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Clinical Quiz series for medical students and board candidates

Paper 3: Contains 120 best of five questions; 60 MCQs (False & true); 20 slides and answer key

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I: For each question below choose the single best answer

1. A 30 year old woman presents with unprovoked left popliteal deep vein thrombosis. Her family history is negative for venous thromboembolism. She has a history of SLE and takes prednisone 10mg daily, hydroxychloroquine and supplements of calcium and vitamin D. She has one child but has had two miscarriages. An aPTT test performed before starting anticoagulation in this patient is prolonged, but her PT is normal.

Which statement is most likely to be correct?
A) Because her APTT is increased already, Heparin should be withheld and warfarin treatment initiated at INR 2.5 to 3.5, perhaps indefinitely
B) The patient should be encouraged to use oral contraceptive to prevent pregnancy during the time she is anticoagulated
C) She will need Heparin and then anticoagulation with Warfarin at INR 2 to 3, perhaps indefinitely
D) Start anti-coagulation with Heparin and then Warfarin at INR 2.5 to 3.5 for 3 to 6 months
E) She will need lifelong new oral anticoagulants

2. A 25 year old male who is known to have insulin dependent diabetes mellitus presents with nausea, vomiting and abdominal pain. He has a tachycardia, a postural drop in blood pressure. He is hyperglycemic and has ketonuria.

The clinical feature that will help differentiate abdominal pain due to diabetic ketoacidosis from a surgical emergency is:
A) Postural hypotension
B) The presence of diarrhea
C) Abdominal pain preceding the onset of vomiting
D) Vomiting preceding the onset of abdominal pain
E) Colicky pain in the right iliac fossa

3. The first four tests that should be ordered in the initial evaluation of patients with a suspected coagulopathy are all of the following EXCEPT
A) Platelets count
B) Bleeding time
C) Platelet aggregation studies
D) PT
E) aPTT

4. A 21-year-old man with no significant past medical history presents to office with complaints of blood in his urine and mucosal bleeding while brushing his teeth. The patient complains of intermittent "ringing in the ears." He denies any drug or alcohol use. He has no family history of bleeding disorders. Petechiae are noted in the oral cavity, as is dried blood in the nostrils. Laboratory studies show the following: Hematocrit 32%; white blood cells count $8 \times 10^9 /L$ with 60% neutrophils; platelet count $13 \times 10^9 /L$; PT 13 seconds; PTT 28 seconds; LDH 1,200 U/L; elevated indirect bilirubin. Coombs' test is positive; abdominal examination is normal; and the peripheral smear shows spherocytes. What is the most likely diagnosis?
A) Alport's syndrome
B) Bernard-Soulier syndrome
C) Idiopathic thrombocytopenic purpura (ITP)
D) Thrombotic thrombocytopenic purpura
E) Evans' syndrome
5. In which of the following patients is it appropriate to administer the vaccination against herpes zoster?
   A) A 35-year-old woman who has never had varicella-zoster infection who is 12 weeks pregnant with her first child
   B) A 54-year-old man who has never had varicella-zoster infection and is otherwise healthy
   C) A 62-year-old man with HIV on antiretroviral therapy with a CD4+ lymphocyte count of 450/µL
   D) A 64-year-old woman with dermatomyositis-associated interstitial lung disease treated with prednisone 20 mg daily and azathioprine 150 mg daily
   E) A 66-year-old woman who was recently diagnosed with non-Hodgkin lymphoma

6. Which of the following is not true about Vancomycin-induced red man syndrome?
   A) It is caused by rapid intravenous infusion of the drug.
   B) Patient experiences erythematous flushing, particularly of the face and neck.
   C) Tachycardia and hypotension are common.
   D) Slowing the intravenous infusion usually resolves the flushing.
   E) Diphenhydramine has been used for treatment.

7. 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

8. A 29-year-old male is admitted with a one hour history of severe central chest pain associated with vomiting. It transpires that he used cocaine three hours ago. His blood pressure is 142/74 mmHg and he has a pulse of 110 beats per minute regular. His ECG reveals 3 mm ST segment elevation in leads V2-5.
Which of the following is the most appropriate treatment for this patient?
   A) Abciximab
   B) Angiography +/- PTCA
   C) Isosorbide dinitrate infusion
   D) Low molecular weight heparin
   E) Tissue plasminogen activator (rtPA)

9. A 65-year-old male presents with a chronic cough. He is a heavy smoker of over 40 cigarettes a day. CXR shows a peripheral right-sided lesion, which on CT guided lung biopsy, is shown to be squamous carcinoma. No regional lymph nodes are involved. Lung function tests show a FEV1 of less than 1.5 liters.
The treatment most likely to benefit this patient would be:
   A) Surgery
   B) Chemotherapy
   C) High dose radiotherapy
   D) Combination chemotherapy and radiotherapy
   E) Combination chemotherapy and surgery
10. Which of the following is not true about rabies?
   A) Transmission via aerosolized virus has been documented in bat-infested caves and in laboratory workers.
   B) Patients have preceding paresthesias and pain at the exposure site, as well as a nonspecific prodromal phase lasting up to 1 week.
   C) 20% of the patients present with ascending paralysis similar to Guillain-Barré syndrome.
   D) Autonomic instability prior to death is rare.
   E) Management of clinical rabies is traditionally palliative as the outcome has been uniformly fatal.

11. A 57-year-old man is reviewed in a hypertension clinic, where it is found that his blood pressure is 165/105mmHg despite standard doses of amlodipine, perindopril, doxazosin and bendroflumethiazide. Electrolytes and physical examination have been, and remain, normal. Which of the following would be your next stage in his management?
   A) Arrange for his medication to be given under direct observation
   B) Add spironolactone to his medication
   C) Arrange urinary catecholamine assays
   D) Request an adrenal CT scan
   E) Add verapamil to his medication

12. A 55-year-old woman, who has never smoked, presents to you on the ward with a history of weight loss, decreased appetite and finger clubbing. You are told that her chest x-ray revealed opacity in the hilar region of the right lung suggesting a bronchogenic carcinoma. She is currently awaiting a CT-chest with bronchoscopy to follow. From the list below, select the most likely diagnosis:
   A) Squamous cell carcinoma of the lung
   B) Adenocarcinoma of the lung
   C) Small cell carcinoma of the lung
   D) Large cell carcinoma of lung
   E) Carcinoid tumour of the lung

13. A 69-year-old woman complains of intermittent palpitations, lasting several hours, which then stop spontaneously. She also suffers from asthma. Holter monitoring confirms paroxysmal atrial fibrillation. Which of the following statements is correct regarding the management of this patient?
   A) Digoxin effectively prevents recurrence of the arrhythmia
   B) Anticoagulation is not necessary
   C) Sotalol
   D) Amiodarone should be avoided
   E) Flecainide orally may be an effective as-needed treatment to abort an attack

14. A 58-year-old man’s ECG shows a combination of a prolonged QT interval with tall T waves. Which of the following may account for these findings?
   A) Uremia
   B) Hypocalcemia
   C) Hypokalemia
   D) Hypermagnesemia
   E) Metabolic alkalosis
15. 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

16. A paper describes a new diagnostic test for myocardial infarction. You want to know what proportion of patients who are classified as not having had a myocardial infarction by the test will actually not have had a myocardial infarction. Which one of the following measurements would indicate this?
   A) Accuracy.  
   B) Negative predictive value.  
   C) Positive predictive value.  
   D) Sensitivity.  
   E) Specificity.

17. A 32-year-old woman has inadequate control of her asthma utilizing low-dose inhaled corticosteroids (fluticasone 44 µg, 2 puffs bid) and rescue inhaled albuterol use. You add a long-acting inhaled beta-agonist (salmeterol 50 µg bid). Based on clinical studies, adding a long-acting inhaled beta-agonist compared to increasing the inhaled corticosteroid dose to a medium-dose (fluticasone 110 µg, 2 puffs bid) results in:
   A) A diminished response to inhaled albuterol.  
   B) An increased amount of eosinophils in induced sputum.  
   C) A greater improvement in FEV₁.  
   D) An increased number of asthma exacerbations.  
   E) Less improvement in morning peak expiratory flow rates (PEF).

18. A 22-year-old man is brought to the emergency department after being found in distress by the family swimming pool shed. Family members report recent depression. The patient is alert but unable to provide history due to obvious physical discomfort and a severely hoarse voice. Vital signs: temperature 99.1°F, heart rate 117/min, blood pressure 95/62 mm Hg, respiratory rate 22/min, oxygen saturation 96%. A brief physical examination shows liquefactive necrosis in his oropharynx, subcutaneous emphysema on his chest and neck, and a systolic crunch. His lungs are clear, and his abdomen is soft. After you insert an endotracheal tube and begin fluid resuscitation, you order:
   A) Emergent psychiatric consultation.  
   B) Ewald tube placement and charcoal lavage.  
   C) Methylprednisolone intravenous 125 mg.  
   D) Induced emesis with 30 mL syrup of ipecac.  
   E) Piperacillin-tazobactam intravenous 4.5 g every 8 hours.
19. A 65-year-old male patient is admitted with renal failure and is diagnosed with acute tubular necrosis. Which of the following is least likely to be the cause of acute tubular necrosis?
   A) Rhabdomyolysis
   B) Paracetamol poisoning
   C) Hypovolemia
   D) Hypertension
   E) Corticosteroid therapy

20. A 43-year-old man presents to the clinic with complaints of fever, night sweats, anorexia, cough, and chest pain. The chest x-ray reveals infiltrates in both the lower and upper lobes, with possible cavitations in the apices. A presumptive diagnosis of tuberculosis is made on the basis of finding acid-fast bacilli (AFB) on microscopic examination of sputum. The patient is started initially on isoniazid, rifampin, pyrazinamide, and ethambutol.

What is the best way to monitor this patient?
   A) Sputum acid-fast stains every month for 6 months
   B) Sputum cultures every month until cultures become negative
   C) Serial chest x-rays
   D) Blood testing for drug toxicity
   E) Observe for clinical deterioration

21. An anxious and agitated 18-year-old white male presents to your office with a 2-hour history of severe muscle spasms in the neck and back. He was seen 2 days ago in a local emergency department with symptoms of gastroenteritis, treated with intravenous fluids, and sent home with a prescription for prochlorperazine suppositories.

The best therapy for this problem is intravenous administration of
   A) Atropine
   B) Diphenhydramine
   C) Haloperidol
   D) Succinylcholine
   E) Carbamazepine

22. In a patient with hypercalciuric nephrolithiasis, which of the following is associated with increased risk for stone formation?
   A) Low-sodium diet
   B) Low-calcium diet
   C) Low-oxalate diet
   D) Low-protein diet
   E) Low-purine diet

23. A 59-year-old lady is admitted with a 30 minute history of heavy central chest pain associated with nausea and sweating. Her ECG shows ST elevation in leads V1, V2, V3 and V4.

Which of the following coronary arteries is most likely to be occluded?
   A) Circumflex artery
   B) Left anterior descending artery
   C) Obtuse marginal artery
   D) Posterior descending artery
   E) Right coronary artery
24. Delirium, an acute confusional state, is a common disorder that remains a major cause of morbidity and mortality in the United States.

Which of the following patients is at the highest risk for developing delirium?
A) A 36-year-old man admitted to the medical ward with a deep venous thrombosis
B) A 55-year-old man postoperative day 2 from a total colectomy
C) A 68-year-old woman admitted to the intensive care unit (ICU) with esophageal rupture
D) A 74-year-old woman in the preoperative clinic before hip surgery
E) An 84-year-old man living in an assisted living facility

25. A 34-year-old woman is being treated with carbamazepine for her partial seizure disorder. (She has simple partial and complex partial seizures due to a past head injury.) She is now considering becoming pregnant.

Which antiseizure medication would be an appropriate choice in order to maintain seizure control through her pregnancy?
A) Valproate.
B) Lamotrigine.
C) Phenytoin.
D) None of these—stop her medications.
E) Phenobarbital.

26. A 40-year-old woman that you have been treating for gluten-sensitive enteropathy over the past 2 years develops crops of itchy blisters on her elbows. A skin biopsy shows microabscesses of neutrophils in the tips of dermal papillae. You want to initiate dapsone treatment to control the gastrointestinal and skin lesions with 1 medication.

Before initiating treatment you should determine levels of
A) Alpha-galactosidase
B) Glucose-6-phosphate dehydrogenase
C) Lactate dehydrogenase
D) Steroid sulfatase
E) Thiomethyltransferase

27. A 25-year-old woman with Crohn's disease presents to your office with recurrent abdominal pain and diarrhea. She has been taking mesalamine 4 grams per day for the last year. Last fall, after developing diarrhea and pain, she was placed on prednisone 60 mg daily. She had a complete remission and, after a 3-month tapering of the prednisone, suffered a relapse. Prednisone was restarted 2 months ago at 60 mg daily, and now as the dose has decreased to 20 mg per day, the diarrhea has recurred. She is having 6 to 8 water stools per day, crampy pain, and some weight loss.

What would be the best next step?
A) Restart the prednisone and plan to maintain the dose at 40-60 mg indefinitely
B) Restart the prednisone with 6-mercaptopurine and plan on prednisone taper in 2 months
C) Stop the prednisone and add cyclosporine
D) Admit to the hospital and give high-dose intravenous steroids to induce remission
E) Stop the mesalamine and add methotrexate
28. A 26-year-old male has returned from a backpacking trip to India. It is a week since arriving back in Britain. He has had fever for two weeks and has been treated with an antibiotic for a few days whilst in India. He does not know the name of the drug used. On examination he is febrile, has a few rose spots on his abdomen and splenomegaly. **What source is the most likely to provide a positive culture in view of the fact that he has been exposed to antibiotics?**
   A) Blood  
   B) Rose spots  
   C) Bile  
   D) Urine  
   E) Bone marrow

29. A person with liver disease caused by *Schistosoma mansoni* would be most likely to have what condition?
   A) Ascites  
   B) Esophageal varices  
   C) Gynecomastia  
   D) Jaundice  
   E) Spider nevi

30. Regarding grave’s disease the following are true EXCEPT:
   A) Ophthalmopathy may precede the onset of the hyperthyroidism.  
   B) Spontaneous hypothyroidism occurs in 50% of patient.  
   C) Thyrotropin receptor antibodies are found in the majority of patient  
   D) Pronylation and methimazole are equally effective in induction of remission of hyperthyroidism.  
   E) Spontaneous remission of hyperthyroidism often occur in the trimester of pregnancy

31. Management of schistosomiasis, all are true EXCEPT:
   A) Praziquantel is effective against all forms of chronic disease but is not active on immature worms.  
   B) Central nervous system disease is treated with a combination of praziquantel and steroids.  
   C) Praziquantel should not be used in pregnant and lactating women  
   D) Cure rate is 65-90% after a single treatment with praziquantel.  
   E) Large granulomas in urinary bladder or lungs may warrant surgical extirpation.

32. A 24-year-old man presents with symptoms of cough and intermittent shortness of breath. He works as a spray painter and has had no significant prior illness. He does not smoke. Chest radiograph is normal. Spirogram shows normal FEV1 and forced vital capacity. **Which one of the following tests would most likely demonstrate a reason for his symptoms?**
   A) High-resolution computed tomography  
   B) Methacholine challenge test  
   C) Persantine-thalium scan  
   D) Echocardiogram  
   E) Ventilation-perfusion lung scan
33. A 72 year old male is being treated for hypertension, gout, Gastro-oesophageal reflux and has a three year history of type 2 diabetes. He takes a variety of medications. His general practitioner is concerned after requesting U&Es on this patient which reveal: Serum Sodium 138 mmol/l; Serum Potassium 4.4 mmol/l; Serum Urea 12.8 mmol/l; Serum Creatinine 162 µmol/l
Of the following drugs that he takes, which one’s dose does NOT need to be reduced for this patient?
A) Allopurinol  
B) Gliclazide  
C) Lansoprazole  
D) Lisinopril  
E) Metformin

34. What is the best treatment for a solitary non-small cell lung metastasis to the brain?
A) Local irradiation  
B) Whole brain radiation  
C) Chemotherapy with intra-arterial cisplatin  
D) Resection of the tumor  
E) Glucocorticoids alone

35. A 65-year-old woman with long-standing diabetes mellitus visits your clinic for follow-up 2 weeks after the initial visit. Her fasting home glucose monitoring shows elevated blood sugar levels ranging between 200-250 mg/dl (11.1-13.9 mmol/L). Two weeks ago, her HbA1c was 7.2% and the fasting plasma glucose was 212 mg/dl (11.8 mmol/L). You recommend the following to evaluate the discrepancy between the fasting values and the HbA1c:
A) Order a CBC  
B) Prescribe a new glucometer  
C) Order a fructosamine  
D) Repeat the HbA1c  
E) Repeat the fasting plasma glucose

36. An 18-year-old student presents with jaundice, sore throat and dark urine. There was no hepatitis contact, no IV drug use, and no recent travel history. Bilirubin 80µmol/L, elevated Gamma-GT, AST 300 U/L, ALT 400 U/L and albumin normal.
What is the most likely diagnosis?
A) Hepatitis A  
B) Hepatitis B  
C) Infectious Mononucleosis  
D) Cholangitis  
E) Acute Cholecystitis

37. All of the following are indications for initiation of hemodialysis EXCEPT
A) Acute renal failure with pericarditis.  
B) Acute renal failure, anuria with evidence of pulmonary edema.  
C) Chronic kidney disease with estimated creatinine clearance of 20 ml/min/1.73 m2.  
D) Salicylate ingestion with mental status changes.  
E) Chronic kidney disease with esterixis on examination and mental status changes.
38. A 72-year-old male with type II diabetes, hypertension, and a history of recurrent pneumonia is admitted to the Medical intensive care unit (ICU) with a diagnosis of septic shock. His vital signs are: BP 80/60 mmHg, RR 24 breaths per minute, pulse 120 beats per minute (bpm), temperature, 102.4°F, O2 saturation 99% on room air. Of the choices listed below, what would be your initial management?
   A) Start IV dopamine  
   B) Start empiric IV broad-spectrum antibiotics  
   C) Bolus IV fluids  
   D) Intubate and start ventilator support  
   E) Start IV norepinephrine

39. Decreased or absent haptoglobin levels are seen in the following conditions EXCEPT
   A) Hemolytic anemia  
   B) Genetic disorders  
   C) Acute hepatitis  
   D) Pregnancy  
   E) Burns

40. What is the best fluid type to use for resuscitation in acute pancreatitis?
   A) Normal saline  
   B) Ringers lactate  
   C) Dextrose saline  
   D) Dextrose  
   E) Half normal saline

41. 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

42. A 32-year-old male with type 1 diabetes undergoes a 24 hour urine collection. Which of the following urine albumin concentrations signify microalbuminuria?
   A) 10 mg/day  
   B) 50 mg/day  
   C) 500 mg/day  
   D) 1 g/day  
   E) 3.5 g/day

43. 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
44. A 36-year-old white female presents with the chief complaint of infertility associated with a history of a menstrual period every 3–4 months since menarche at age 12. The physical examination is normal except for moderate obesity, acne, and coarse facial hair. Urine hCG is negative. Further evaluation to confirm your diagnosis of polycystic ovary syndrome will most likely reveal
   A) Elevated testosterone
   B) Low FSH and LH
   C) Markedly elevated prolactin
   D) Elevated 17-hydroxyprogesterone
   E) Elevated TSH

45. You are asked to evaluate a 56 year old man with a history of ESRD and bleeding from a central line site. The patient has recently started dialysis. His access has not been functioning, and he was admitted with a temp 39, he had a central line placed on admission, and since its insertion the nurses have been changing blood soaked bandages every 4 hrs. His labs are as follows: HB 8.9 g/dl, MCV 75 fl, Platelets 175 x 10^9/L, WBC 7 x 10^9/L, PT 13 seconds, aPTT 50 sec. BUN 120 (42.8 mmol/L), creatinine 7 mg/dl (618.8 µmol/L). Hepzyme (detects heparin contamination) is positive. Which of the following in not a treatment option:
   A) Erythropoietin
   B) Cryoprecipitate
   C) Factor VIII concentrate
   D) Dialysis
   E) Conjugated estrogens

46. A 70-year-old who has hypertension, hyperlipidemia, and diabetes, all of which is poorly controlled, comes to the emergency department with acute onset of left leg weakness. The patient’s daughter first noticed this, and the patient seems to be relatively unconcerned about this. On exam, you find weakness of the arm as well, but less obvious than the leg. There is no fever, chills, or recent illness. Where is the most likely location of the stroke?
   A) Left anterior cerebral artery
   B) Right middle cerebral artery
   C) Left middle cerebral artery
   D) Right anterior cerebral artery
   E) Lacunar infarct in the left internal capsule

47. A 55-year-old female presents with progressive incoordination. Physical examination is remarkable for nystagmus, mild dysarthria, and past-pointing on finger-to-nose testing. She also has an unsteady gait. MRI reveals atrophy of both lobes of the cerebellum. Serologic evaluation reveals the presence of anti-Yo antibody. Which of the following is the most likely cause of this clinical syndrome?
   A) Non-small cell cancer of the lung
   B) Small-cell cancer of the lung
   C) Breast cancer
   D) Non-Hodgkin's lymphoma
   E) Colon cancer
48. What position should you place a patient about to undergo gastric lavage because of ingestion of a toxic substance?
   A) Trendelenburg
   B) Left lateral decubitus with head down
   C) Left lateral decubitus with head elevated
   D) Seated
   E) Any position

49. Which of the following neurologic phenomena is classically associated with herniation of the brain through the foramen magnum?
   A) Third-nerve compression and ipsilateral papillary dilation
   B) Catatonia
   C) “Locked-in” state
   D) Miotic pupils
   E) Respiratory arrest

50. A young man is referred by his GP following investigation for recurrent mouth ulceration. Subsequent blood count shows HB of 13.2, WBC 3.8 (neutrophil 1.2, lymph 1.5) PLT 332, 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

51. A 62-year-old female with a history of a recent pulmonary embolus presents to your office for follow-up on anticoagulation treatment. She takes warfarin on a daily basis. She reports that for the last week she has noticed mild rectal bleeding and multiple bruises over the extremities with minimal trauma. She is comfortable appearing with normal vital signs and is not orthostatic. You ordered a stat CBC and PT/INR which revealed a mildly decreased Hgb at 11 g/dL and an elevated INR of 7.
   Which of the following would be the most appropriate intervention?
   A) Fresh frozen plasma
   B) Withhold warfarin
   C) Intravenous vitamin K
   D) Reduce warfarin dose
   E) Oral vitamin K

52. A 50-year-old white male who comes for general checkup is a healthy nonsmoker, free of hypertension, diabetes, or cardiac disease. However, his 53-year-old brother had coronary artery bypass surgery this year. You order a fasting lipid profile and are able to calculate his coronary heart disease 10-year risk as 6%.
   Which of the following is the currently recommended LDL target level for this patient?
   A) Less than 160 mg/dL
   B) Less than 130 mg/dL
   C) Less than 100 mg/dL
   D) Less than 70 mg/dL
   E) Less than 90 mg/dL
53. Death due to bronchial asthma is mostly caused by:
   A) Severe bronchospasm
   B) Mucous plugging
   C) Infiltration of airway by inflammatory cells
   D) Secondary infection
   E) Respiratory acidosis

54. A 68-year-old diabetic woman with chronic renal insufficiency is admitted to the hospital with urosepsis. She has a history of anaphylactic reaction to penicillin that required intubation for severe bronchospasm. Urinalysis shows > 100 WBC, and Gram's stain shows 3+ plump gram-negative rods. Which of the following antibiotics would be most appropriate for this patient with a known severe penicillin allergy?
   A) Ampicillin
   B) Ceftazidime
   C) Vancomycin
   D) Aztreonam
   E) Imipenem

55. All of the following are components of metabolic syndrome EXCEPT:
   A) Fasting serum glucose more than 110
   B) Serum TG more than 150
   C) Abdominal obesity
   D) LDL more than 140
   E) HTN more than 130/85

56. A 24-year-old man is in the operating room for a massive liver injury sustained when his motorcycle hit a truck. After one hour of surgery he has received 15 units of packed cells and has developed diffuse oozing from the surface of his liver. Clots are no longer forming. His body temperature is 34°C. Coagulation abnormalities expected in this patient include all of the following EXCEPT
   A) Prolonged PT
   B) Prolonged aPTT
   C) Prolonged bleeding time
   D) Low fibrinogen level
   E) Viscoelastic test (point of care coagulation testing) is usually normal

57. All of the following organisms are recognized causes of post-influenza pneumonia EXCEPT
   A) Streptococcus pneumoniae
   B) Staphylococcus aureus
   C) Pseudomonas aeruginosa
   D) Haemophilus influenzae
   E) Mycoplasma pneumoniae

58. What is the best test to screen for Cushing’s syndrome? 
   A) Morning serum cortisol
   B) Plasma ACTH
   C) 1-mg overnight dexamethasone suppression test
   D) 8-mg overnight dexamethasone suppression test
   E) 24-hour urine free cortisol
59. A 27-year-old female presents to the emergency room with a panic attack. Electrolytes include calcium of 10.5 mg/dL, albumin 4.0 g/dL, phosphorus 0.8 mg/dL, and magnesium of 1.0 mg/dL. Arterial blood gases include a pH of 7.56, PCO₂ 21 mmHg, PO₂ 99 mmHg. Which of the following is the most important cause of the hypophosphatemia?
   A) Hypomagnesemia
   B) Hyperparathyroidism
   C) Respiratory alkalosis
   D) Poor dietary intake
   E) No obvious cause

60. Which is the best first step in the evaluation of a patient with idiopathic recurrent acute pancreatitis?
   A) Secretin-stimulated MRCP
   B) Empiric cholecystectomy
   C) Endoscopic ultrasound
   D) ERCP
   E) CT of the abdomen

61. A 25-year-old Indian man diagnosed with cervical tuberculous adenitis. The diagnosis based on the clinical history and presence of caseating granulomas in lymph node specimen. He was started on standard quadruple therapy and the cervical lymphadenopathy improved. He complied well with medication and there were no complications. As a result, he was stepped down to dual therapy 2 months later. However, 4 months after starting treatment he attends the clinic feeling increasingly unwell and with worsening lymphadenopathy. Compliance is readdressed and confirmed as good. On examination, lymph nodes appear larger than before, red and tender. The rest of the examination is normal. Re-imaging and excision biopsy of enlarging lymph nodes is carried out. Neck and chest CT scan show markedly enlarged cervical lymph nodes. Excision biopsy of the enlarged lymph nodes reveals soft tissue with necrotizing and non-necrotizing granulomatous inflammation. Notably AFB and fungal stains and cultures are negative. How would you manage this patient?
   A) Stop antituberculous drugs
   B) Start prednisolone
   C) Change to second line antituberculous drugs
   D) Reassure the patient and continue antituberculous drugs
   E) Stop isoniazid

62. A 92-year-old man with heart failure, chronic kidney disease (eGFR 25 ml/min, creatinine 173 µmol/L), and a history of tophaceous gout presents with acute poly-articular gout. Low dose colchicine has previously caused diarrhea. Which one of the following is the most appropriate acute management in this case?
   A) Naproxen plus a proton pump inhibitor
   B) Etoricoxib plus a proton pump inhibitor
   C) Colchicine 500 micrograms three times a day
   D) Intra-articular corticosteroid injection
   E) Prednisolone 20 mg daily
63. A 62-year-old man is found to have squamous cell carcinoma of the lung after being investigated for hemoptysis. Which one of the following would be a contraindication to surgical resection?

A) Finger clubbing  
B) Hypercalcemia  
C) Hypertrophic pulmonary osteoarthropathy  
D) Pleural effusion  
E) Superior vena cava obstruction

64. A 25 year old man has recurrent palpitations correlated with a regular narrow complex tachycardia at a rate of 200 beats /min. he has been intolerant of B-blockers and calcium channel blockers in the past. What is the most appropriate therapeutic approach at this time?

A) Continue observation  
B) Anti-tachycardia pacemaker  
C) Electrophysiological evaluation and ablation  
D) Defibrillator implantation  
E) Amiodarone

65. A 45-year-old female being treated for rheumatoid arthritis is admitted complaining of breathlessness on exertion. She is found to have a Haemoglobin level of 8.5 g/dl with a MCV of 102. The white cell count and platelets are normal. The anemia is most likely to be due to:

A) Treatment with Diclofenac  
B) Treatment with methotrexate  
C) Anemia of chronic disease  
D) Treatment with penicillamine  
E) Felty’s syndrome

66. Which of the following is not true about tetanus?

A) The toxin affects inhibitory GABA and glycine receptors, leading to unopposed contraction and spasm of skeletal muscle.  
B) It is characterized by acute onset of skeletal muscle rigidity and convulsive spasm.  
C) Initial symptoms involve lockjaw and risus sardonicus.  
D) Fractures, dislocations, and rhabdomyolysis may occur due to forceful sustained muscle  
E) Tetanus disease usually leads to long-lasting immunity.

67. A 68-year-old woman recently diagnosed with multiple myeloma presents to her GP with progressively increasing breathlessness, exercise intolerance and ankle swelling. On examination, there is bilateral pitting leg edema to her thighs, ascites and raised JVP. The apical impulse is impalpable. An ECG shows diffusely diminished voltage. Chest X-ray is normal and the echocardiogram shows small thick ventricles and dilated atria with a thickened interatrial septum. The ventricular myocardium has a granular sparkling texture on echo, and minimal fluid in the pericardial space is noted. What is the most likely diagnosis?

A) Chronic pericardial effusion with tamponade  
B) Chronic pericardial effusion without tamponade  
C) Constrictive pericarditis  
D) Restrictive cardiomyopathy  
E) Congestive heart failure
68. Which of the following is not true regarding right ventricular infarction?
   A) Right atrial pressure is usually less than 10.
   B) It usually signifies occlusion in a branch of the right coronary artery.
   C) Right to left shunting is a recognized complication.
   D) Inferior myocardial infarction is usually present.
   E) Right coronary artery occlusion is usually present.

69. You are caring for a patient with acute necrotizing pancreatitis who is developing worsening sepsis and organ failure despite maximal intensive care and broad spectrum antibiotic administration 12 days after the onset of pancreatitis. You obtain a percutaneous, CT-guided fine needle aspirate of his pancreatic necrosis that demonstrates bacterial infection.

   The optimal intervention at this time is:
   A) Continued antibiotic administration and supportive therapy only
   B) Percutaneous drainage
   C) Endoscopic transluminal drainage
   D) Video assisted retroperitoneal debridement
   E) Primary open necrosectomy

70. A 50-year-old man is evaluated for a routine physical examination. He was diagnosed with rheumatoid arthritis 5 years ago, and his condition is well controlled with methotrexate and hydroxychloroquine. He does not have fatigue, morning stiffness, or systemic symptoms. His weight is stable. On physical examination, there are no joint deformities. There is minimal soft-tissue swelling around the second and third metacarpophalangeal joints. Grip strength is normal, but squeezing the forefeet elicits mild discomfort. On laboratory studies, hemoglobin is 14.2 g/dL (142 g/L), alanine and aspartate aminotransferase and alkaline phosphatase are normal, and erythrocyte sedimentation rate is 65 mm/h

   Which of the following is the most appropriate management for this patient?
   A) Prednisone, 10 mg daily
   B) Anti–tumor necrosis factor therapy
   C) CT scans of the chest, abdomen, and pelvis
   D) Stop methotrexate
   E) No additional therapy

71. 60-year-old woman presents with 3 months history of diplopia and blurred vision of left eye. She denies any pain or other neurological symptoms. Her previous medical history is unremarkable. She smokes 20 cigarettes per day and drinks alcohol in moderation. Her general medical examination is normal. Her visual acuity on the right is 6/6 and on the left 6/36. There is left partial ptosis and mild proptosis with conjunctival injection. The left pupil is smaller than the right but reacting normally to light. There is some limitation of abduction of the left eye.

   Fundoscopy showed a pale optic disk. The left corneal reflex is reduced. The remaining of the neurological examination is normal. Routine blood tests including FBC, U+Es, LFTs, TFTs, Ca, Creatine kinase, autoantibody screen are normal. ECG, CXR are unremarkable. Slit lamp examination is normal. Intracocular pressures are within normal range.

   Where is the most likely cause of her symptoms?
   A) Cavernous sinus
   B) Superior orbital fissure
   C) Orbital apex syndrome
   D) Optic chiasm
   E) Brain stem
72. Artfactually low HbA1c values are found in the following conditions \textbf{EXCEPT}: 
   A) Acute or chronic blood loss  
   B) High dose of vitamin C  
   C) Hemoglobinopathies  
   D) Pregnancy  
   E) High dose of vitamin D

73. A 58-year-old man presents with new-onset chest pain and shortness of breath. ECG shows atrial fibrillation with a rate of 180 beats per minute. He has no past cardiac history. 
   \textbf{The most appropriate management would be}:  
   A) Oxygen, digoxin i.v.  
   B) Oxygen, beta-blockers.  
   C) Oxygen, heparin, warfarin.  
   D) Oxygen, heparin, i.v. amiodarone.  
   E) Oxygen, heparin and synchronized DC shock.

74. A lesion of the parietal lobe causes:  
   A) Bitemporal hemianopia.  
   B) Homonymous inferior quadrantanopia.  
   C) Perseveration.  
   D) Primitive reflexes.  
   E) Wernicke's (receptive) aphasia.

75. Regarding pioglitazone, which of the following is \textbf{FALSE}?  
   A) Its primary mechanism of action is to increase insulin sensitivity (targeting insulin resistance)  
   B) Hypoglycemia is a common side effect  
   C) Can cause weight gain  
   D) Can increase risk of bone fractures  
   E) Tends to have beneficial effects on cholesterol

76. A 55-year old man presents with lower extremity edema, orthopnea, and shortness of breath on exertion. On echocardiography, the left ventricular ejection fractions approximately 15%, and the aortic valve is thickened with restricted leaflet excursion. The mean gradient across the valve is 25 mmHg with a calculated valve area of 0.8cm$^2$.  
   \textbf{Which of the following is the next step in managing this patient?}  
   A) Medical therapy  
   B) Aortic valve replacement  
   C) Balloon valvuloplasty  
   D) Assess of the mean gradient across the aortic valve during dobutamine infusion  
   E) Add warfarin

77. A 63-year-old male recently admitted with sepsis is noted to have a urine output of approximately 20 mls per hour. The \textbf{oliguria is more likely to be due to prerenal failure than intrinsic renal failure if}:  
   A) Urine free of red blood cells or casts  
   B) A urine: serum creatinine ratio <40  
   C) Urine osmolality <350 mOsml/l  
   D) A blood pressure of 150/90 and good tissue perfusion  
   E) Urinary sodium >10mmol/l
78. A 70-year-old man is seen in the clinic for evaluation before elective total hip replacement. His medical history is significant for hypertension and hyperlipidemia. He has no prior history of thromboembolism or coronary artery disease. The family history is positive for diabetes mellitus and hyperlipidemia. His medications include amlodipine 10 mg daily, aspirin 81 mg daily, and simvastatin 40 mg daily. You have been consulted for “clearance for surgery.” What is the most appropriate recommendation for this patient?
   A) Enoxaparin 30 mg every 12 hours for 7 days postoperatively
   B) Enoxaparin 30 mg every 12 hours for 30 days postoperatively
   C) Aspirin and pneumatic compression boots during the immediate postoperative period, aspirin continued on dismissal indefinitely
   D) Enoxaparin 30 mg every 12 hours for 14 days postoperatively
   E) Warfarin therapy to keep the international normalized ratio at 2 to 3 for 14 days postoperatively

79. A 42-year-old female with a recent diagnosis of systemic sclerosis, is referred to the hospital with a complaint of headaches and blurred vision. She has a past medical history of asthma. On examination, her blood pressure is 230/120, and there is bilateral papilloedema. Which of the following medications should be prescribed immediately?
   A) i.v. Furosemide
   B) i.v. Labetolol
   C) Oral angiotensin II receptor blockers plus i.v. Sodium Nitroprusside
   D) Oral captopril plus i.v. Sodium Nitroprusside
   E) Sublingual Nimodipine

80. A 63-year-old woman presents following a visit to the well woman clinic where she is noted to be hypertensive. She has a past history of hip osteoarthritis for which she has taken regular paracetamol. On examination she is obese with a BMI of 35 (<25), has a blood pressure of 180/100 mmHg and glycosuria is noted. Her investigations show: Fasting plasma glucose 18.3 mmol/L (3.0-6.0), Serum urea 9.8 mmol/L (2.5-7.5), Serum creatinine 129 µmol/L (60-110), 24 hour urine protein concentration 1.8 g/d (<0.2), Normal ultrasonic appearances of both kidneys. Which of the following is the most likely diagnosis?
   A) Analgesic nephropathy
   B) Chronic glomerulonephritis
   C) Diabetic nephropathy
   D) Hypertensive nephropathy
   E) Ischemic nephropathy

81. A previously well 15 year old girl had an acute onset of fever, sweating, bruising and petechiae. A blood count showed: Haemoglobin 63 g/L White cell count 1.1 x 10⁹/L Neutrophils 0.1 x 10⁹/L Platelets 14 x 10⁹/L. No abnormal white cells were seen on the blood film. She was transfused and given intravenous antibiotics and her condition improved. Three weeks later her blood count has returned to a similar picture. What is the SINGLE most likely underlying diagnosis?
   A) Acute lymphoblastic leukemia
   B) Acute myeloid leukemia
   C) Aplastic anemia
   D) Chronic myeloid leukemia
   E) Pernicious anemia
82. A 52-year-old woman comes to the physician because of a 2-day history of fever and left flank pain. She has been treated for multiple episodes of pyelonephritis during the past 3 years. Her temperature is 37.8°C (100.1°F). Physical examination shows left flank tenderness. Urinalysis shows 12–18 WBC/hpf with occasional lymphocytes and mononuclear cells with features of macrophages. Cultures of urine grow 80,000 colonies/mL of *Proteus mirabilis*. An x-ray of the abdomen shows a 3-cm mass in the lower pole of the left kidney. Gross examination of the mass after it has been resected shows that it is yellow, 3.2-cm in diameter, and centrally but not marginally necrotic. Histologic examination of the mass shows a predominance of epithelioid cells with partially clear and granular-to foamy cytoplasm. Nuclei are eccentric, normochromic, symmetric, and without significant pleomorphism. Scattered lymphocytes and plasma cells are intermixed. **Which of the following is the most likely diagnosis?**

A) Acute pyelonephritis  
B) Malacoplakia  
C) Renal cell carcinoma, clear cell type, intermediate grade  
D) Renal cell carcinoma, granular cell type  
E) Xanthogranulomatous pyelonephritis

83. A 52-year-old woman comes to the physician because of a 1-month history of headache, weakness, tingling of her extremities, muscle cramping, and fatigue. Her blood pressure is 170/110 mm Hg. Physical examination shows no other abnormalities. Laboratory studies show a decreased serum potassium concentration, metabolic alkalosis, and decreased plasma renin activity; serum sodium concentration is within the reference range. Urine catecholamine concentrations are within the reference range. **Which of the following is the most likely diagnosis?**

A) Adrenal adenoma  
B) Focal segmental glomerulosclerosis  
C) Hypothalamic tumor  
D) Juxtaglomerular cell tumor  
E) Renal artery stenosis

84. A 28-year-old obstetric patient is receiving treatment for severe pre-eclampsia. She is referred to the ICU one day postpartum with decrease consciousness level. On examination she has a GCS of 13 and is confused and isless, with grade 4 power in all four limbs. She is flushed, bradycardic and nauseous. Her ECG shows prolongation of the PR and QT intervals. **What is the most likely diagnosis?**

A) Intracerebral hemorrhage  
B) Peripartum sepsis  
C) Local anaesthetic toxicity  
D) Hypermagnesemia  
E) None of the above

85. Which of the following extraintestinal manifestations is associated with Crohn disease but not ulcerative colitis? **Which of the following extraintestinal manifestations is associated with Crohn disease but not ulcerative colitis?**

A) Ankylosing spondylitis  
B) Erythema nodosum  
C) Nephrolithiasis  
D) Thromboembolic disease  
E) Uveitis
86. A 35 year old male recently diagnosed with tuberculosis and is started on four-drug antituberculous medications. After a few days he comes to the emergency department with yellowish discoloration of sclera associated with feeling tired and lethargy. Physical examination shows jaundice. Investigations: CBC is normal, ALT 180 U/L, AST 119 U/L, alkaline phosphatase 190 U/L, Total bilirubin 62 µmol/L and INR is 1.3.

Which one of the following is the most appropriate step in the management of this patient?

A) Stop his medications and observe hepatitis panel weekly
B) Stop rifampicin, isoniazid and pyrazinamide and continue with ethambutol plus second line antituberculous treatment and observe hepatitis panel weekly
C) Stop all medications and start second line Anti-TB treatment and observe hepatitis panel weekly
D) Stop his rifampicin and isoniazid and observe hepatitis panel weekly
E) No action, continue same treatment and observe hepatitis panel weekly

87. A 35-year-old right-handed construction worker presents with complaints of nocturnal numbness and pain involving the right hand. Symptoms wake him and are then relieved by shaking his hand. There is some atrophy of the thenar eminence. Tinel’s sign is positive.

Which of the following is the most likely diagnosis?

A) Carpal tunnel syndrome
B) De Quervain’s tenosynovitis
C) Amyotrophic lateral sclerosis
D) Rheumatoid arthritis of the wrist joint
E) Guillian-Barré syndrome

88. A 20-year-old fireman comes to the emergency room complaining of headache and dizziness after helping to put out a garage fire. He does not complain of shortness of breath, and the arterial blood gas shows a normal partial pressure of oxygen. Which of the following is the best first step in the management of this patient?

A) Begin oxygen therapy
B) Obtain chest x-ray
C) Obtain carboxyhemoglobin level
D) Obtain CT scan
E) Obtain CBC

89. 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?

F) Positive test for hepatitis B surface antigen
G) Antibody against hepatitis B surface antigen (anti-HBs) alone
H) Antibody against hepatitis core antigen (anti-HBc)
I) Antibody against both surface and core antigen
J) Antibody against hepatitis E antigen

90. One of flowing statement regarding COPD is true:

A) Most smokers develop COPD during their life
B) Tiotropium is as effective as smoking cessation in reducing the rate of decline in FEV1.
C) Long term O2 therapy improves survival in all COPD treatment with FEV1 less than 50% of predicted.
D) Rehabilitation may improve survival in patients with severe COPD
E) Inhaled corticosteroids decreases exacerbation rate of COPD patients
91. A 58-year-old man with history of chronic myeloid leukemia is admitted with pneumonia and deep venous thrombosis. He is started on antibiotics and i.v. heparin. His condition deteriorates and he has acute respiratory distress syndrome and hypotension. Despite large amounts of i.v. fluids and inotropes, he remains hypotensive. You are considering adrenal insufficiency. **What should you do next?**
A) Order random cortisol then treat with hydrocortisone  
B) Start hydrocortisone then do the ACTH stimulation test  
C) Start dexamethasone then do the ACTH stimulation test  
D) Start hydrocortisone  
E) Do the ACTH stimulation test; treat according to the results

92. A 44-year-old man is admitted to the hospital with community-acquired meningitis. His medical history is remarkable for non-Hodgkin's lymphoma, for which he is currently receiving intermittent chemotherapy. On exam, the patient is febrile and confused but without other localizing neurologic findings. He has no known drug allergies. A CT scan of the head reveals no focal abnormality or signs of increased intracranial pressure. Lumbar puncture shows cloudy fluid with elevated total protein, decreased glucose, and neutrophilic pleocytosis; and Gram's stain shows rare gram-positive rods. **Which of the following would be the most appropriate empirical antibiotic(s) for this patient?**
A) Ceftriaxone  
B) Vancomycin and ceftriaxone  
C) Doxycycline and ceftriaxone  
D) Ampicillin and ceftriaxone  
E) Imipenem

93. A 27-year-old male presents to the health center for right upper quadrant abdominal pain, generalized pruritus, and jaundice for 3 days. He states that the pain came on gradually and awoke him early on the morning of presentation. His past medical history is pertinent for ulcerative colitis, although he has not taken any medication in 4 years. His temperature is (39.2°C) and physical exam shows pain in the right subcostal region with deep inspiration, and generalized jaundice. **What is the most serious complication of the most likely diagnosis in this patient?**
A) Perforation of rectum  
B) Gastric cancer  
C) Colon cancer  
D) Cholangiocarcinoma  
E) Pancreatic cancer

94. One of the following pulmonary function test results is with the respiratory disorder chronic obstructive pulmonary disease.
A) Increased total lung capacity (TLC), decreased vital capacity (VC), decreased FEV₁/FVC ratio.  
B) Decreased TLC, decreased VC, decreased residual volume (RV), increased FEV₁/FVC ratio, normal maximum inspiratory pressure (MIP).  
C) Decreased TLC, increased RV, normal FEV₁/FVC ratio, decreased MIP.  
D) Normal TLC, normal RV, normal FEV₁/FVC ratio, normal MIP.  
E) Decreased TLC, normal RV, normal FEV₁/FVC ratio, increased MIP
95. 50 year old female patient with prosthetic mitral valve replacement 2 months ago due to severe rheumatic mitral stenosis, complaining of fever 2 days malaise, left upper abdominal pain. O/E she had fever, pallor with mitral click and tenderness in the left upper quadrant of the abdomen initial culture shows gram positive cocci in clusters

What is the best initial treatment pending final blood culture?

A) Vancomycin.
B) Vancomycin plus gentamicin.
C) Ceftriaxone plus vancomycin.
D) Vancomycin plus gentamicin and rifampicin.
E) Ceftriaxone plus rifampicin.

96. Which of the following can differentiate between ventricular tachycardia and supraventricular tachycardia with aberrancy?

a) Rate on the ECG
b) Stability of the patients (Mental status and BP)
c) AV dissociation on the ECG
d) Response to adenosine
e) All of the above

97. A 57-year-old female school cleaner is undergoing investigation for breathlessness. All the following would be in keeping with a diagnosis of constrictive pericarditis EXCEPT

A) elevated JVP with absent y descent
B) peripheral edema
C) orthopnea
D) ascites
E) previous cardiac surgery

98. A 25 year old lady gives birth to a baby with complete heart block who subsequently requires pacemaker insertion. Which of the following antibodies is most likely to be detected in the maternal serum?

A) Anti-dsDNA antibodies
B) Anti-endomysial antibodies
C) Anti-Ro/SSA antibodies
D) Anti-SCL70 antibodies
E) Rheumatoid factor

99. Which of the following infections is least likely to cause myocarditis?

A) Coxsackie virus.
B) Diphtheria.
C) Chagas Disease.
D) Syphilis.
E) Toxoplasmosis.

100. A married, 25-year-old female is undergoing a work-up for infertility. During a laparoscopic procedure to evaluate her ovaries and fallopian tubes, splenomegaly is noted. Her lab test results include a hematocrit of 35% and normal MCV and ferritin values. Physical examination reveals no peripheral adenopathy, and a subsequent abdominal CT scan shows mild to moderate homogenous splenomegaly and normal liver, gallbladder, pancreas, stomach and intestines with no significant adenopathy. The next most appropriate action to be taken is:

A) Obtain an osmotic fragility test
B) Perform a bone marrow aspirate and biopsy
C) Refer her to a surgeon for a spleen biopsy  
D) Refer her to a surgeon for a splenectomy  
E) Perform hepatic ultrasonography, looking for evidence of cirrhosis and portal venous hypertension

101. Urine dipstick for ketones uses a nitroprusside reaction, which measures:
   A) Acetoacetate  
   B) Beta-hydroxybutyrate  
   C) Insulin levels  
   D) Ketones  
   E) Lactic acids

102. Regarding management of an episode of hypoglycemia in a 65-year-old who is on sulfonylurea therapy, which ONE of the following is TRUE?
   A) Initial oral or intravenous glucose therapy can be omitted because it is likely to fail  
   B) Octreotide should be considered for recurrent or persistent hypoglycemia  
   C) Hypoglycemia in a stable diabetic on a regular sulfonylurea dose is not usually due to a precipitating event  
   D) There is a more sustained response to intravenous glucose therapy in sulfonylurea-induced hypoglycemia than in insulin-induced hypoglycemia  
   E) Symptomatic patients can be managed efficiently by oral glucose only

103. Unequal upper extremity arterial pulsations commonly are found in each of the following disorders EXCEPT:
   A) Aortic dissection  
   B) Takayasu disease  
   C) Supravalvular aortic stenosis  
   D) Subclavian artery atherosclerosis  
   E) Subvalvular aortic stenosis

104. A 56-year-old asymptomatic man with a history of hypertension and cigarette smoking is referred for a screening exercise treadmill test. After 7 minutes on the standard Bruce protocol, he is noted to have 1 mm of flat ST-segment depression in leads II, III, and aVF. He stops exercising at 9 minutes because of leg fatigue and breathlessness. The peak heart rate is 85% of the maximum predicted for his age. The ST segments return to baseline by 1 minute into recovery. Which of the following statements is correct?
   A) This test is conclusive for severe stenosis of the proximal right coronary artery  
   B) His risk of death due to an acute myocardial infarction during the next year is >50%  
   C) He should proceed directly to coronary angiography  
   D) The test predicts a 25% risk of cardiac events over the next 5 years, most likely the development of angina  
   E) This is likely a false-positive test

105. From, the list below, which of the following carcinomas of the lung is highly associated with exposure to asbestos?
   A) Adenocarcinoma  
   B) Small cell carcinoma  
   C) Squamous cell carcinoma  
   D) Malignant mesothelioma  
   E) Large cell carcinoma
A 68-year-old woman is admitted to accident and emergency with shortness of breath and cough. She has been a smoker for 25 years, smoking on average 20 cigarettes a day, and is a known COPD patient with home oxygen. The observations read a pulse rate of 101, blood pressure of 100/60, respiratory rate of 20, oxygen saturations of 88 per cent on air and temperature of 37.2°C. On auscultation you hear bilateral expiratory wheeze. She is prescribed nebulizers (salbutamol 5mg + ipratropium 500µg) with oxygen and chest x-ray requested. Intravenous access has been established and bloods sent for analysis. From the list below, select the most appropriate next step in this patient’s management plan.
A) Arterial blood gas sampling
B) Peak flow assessment
C) Urine dip ± microscopy and sensitivity
D) Start non-invasive ventilation (e.g. BIPAP)
E) Obtain sputum for microscopy, culture and sensitivity (MC&S)

You see a 76-year-old woman in accident and emergency who has been admitted with a 1-day history of shortness of breath and pyrexia (38.4°C). The patient’s past medical history includes hypertension, stroke and insulin-dependent diabetes. She has no known drug allergies. The nursing staff report that the patient vomited after her lunchtime meal yesterday. On examination the patient’s respiratory rate is 26, oxygen saturations 93 per cent on room air. On auscultation of the chest, you hear right basal crackles. You suspect that this patient is suffering from aspiration pneumonia. From the list below, which is the most appropriate antibiotic regimen for this patient?
A) Intravenous cefuroxime and metronidazole
B) Oral amoxicillin and metronidazole
C) Intravenous clarithromycin
D) Intravenous cefuroxime
E) Oral Amoxicillin-Clavulanate

An 80-year-old woman experiences the sudden onset of lower extremity weakness and collapse on getting out of bed. She has been previously healthy and has not taken any medications. She has no history of back pain. On examination, she is alert and oriented to time, place and date. Her upper extremity sensation and strength are intact. Her legs are weak bilaterally, with loss of pain and temperature sensation and areflexia. Her bladder is distended. Which of the following is the most likely diagnosis?
A) Anterior cerebral artery occlusion
B) Anterior spinal artery occlusion
C) Cauda equina syndrome
D) Guillain-Barré syndrome
E) Thoracic spinal cord compression

A 75-year-old female presents with an acute infective exacerbation of her long standing Chronic Obstructive Airways Disease. Blood gas analysis whilst she was receiving oxygen shows: pH7.14 (7.36-7.44); P0₂ 18 kPa (11.3-12.6); PCO₂ 10.5 kPa (4.7-6.0). What is the most appropriate immediate management for this patient?
A) CPAP
B) Doxapram infusion
C) Invasive Ventilation
D) Salbutamol with ipratropium nebulizer
E) Reduce inspired oxygen concentration
110. A 60-year-old man presents to the emergency department with urinary retention. His BP is 140/90 mmHg; foly's catheter is inserted and 3 L of urine come out in the first hour. For the next 3 hours urine output is 200-250cc/ hr. Lab: S. creatinine is 6 mg/dl (530.4 µmol/l), K⁺ 5.5 mEq/l, HCO₃: 19 mEq/l, the best management for this patient in addition to Foly's catheter is:
   A) Give D5W at 100 cc/hr
   B) Replace hourly urine output Cc by Cc with 0.9% NS
   C) Replace 2/3 of hourly urine output with 0.45 % NS
   D) Measure urine osmolality followed by bolus of DDAVP with re-measuring urine osmolality
   E) Match the hourly urine output with 0.45% saline + NaHCO₃ 50 meq added/ liter

111. Features of type II mesangiocapillary glomerulonephritis include all of the following EXCEPT:
   A) Affects all age groups
   B) Leads to chronic renal failure
   C) Is associated with partial lipodystrophy
   D) C3 nephritic factor (C3NF) is often found in patient’s serum
   E) Does not recur in the transplanted kidney

112. Which of the following known abnormalities has the highest prevalence in patients with venous thromboembolism?
   A) Protein C deficiency
   B) Protein S deficiency
   C) Antithrombin III deficiency
   D) Inherited activated protein C resistance
   E) Prothrombin gene mutation

113. A 39-year-old Polish man comes to the clinic for painful calves after walking long distances and for discoloration of the fingers with changes in temperature. He says his symptoms started two months ago, and he gets no relief from the ibuprofen. He has previously been healthy. He currently smokes a pack a day and drinks socially. He has no history of drug abuse. On physical examination, his blood pressure is 140/90 mm Hg, heart rate is 68/min, and he is afebrile. Examination of the hands reveals distal digital ischemia and trophic changes in the nails of both hands. Radial pulses are absent bilaterally, but all other pulses are present. His right calf shows evidence of a superficial thrombophlebitis. Laboratory studies show: white cell count 9.6x10⁹/L, hematocrit 38.6%, MCV 89 fl, ESR 40 mm/h, and C-ANCA as negative. The rheumatoid factor and ANA are negative. Which of the following should be done next for this patient?
   A) Heparin
   B) Prednisone
   C) Arterial bypasses
   D) Cyclophosphamide
   E) Abstention from tobacco

114. An 18-year-old presents to the emergency department with bluish discoloration of skin and tongue. Her medical history is unremarkable. Physical examination reveals cyanosis of central type. Otherwise the examination is normal. What is the most likely cause?
   A) Carbon Monoxide Poisoning
   B) Lead Poisoning
   C) Drinking water contaminated with nitrates
   D) Anorexia Nervosa
   E) Severe Anemia
115. A 60-year-old man wishes to act as a kidney donor to his 37-year-old wife. She has end-stage renal failure from polycystic kidney disease and is maintained on peritoneal dialysis. The couple have two teenage daughters, neither of whom have renal cysts on recent ultrasound scans. Which one of the following statements is correct?
   A) Living related donation from one of the daughters would be preferable to donation from the husband
   B) Living unrelated donation is not recommended in cases of inherited renal disease
   C) The age difference between husband and wife is a relative contraindication to transplantation
   D) The husband should not be accepted for kidney donation until all siblings have been considered
   E) The results of living unrelated kidney donation are sufficiently poor that organ donation should not proceed

116. A 25-year-old female is admitted with acute dyspnea and chest pain. A diagnosis of pulmonary embolism is confirmed and her investigations reveal urine dipstick protein ++ but no blood, anti-double stranded DNA antibodies of 200 U/mL (0 - 73), with a 24 hour urinary protein concentration of 5g (< 0.2). Which one of the following diagnoses is most likely to be found on renal biopsy?
   A) AA amyloid
   B) Focal segmental glomerulonephritis
   C) IgA nephropathy
   D) Membranous nephropathy
   E) Minimal change nephropathy

117. A 20 year old college student is brought to clinic by his parents for concerns regarding depression. He is having trouble completing his school work. His parents report that his personality has changed and that he has become more withdrawn from his friends over the past year. There is no family history of depression or psychiatric illness. O/E he is a well-developed young man with slight slurring of speech and a left arm tremor. His laboratory testing shows mild elevation of liver enzymes. The test most likely to yield his diagnosis is:
   A) CBC
   B) Thyroid function test
   C) CXR
   D) Urine analysis
   E) Formal ophthalmologic examination.

118. 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 is 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
119. Which of the following drugs can cause acute gouty arthritis by decreasing urinary excretion of uric acid?
   A) Pravastatin  
   B) Cyclosporine  
   C) Etanercept  
   D) Enalapril  
   E) Cyclophosphamide  

120. 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
II: For each question below determine which answer is true or false

121. Pandemic H1N1 influenza (‘swine influenza’)
   A) Human-to-human transmission occurs through sneezing and coughing via large-particle droplets
   B) Nosocomial transmission was observed between hospitalized patients, between healthcare providers, and from patients to healthcare providers
   C) Shedding of the virus is observed to begin the day prior to symptom onset and often to persist for five to seven days or longer in immunocompetent individuals
   D) Immunocompetent patients with infection are likely to be contagious from one day prior to the development of signs and symptoms until resolution of fever
   E) Delayed clearance of virus from the nasopharynx was observed in patients who developed acute respiratory distress syndrome or who had fatal disease

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

123. The following are causes of acute life-threatening dyspnea:
   A) Myocardial infarction
   B) Pulmonary embolus
   C) Pneumothorax
   D) Ventricular or supraventricular tachyarrhythmia
   E) Bacterial endocarditis

124. The following are classified as high-output states:
   A) Hypertension
   B) Sepsis
   C) Hypothyroidism
   D) Pregnancy
   E) Arteriovenous malformations

125. The following are possible causes of electromechanical dissociation:
   A) Pulmonary embolus
   B) Tension pneumothorax
   C) Hypertension
   D) Dehydration
   E) Hypocalcaemia

126. 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.
127. In a young woman with a spastic paraparesis, the following suggest a diagnosis of multiple sclerosis:
   A) Delayed visual evoked potentials
   B) Fasciculations
   C) Raised CSF protein
   D) Oligoclonal bands in the CSF
   E) Periventricular white matter lesions on magnetic resonance imaging of the brain

128. A lesion to the common peroneal nerve at the fibular head causes:
   A) Weakness of eversion of the foot
   B) Decreased sensation over the dorsum of the foot
   C) Weakness of plantar flexion
   D) If long term, wasting of tibialis anterior
   E) Brisk ankle jerk

129. Helicobacter pylori:
   A) Causes ulceration in the duodenum
   B) Causes Barrett's metaplasia in the esophagus
   C) Is associated with hypergastrinemia
   D) Is often resistant to certain antibiotics
   E) Can convert urea to ammonia and carbon dioxide

130. The following are features of coeliac disease:
   A) Hypocalcaemia
   B) Hypercalcemia
   C) Normocytic anemia
   D) Hypoalbuminemia
   E) Positive antiparietal cell antibodies

131. 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

132. Colonic carcinoma:
   A) Most commonly occurs in the right side of the colon
   B) May present with iron deficiency anemia in the absence of any gastrointestinal symptoms
   C) Commonly arises in colonic polyps
   D) Carries a 5-year survival of less than 10%
   E) It is the cause of carcinoid syndrome

133. Scleroderma can produce the gastrointestinal complications listed:
   A) Diarrhea due to bacterial overgrowth
   B) Constipation due to gut hypomotility
   C) Diarrhea which is unresponsive to a gluten-free diet
   D) Gastric ulcer due to chronic gastritis
   E) Dysphagia due to abnormal peristalsis in the esophagus
134. Hypoventilation occurs in the following:
   A) Central sleep apnea syndrome
   B) Severe kyphoscoliosis
   C) Anxiety
   D) Benzodiazepine overdose
   E) During exercise

135. In patients with acute renal failure:
   A) Sodium bicarbonate should be given routinely
   B) Most patients with acute renal failure need long-term dialysis
   C) Skin turgor is a reliable guide to the need for intravenous fluid therapy
   D) Urinary catheterization is sometimes needed to monitor the response to therapy
   E) Intravenous pyelography is the investigation of choice to exclude urinary obstruction

136. Prophylaxis against infective endocarditis (IE) is considered in the following
   A) A prior history of IE
   B) During gastrointestinal or genitourinary procedures
   C) Repaired congenital heart disease with residual defects
   D) Valve regurgitation due to a structurally abnormal valve in a transplanted heart
   E) Presence of a coronary artery stent

137. The pulse:
   A) Pulsus alternans indicates a poorly functioning left ventricle
   B) A tachycardia of 150 beats per minute in a resting patient usually implies an underlying cardiac arrhythmia
   C) A collapsing pulse may be noticed in thyrotoxicosis
   D) Corrigan's sign supports a diagnosis of aortic stenosis
   E) In pulsus paradoxus the rate slows during inspiration

138. Aspiration pneumonia
   A) Aspiration of gastric acid causes Mendelson's syndrome
   B) Aspiration of oil causes exogenous lipid pneumonia
   C) The most common form of aspiration pneumonia is caused by bacteria
   D) More recent work has disputed the dominance of anaerobic bacteria in aspiration pneumonia
   E) Aspiration of fluid or nontoxic particulate subjects may cause airway obstruction or reflex airway closure

139. Causes of metabolic acidosis with normal anion gap include
   A) Distal and proximal renal tubular acidosis
   B) Carbonic anhydrase inhibitors
   C) Ureterosigmoidostomy
   D) Chronic renal failure
   E) Methanol toxicity

140. Good prognostic factors of acute myeloblastic leukemia
   A) Initial high WBC
   B) Trisomy 8
   C) Rapid cytoreduction
   D) Normal cytogenetics
   E) Age <2 or >60
141. Middle East respiratory syndrome coronavirus (MERS-CoV)
   A) Confirmed case is a person with laboratory confirmation of infection with MERS-CoV irrespective of clinical signs and symptoms
   B) Real-time reverse-transcriptase polymerase chain reaction (rRT-PCR) is the diagnostic assay of choice
   C) Lower respiratory tract specimens such as sputum, endotracheal aspirate, or bronchoalveolar lavage (BAL) fluid should be obtained for rRT-PCR testing from all cases of severe disease and from milder cases when possible
   D) Obtaining upper respiratory tract specimens is especially important if the patient does not have signs or symptoms of lower respiratory tract disease or if the collection of lower respiratory tract specimens is not possible
   E) The World Health Organization (WHO) recommend an evaluation for MERS-CoV in individuals with an acute respiratory infection who returned from travel to the Arabian peninsula or neighboring countries within the past 21 days

142. The following are recognized treatment for patients with pulmonary hypertension
   A) Prostacycline
   B) Calcium channel blockers
   C) Nitric oxide
   D) Nitroglycerine
   E) Lung transplantation

143. High resolution CT scan of the chest is more informative than conventional CT scan for excluding all of the following conditions:
   A) Lymphangitis carcinomatosis
   B) Pulmonary fibrosis
   C) Bronchogenic carcinoma
   D) Bronchiectasis
   E) Bronchiolitis obliterans

144. Extra hepatic manifestation of hepatitis C infections
   A) Essential mixed Cryoglobulinemia
   B) Cutaneous vasculitis
   C) Membranoproliferative glomerulonephritis
   D) Porphyria cutanea tarda
   E) Pericarditis

145. Recognized neurological complications of hyperthyroidism include:
   A) Psychosis
   B) Mononeuropathy multiplex
   C) Chorea
   D) Periodic paralysis
   E) Seizures

146. Repeated phlebotomy in pt with symptomatic hemochromatosis is likely to improve the following conditions:
   A) Skin pigmentation
   B) Cardiac function
   C) Survival rate
   D) Infertility
   E) Liver size
147. **Poor prognostic factors of acute lymphoblastic leukemia**
   A) WBC count > 50,000
   B) CNS involvement
   C) Philadelphia chromosome
   D) Age >10, or <1
   E) Male patients

148. **Characteristics of mycoplasma-pneumonia include:**
   A) Pleural effusion as a common complication
   B) The presence of cold agglutinins
   C) Associated renal failure
   D) a good response to tetracyclines
   E) Patients immunized against mycoplasma are resistant

149. **Characteristics of delirium tremens include:**
   A) Marked drowsiness
   B) Hypotension
   C) Visual hallucinations
   D) Bradycardia
   E) Profound global confusion

150. **Immediate management of a patient suspected of having anaphylaxis includes:**
   A) High flow oxygen
   B) Intravenous hydrocortisone 100-200 mg
   C) Epinephrine 0.5 mg IV bolus
   D) Lie the patient flat and raise his legs
   E) Intubate the patient

151. **Differential diagnosis of upper zone infiltrates on CXR includes:**
   A) Asbestosis
   B) Pulmonary hemosiderosis
   C) Ankylosing spondylitis
   D) Histiocytosis X
   E) Bronchiectasis

152. **The following statements about chorea are true:**
   A) Sydenham’s chorea may recrudesce with the oral contraceptive pill
   B) Is associated with genes on chromosome 4
   C) Can follow infarction of the subthalamus
   D) Is associated with acanthocytes in the peripheral blood
   E) May be treated with haloperidol

153. **In the treatment of cardiogenic shock:**
   A) Enoximone reduces the left ventricular end diastolic pressure
   B) Adrenaline increases the systemic vascular resistance
   C) Cardiac output is increased by noradrenaline
   D) Isoprenaline increases myocardial oxygen consumption
   E) Dobutamine increases systemic vascular resistance
154. Concerning asplenic patients:
   A) They are more susceptible to malaria
   B) Should be offered vaccination against meningococcus A and C
   C) Children are more susceptible to infections when they are older
   D) They are more at risk if they lost the spleen through traumatic rupture
   E) The commonest pathogen is Haemophilus influenzae

155. The following are likely to be observed in a patient with mixed essential (type II) cryoglobulinemia:
   A) Glomerulonephritis
   B) Palpable purpura
   C) Cold intolerance
   D) Evidence of prior hepatitis B infection
   E) Normal serum complement levels

156. Clinical features of ankylosing spondylitis include:
   A) Achilles tendonitis
   B) Hip disease
   C) Conjunctivitis
   D) Aphthous ulceration
   E) Heart block

157. Recognized features of neuromuscular junction disease include:
   A) Usually affects distal more than proximal muscles
   B) Ptosis
   C) Diplopia
   D) Distal sensory loss
   E) Dysphagia

158. A middle-aged woman is investigated for recurrent chest pains and palpitations. No obvious cause is found. The following suggest the symptoms may relate to anxiety:
   A) Circumoral paresthesia
   B) Feelings of unreality
   C) Constipation
   D) Frequent atrial ectopic beats
   E) A conviction of having cancer

159. In infective endocarditis:
   A) Bacteria are commonly found in the kidney
   B) Renal lesions are due to glomerulonephritis
   C) Frank hematuria suggests an unrelated cause
   D) Renal involvement is associated with a poor prognosis
   E) Persistent hypocomplementemia is the rule

160. The following symptoms are correctly matched to the lipid disorder:
   A) High plasma HDL Tangier disease
   B) Mental retardation and high levels of gangliosides in the brain Tay Sach's disease
   C) High serum 17-alpha-hydroxyprogesterone congenital adrenal hyperplasia
   D) High LDL cholesterol type IIa hyperlipidaemia
   E) Enlarged liver and spleen due to sphingomyelin accumulation Niemann-Pick disease
161. The following are features of multiple endocrine neoplasia type 2:
   A) Hypoglycemia
   B) Recurrent goiter
   C) Hypertension
   D) Facial flushing
   E) Raised urinary cyclic AMP levels

162. The following are features of renal osteodystrophy:
   A) Hypophosphatemia
   B) Hypocalcaemia
   C) Hypomagnesaemia
   D) Elevated circulating parathormone
   E) Periarticular bone cysts

163. Pleural effusions with protein content of 22 g/l may be found in:
   A) Nephrotic syndrome
   B) 'Wet' beri beri
   C) Hypothyroidism
   D) Systemic lupus
   E) Acute intermittent porphyria

164. The following radiological features are matched with the correct diagnosis:
   A) Silhouette sign and pneumothorax
   B) Pleural capping and dissecting thoracic aorta
   C) Bat’s wing shadowing and cardiogenic pulmonary edema
   D) Air bronchogram and consolidation
   E) Wedge-shaped shadow and pulmonary embolism

165. Concerning Graves’ disease in pregnancy:
   A) Fetal hyperthyroidism is caused by maternal T4 crossing the placenta
   B) Propylthiouracil may cause neonatal goiter
   C) Radiiodine may be used as it does not cross the placenta
   D) Transient neonatal hypothyroidism is common
   E) Propranolol may be used for control of tachycardia

166. Recognized clinical pictures of pulmonary amebiasis include:
   A) Circulatory failure
   B) Respiratory distress
   C) Expectoration of “anchovy sauce like” pus
   D) Superior vena cava syndrome
   E) Elevated right hemidiaphragm on chest x-ray

167. The following infectious diseases are correctly matched to their period of infectivity:
   A) Chicken pox: from appearance of rash until the last spot is crusted over
   B) Rubella: 7 days before onset of rash until 4 days after onset of rash
   C) Mumps: 7 days before salivary swelling until appearance of salivary swelling
   D) Scarlet fever: from appearance of rash until completion of 1 day’s penicillin
   E) Measles: from onset of prodrome until 4 days after onset of rash
168. Typical features of botulism include:
   A) Circumoral Paresthesia
   B) Extensor plantars
   C) Diarrhea
   D) Fever
   E) Post-tetanic potentiation on EMG (electromyography)

169. Concerning injuries to the nerves in the lower limb:
   A) Damage to the femoral nerve results in paralysis of quadriceps femoris
   B) Damage to the deep peroneal nerve results in foot drop
   C) Section of the obturator nerve causes weakness of adduction of the thigh
   D) Damage to the tibial nerve rarely produces sensory loss
   E) Damage to the common peroneal nerve produces loss of dorsiflexion and eversion of the foot.

170. In the congenital long-QT syndrome:
   A) The autosomal dominant form is associated with deafness
   B) Romano-Ward syndrome is associated with mutations on chromosome 6
   C) Some carriers may have a normal QT interval
   D) Alpha-blocker therapy can reduce the incidence of syncope
   E) Cervical sympathectomy may be an effective therapy

171. Polyarteritis nodosa is associated with:
   A) Esinophilia
   B) Aneurysmal dilatation of medium-sized arteries
   C) Positive HBsAg
   D) Low complement levels
   E) Renal impairment in over 80%

172. Enteric fever
   A) The definitive diagnosis depends on the isolation of (S. typhi and S. paratyphi) from blood, bone marrow or a specific anatomical lesion.
   B) Culture of bone marrow aspirate is 90% sensitive until at least 5 days after commencement of antibiotics.
   C) Blood, culture results are positive for (S. typhi and S. paratyphi), in approximately 85%-90% of patients who present within the first week of onset.
   D) 10-15 ml of blood should be taken from schoolchildren and adults in order to achieve optimal isolation rates.
   E) In the first week, stool culture results are positive in 80-90% of patients, because of bacteria shed through the gallbladder.

173. A 38 year old man presented with 3 months history of cough, fever and diarrhea. On examination he was found to be pale, pulse 112/min, BP 120/80 mmHg. Spleen is palpable 15 cm below the costal margin. Liver is palpable 3 cm below the costal margin. The diagnosis of visceral leishmaniasis (Kalazar) was suggested. **The following investigation(s) is/are helpful to establish the diagnosis:**
   A) Blood film stained with Geimsa
   B) Splenic puncture
   C) Liver biopsy
   D) Stools culture
   E) Bone marrow aspirate
174. Cerebrospinal fluid analysis (CSF) in patients with multiple sclerosis (MS):  
A) The detection of oligoclonal IgG bands is diagnostic for MS  
B) In the first relapse of MS oligoclonal IgG bands has a prognostic value  
C) 5-10 percent of patients with MS never show CSF abnormalities.  
D) Mild pleocytosis with neutrophils predominant may present  
E) Albumen globulin ratio increased in >50% of cases

175. Recognized clinical features of Guillain-Barré syndrome (GBS) include:  
A) Bilateral facial palsy.  
B) A well-demarcated sensory level observed during examination  
C) Pain at the time of presentation in 50% of patients  
D) Paroxysmal hypertension  
E) Anhidrosis and/or diaphoresis

176. Raised plasma alkaline phosphatase is a typical finding in:  
A) Paget's disease  
B) Osteomalacia  
C) Osteogenesis imperfecta  
D) Homocystinuria  
E) Acute intermittent porphyria

177. Amoebic liver abscess:  
A) Should be treated by diloxanide furoate alone  
B) Should be aspirated routinely  
C) Is associated with esinophilia  
D) Usually affects the right lobe of the liver  
E) Among adults, it has higher incidence in males than in females

178. The following(s) is /are recognized causes of heart failure with diastolic dysfunction:  
A) Systemic arterial hypertension  
B) Amyloid heart disease  
C) Myocarditis  
D) Hypertrophic cardiomyopathy  
E) Aortic stenosis

179. Management strategies for supraventricular tachycardia include:  
A) Lignocaine  
B) Valsalva maneuver  
C) Intravenous adenosine  
D) Intravenous verapamil  
E) DC Shock

180. Indications for permanent transvenous pacing include the following:  
A) Symptomatic second-degree type 1 heart block  
B) Left bundle branch block  
C) Sinus node dysfunction with documented symptomatic bradycardia  
D) Second-degree type 2 and third-degree Ativoventricular Block irrespective of symptoms  
E) Second-degree type 1 AV block with conduction delay occurs at intra- or infra-His levels
III. Each slide followed by best of five question, Choose the best answer

181. A 28-year-old female comes to the emergency department with a headache and fever. She has not had any recent infections, nor has she been exposed to any drugs. Her medical history is unremarkable. On examination, the patient appears lethargic. Her temperature is 100.5°F, pulse is 100/minute, blood pressure is 130/85 mm Hg, and respirations are 18/min. Her conjunctivae are yellowish, and scattered petechiae are noted on the lower extremities. The liver and spleen are not enlarged.
Investigations: WBC 12 x 10^9 /L; hematocrit 27%; platelets 14 x 10^9 /L; bilirubin 4.5 mg/dL (76.9 µmol/L); direct bilirubin 0.5 mg/dL (8.5 µmol/L); BUN 40 mg/dL (14.3 mmol/L); creatinine 3.5 mg/dL (309.4 µmol/L). PT, fibrinogen, and aPTT are all normal. Her peripheral blood smear is shown below.

What is the most effective treatment for this patient?
A) Splenectomy
B) Glucocorticoids
C) Plasmapheresis
D) Intravenous immunoglobulins
E) Platelet transfusion plus broad spectrum antibiotics
A 22-year-old woman is brought by the family because of syncopal attacks. Prior to passing out, she describes feeling light-headed and dizzy. There was no evidence of seizure activity. She has no medical problems and does not take any medications. Her father died of a “heart problem” at 33 years of age. She does not smoke or use drugs. BP is 120/70 mm Hg, pulse rate is 67 beats per minute, RR is 13 breaths per minute, and oxygen saturation is 100% on room air. Her physical examination and laboratory results are all normal. Her standard 12-lead ECG is seen below.

Which of the following is the most likely diagnosis?
A) Wolff-Parkinson-White syndrome
B) Long QT syndrome
C) Lown-Ganong-Levine syndrome
D) Complete heart block
E) Atrial flutter
A 54-year-old man with a family history of hyperlipidemia is admitted with a 12 hour history of severe generalized abdominal pain associated with nausea, vomiting and abdominal distension. Examination of the abdomen reveals tenderness in the periumbilical area with shifting dullness. Serum pancreatic amylase is 29 IU/L and lipase 44 IU/L, and triglyceride is 36.28 mmol/L. Abdomen Ultrasound shows ascites and CT of the abdomen with contrast is shown below.

What is the most likely diagnosis?

A) Acute pancreatitis  
B) Perforated gut  
C) Perforated appendicitis  
D) Acute cholecystitis  
E) Intestinal infarction
184. A 54-year-old man with end-stage renal disease who is on hemodialysis complains of chronic left knee pain and swelling. A radiograph of his left knee is seen below.

What is the most probable diagnosis?
A) Rheumatoid arthritis
B) Osteoarthritis
C) Gout
D) Pseudogout
E) Calciphylaxis
185. A 72-year-old man with hypertension is brought by the family because of altered mental status and right sided weakness. Brain CT is shown below

![Brain CT Image](image)

**What is the most likely diagnosis?**

A) Epidural tumor  
B) Subdural hematoma  
C) Epidural hematoma  
D) Subdural tumor  
E) Meningioma
61-year-old man with prostate cancer presents to the emergency department with a 1-day history of sudden onset of chest pain and exertion-induced breathlessness associated with light-headedness. His vital signs are: blood pressure, 157/100 mm Hg; heart rate, 93 beats/min; respiratory rate, 15 breaths/min; temperature, 98.7° F. The physical examination is remarkable for pallor and bilateral pedal edema, with no evidence of jugular venous distention or tenderness in the lower limbs. Lungs are clear to auscultation. Arterial blood gases on room air are: pH, 7.48 (normal range, 7.35-7.45); PCO2, 29.0 mm Hg (normal, 35-45); PO2, 53.0 mm Hg (normal, 80-100); bicarbonate, normal (at 21.4 mmol/L); troponin, normal (at 0.15 µg/L); B-type natriuretic peptide, 217 pg/mL (normal, <100). A 12-lead electrocardiogram (ECG) is obtained.

What is your Diagnosis?
A) Non-ST myocardial infarction
B) Acute pulmonary embolism
C) Anterior hemi block
D) Obstructive air way disease
E) Acute pericarditis
A 23-year-old man presents with 5-day chest pain, fever associated productive cough and chills. Clinical examination reveals very sick patient. Temperature is 39.2°C, blood pressure 100/60 mm Hg, Pulse 108 beat/minute and respiratory rate 20/minute. Chest examination shows crackles in the left side. Chest x-ray is seen below.

**What is the most likely diagnosis?**

A) Lung abscess  
B) Lung infarction  
C) Lung cyst  
D) Pericardial cyst  
E) Acute purulent pericarditis
A 65-year-old female presents with prolonged fever and recurrent sore throat, chest pain and associated with sudden onset of pain and redness of the pinna of her ears. See picture. A biopsy from an affected pinna showed perichondrial inflammation and the loss of the normal cartilage basophilia on microscopy and staining.

Which of the following is the most common cause of death from this disease?

A) Neurological sequelae  
B) Multi-organ dysfunction  
C) Respiratory collapse  
D) Disseminated coagulopathy  
E) Disseminated infection
189. A 64-year-old man presents with hand, wrist and ankle pain and swelling of one month duration. He is smoker of 2 packs per day. On questioning he admits that he has significant weight loss and anorexia.

Which of the following is true about this condition?

A) It is idiopathic in 10% of all cases.
B) In secondary form the symptoms precede the development of underlying disease by several months in all cases.
C) The secondary form occurs predominantly in women aged 30–70 years.
D) The primary form usually begins slowly at age of 40 years.
E) The secondary form develops more rapidly.
190. A 32-year-old man presents with 2-month headache, weight gain, enlarged extremities, and changes in facial features.

The following abnormalities can be seen in his lateral skull X-ray EXCEPT
A) Prognathism
B) Increased thickness of clavaria
C) Enlarged sella turcica.
D) Enlargement of the frontal sinuses
E) Thinning and/or flattening of the occipital protuberance
A 75 year old woman complains of neck pains. She has a prior history of hypertension, diabetes and CHF. On examination, she has kyphosis, BP is 129/87 mmHg, Pulse 78/min., tender lower neck posteriorly, with mild pedal edema. Her cervical X-ray is shown below.

What is the likely diagnosis?

A) Osteomyelitis
B) Osteoporosis
C) Osteoarthritis
D) Rheumatoid arthritis
E) Multiple myeloma
A 34-year-old male presents with 15-day history of malaise, cough, blood-streaked sputum, pleuritic chest pain and fever. His medical history is unremarkable. On examination his temperature is 101°F (38.3°C) and BP 140/85 mmHg. Mouth examination reveals multiple dental caries and periodontal disease. The rest of the examination is unremarkable. His white blood cell count is 19 x 10⁹/L (mainly neutrophils). His chest x-ray is shown below.

Which of the following microorganisms is least likely to cause this condition?
A) *Peptostreptococcus* species
B) *Haemophilus influenzae*
C) *Bacteroides* species
D) *Fusobacterium* species
E) *Prevotella* species
193. A 31-year-old obese female presents to her eye doctor with a history of headaches and transient visual obscurations for six months. She also reports a ringing sound in her ears for the past year that is synchronous with her pulse. On exam, she is noted to have bilateral abnormal optic discs, see image.

Which of the following is the most feared complication of this condition?

A) Herniation syndrome  
B) Hemiplegia  
C) Intracerebral hemorrhage  
D) Visual loss  
E) Sixth nerve palsy
194. A 48-year-old woman presents with upper right abdominal pain associated with anorexia, nausea and intermittent fever. The patient has history of breast cancer one year ago and she was operated and received chemotherapy.

What is the probable diagnosis?
A) Liver metastasis
B) Liver cysts
C) Liver abscess
D) Liver cirrhosis
E) Hepatoma
A 42-year-old man is admitted because of right sided weakness. Ischemic stroke is approved by brain CT. on questioning he admits that he has bouts of palpitations that aborted spontaneously. ECG is done (See image).

What would the ECG strip suggest?
A) Atrial extrasystole
B) Sinoatrial block
C) Complete AV block
D) Paroxysmal atrial fibrillation
E) Atrial tachycardia
196. This patient presented with pigmented rash over sun exposed areas, difficulty with short-term memory and chronic diarrhea.

What is the likely diagnosis?
   A) Vitamin B1 deficiency
   B) Vitamin B2 deficiency
   C) Vitamin B3 deficiency
   D) Folate deficiency
   E) Vitamin B12 deficiency
A 46-year-old male patient presents with dizziness and occasional syncopal events. 12-lead ECG is done, see image.

What is your ECG diagnosis?
A) Bifascicular block with Second-degree AV block type II
B) Complete heart block
C) Second-degree AV block type II
D) Tri-fascicular block
E) Second-degree AV block type I
198. A 72-year-old man is admitted to medical ward with history of low back pain, radiating beyond the back to the buttocks, the pain is worsened with standing or walking, and improves with sitting or stooping forward suggesting lumbar spinal stenosis. On questioning he admits that he has fainting attacks. ECG shows atrial fibrillation for which he is referred to a cardiologist who starts him on enoxaparin 1 mg/kg and digoxin. After two days patient feels unwell and complains of dizziness. His vital signs revealed supine hypotension with BP 70/50 mmHg. Abdominal examination reveals right lower swelling. No bruising and the patient's hemoglobin level drops to 7.5 g/dL. He is started on fluid but he remains hypotensive and become anuric with worsening of renal function creatinine (300 µmol/l). Abdominal computed tomography is done (see image below).

What is the most likely diagnosis?
A) Gut perforation
B) Psoas hematoma
C) Intra-tumor bleeding
D) Retroperitoneal hematoma
E) Psoas abscess
A 46-year-old man known case of hypertension is admitted to emergency department with sudden onset of slurred speech, weakness of the left side of the body, of 9-hours duration, associated with chest pain. Upon physical examination, the patient appears ill, but is conscious and oriented, with blood pressure of 170/100 mmHg, pulse rate of 61/minute, regular without radio-femoral delay, temperature 36.7°C, and respiratory rate of 14/minute. There is upper motor left facial palsy, dysarthria, left sided hemiplegia with power of grade 2/5 in left upper and lower limbs with up-going left plantar reflex. Examination of other systems is unremarkable. A 12-lead electrocardiogram is normal. Chest X ray and chest MRI are performed (See figures below).

What is the most likely cause of his symptoms?
A) Aortic dissection
B) Atherosclerotic stroke
C) Cardio-embolic stroke
D) Ruptured aneurysm
E) Aortic dissection
A 32-year-old man is admitted to the emergency department complaining of difficulty of swallowing. Four weeks ago he swallowed an unknown quantity of a bleaching substance (sodium hypochlorite) by mistake and was admitted to the hospital for 5 days. A barium swallow via a naso-oesophageal tube is carried out (See figure).

What is the effective prophylactic measurement that can prevent this condition?

A) Prophylactic bougienage  
B) Esophageal stenting  
C) Systemic steroids  
D) All of the above  
E) None of the above

Answer key in the next page, best luck
## Paper 5

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<th>II: false or true</th>
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### III. Slides

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| 189. C |
| 190. E | 191. C |
| 191. B |
| 192. C |
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| 193. D |
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| 194. A |
| 195. D |
| 195. B |
| 196. C |
| 197. A |
| 198. D |
| 199. E |
| 200. E |