFFFF		
9. B	39. B	69. D	99. D	129. TFTTT	156. FFTFF		
10. E	40. E	70. B	100. D	130. FTTFE	157. TTFTF		
11. E	41. B	71. C	101. D	131. TFTFF	158. FTFTT		
12. C	42. C	72. A	102. B	132. FFFFF	159. FTFTT		
13. C	43. A	73. E	103. C	133. FTFTT	160. TFFT		
14. C	44. E	74. B	104. B	134. TTFTT	161. TTTTT		
15. B	45. E	75. E	105. A	135. TTFTT	162. TTTTT		
16. B	46. C	76. A	106. A	136. TFTTT	163. TTTTF		
17. C	47. B	77. C	107. E	137. TTTTT	164. TTTFF		
18. E	48. A	78. E	108. E	138. FFFFF	165. FFFT		
19. C	49. C	79. A	109. D	139. FFFFF	166. TFFT		
20. D	50. D	80. C	110. D	140. TTTTT	167. TTTFT		
21. C	51. D	81. D	111. D	141. TFTTT	168. FTFFF		
22. C	52. D	82. A	112. C	142. FFTTF	169. TTFTT		
23. B	53. A	83. E	113. A	143. TTFTT	170. TTTTT		
24. E	54. C	84. D	114. A	144. FTFTT	171. TTTTF		
25. A	55. D	85. C	115. E	145. FTTFE	172. TTTTF		
26. D	56. E	86. D	116. C	146. FTTFE	173. TTTTT		
27. E	57. C	87. A	117. D	147. FTTFE	174. TTTTT		
28. C	58. B	88. D	118. A				
29. A	59. E	89. E	119. D				
30. B	60. B	90. C	120. C				
III. Slides							
181. D	186. C	191. C	196. E				
182. D	187. D	192. E	197. E				
183. C	188. A	193. E	198. E				
184. A	189. E	194. B	199. C				
185. A	190. C	195. D	200. A				