1. Which of the following is the most likely cause of right-side only cardiac failure?

A. Aortic valve disease
B. Mitral valve incompetence
C. Systemic hypertension
D. Diffuse interstitial lung disease
E. Ischemic heart disease

2. A patient has chronic passive congestion of the liver. Which of the following conditions is the most likely cause?

A. Cardiac tamponade
B. Right side cardiac failure
C. Calcific aortic stenosis
D. Mitral valve prolapse
E. Abdominal aortic aneurysm

3. A 68-year-old man has high levels of circulating renin and angiotensin and increased production of aldosterone with fluid retention over the past 2 weeks. Which of the following events would best explain these findings?

A. Acute endocarditis of the right ventricle
B. Diffuse interstitial lung disease
C. Incompetence of the tricuspid valve
D. Atherosclerosis of the aorta
E. Recent large myocardial infarct of the left ventricle

4. Cor pulmonale is characterized by:

A. right ventricular hypertrophy.
B. the presence of an aortic coarctation.
C. an abdominal aortic aneurysm inferior to the renal arteries.
D. lymphoma arising in cervical lymph nodes.
E. left ventricular aneurysm.

5. With regard to congenital left to right shunts of the heart:

A. atrial septal defect is by far the most common cause.
B. Tetrology of Fallot is the most common cause.
C. the shunts usually reverse, giving rise to cyanosis.
D. the shunts are not reversible and cyanosis does not occur.
E. patients are usually born cyanotic.

6. Prinzmetal's angina is believed to be caused by:

A. repeated bouts of acute rheumatic fever.
B. infection with Coxsackie A virus.
C. pulmonary fibrosis.
D. coronary artery vasospasm.
E. acute bacterial endocarditis.

7. A 71-year-old man is rushed to hospital suffering from severe substernal chest pain. Angiography reveals complete thrombotic occlusion of the left anterior descending coronary artery. Which of the following complications is most likely to occur within 1 hour of these events?

A. Ventricular aneurysm
B. Ventricular fibrillation
C. Mitral valve stenosis
D. Rupture of papillary muscles
E. Cardiac tamponade

8. Dilated cardiomyopathy is often caused by:

A. alcoholism.
B. aortic atherosclerosis.
C. calcific aortic stenosis.
D. bronchopneumonia.
E. pulmonary congestion and edema.

9. The ultimate mechanism of death in sudden cardiac death is most often due to:

A. acute pericarditis.
B. incompetent mitral valve.
C. arrythmias.
D. bacterial infection of papillary muscles.
E. thromboemboli from dilated left atrium deposited in the spleen.

10. Acute rheumatic fever:

A. is caused by streptococcal organisms infecting the myocardium.
B. is caused by stenosis and incompetence of the mitral valve.
C. is caused by high levels of circulating rheumatoid factor.
D. is caused by pharyngeal infection by alpha-hemolytic *Strept viridans.*
E. is caused by antibodies to bacterial M protein cross-reacting with self tissue antigens.

11. Aschoff bodies are a characteristic finding in:

A. hepatocytes in alcoholics.
B. the myocardium of a person suffering from Coxsackie B virus infection.
C. cardiac vegetations.
D. healing myocardium following an acute myocardial infarct.
E. the myocardium of a person suffering from rheumatic fever.

12. Unstable angina pectoris:

A. is caused by complete thrombotic occlusion of a coronary artery.
B. is also known as Prinzmetal's angina.
C. is caused by calcific aortic stenosis.
D. is caused by transient partial thrombotic occlusion of a coronary artery.
E. is caused by dissecting aneurysm of the root of the ascending aorta.

13. Cardiac vegetations:

A. are caused by human papilloma virus infection of heart valve leaflets.
B. are small ulcers of the endothelium of papillary muscles.
C. are small fibrin clots on inflamed, damaged surfaces of valves.
D. are always infected.
E. only occur on the aortic valve.

14. Subacute bacterial endocarditis:

A. typically arises by infection of already damaged valves.
B. is usually caused by *Staphylococcus aureus*.
C. is most commonly seen in intravenous drug abusers.
D. usually results in large ulcers that perforate the interventricular septum.
E. is the most common complication of a myocardial infarct.

15. The most common finding in chronic rheumatic heart disease is:

A. calcific aortic stenosis.
B. mitral valve stenosis.
C. rupture of the right ventricular papillary muscles.
D. pulmonary valve stenosis.
E. mitral valve prolapse.

16. What is the red blood cell morphology in pernicious anemia?

A. The red blood cells are normochromic, microcytic.
B. The red blood cells are normochromic, normocytic.
C. The red blood cells are hypochromic, microcytic.
D. The red blood cells are spherical in shape.
E. The red blood cells are normochromic, macrocytic.

17. Which enzyme is most important in minimizing oxidant damage in red blood cells?

A. NADPH oxidase
B. Glucose-6-phosphate dehydrogenase
C. Myeloperoxidase
D. Elastase
E. Plasmin

18. A "hair-on-end" pattern observed in a lateral skull radiograph is typically seen in severe cases of:

A. iron deficiency anemia.
B. beta thalassemia.
C. polycythemia vera.
D. disseminated intravascular coagulation.
E. von Willebrand disease.

19. A mutation in the gene for ankyrin is the cause of:

A. von Willebrand disease.
B. hemophilia A.
C. spherocytosis of red blood cells.
D. autosplenectomy.
E. alpha thalassemia.

20. A lack of synthesis of all 4 hemoglobin alpha chains:

A. is the basis of HbH disease.
B. is the cause of thalassemia major.
C. is main defect in sickle cell anemia.
D. is incompatible with life.
E. causes myelophthesic anemia.

21. A 30-year-old woman has a history of autoimmune disease that includes atrophic gastritis and destruction of parietal cells in the gastric mucosa. Which of the following anemias would she most likely have?

A. Megaloblastic anemia
B. Aplastic anemia
C. Myelophthesic anemia
D. Sickle cell anemia
E. Iron deficiency anemia

22. The hemoglobinopathy caused by a point mutation in the codon coding for the 6th amino acid of the beta chain is:

A. hereditary spherocytosis.
B. HbH disease.
C. thalassemia minor.
D. alpha thalssemia trait.
E. sickle cell anemia.

23. Characteristic findings in sickle cell anemia are:

A. microinfarcts and autosplenectomy.
B. pancreatic enlargement and hemorrhage.
C. numerous transfusions and hemosiderosis.
D. autosplenectomy and death by age 12.
E. hemosiderosis and autoantibodies to intrinsic factor.

24. Acute lymphoblastic leukemias:

A. do not respond well to chemotherapy.
B. occur most commonly in young children.
C. are due to a translocation involving chromosomes 9 and 22.
D. are due to a translocation involving chromosomes 8 and 14.
E. have a strong association with Epstein-Barr virus.

25. Follicular lymphomas:

A. are high grade, aggressive tumors, most common in infants.
B. usually arise in extranodal soft tissues.
C. have a nodular growth pattern.
D. have a high cure rate due to quick response to chemotherapeutic agents.
E. are the most common lymphoma to exhibit a leukemic spread.

26. Chronic myelogenous leukemia:

A. presents abruptly with bone marrow failure and anemia.
B. is caused by Epstein-Barr virus.
C. is the same disease as SLL (small lymphocytic lymphoma).
D. is the most common type of leukemia to present as gingival swelling.
E. exhibits a translocation involving chromosomes 9 and 22.

27. Bence-Jones protein:

A. is most commonly observed in cases of Burkitt lymphoma.
B. is most commonly observed in polycythemia vera.
C. is detectable in urine of patients with multiple myeloma.
D. is detectable in nuclei of diffuse large B cell lymphoma cells.
E. is the main constituent of Birbeck granules.

28. Langerhans cell histiocytosis:

A. typically presents with fewer lesions and has a better outcome as the age at diagnosis increases.
B. involves the skin and liver only.
C. has a better prognosis with the "lymphocyte predominant" form of the disease.
D. is at stage II when limited to lymph nodes on one side of the diaphragm only.
E. typically presents with widespread gingival swelling.

29. Hodgkin lymphoma:

A. is an unusual T cell lymphoma.
B. typically presents with high levels of circulating Ig chains (M component).
C. typically presents with large deposits of amyloid in the liver.
D. has a high cure rate when in stage II and treated aggressively with radiotherapy and chemotherapy.
E. arises most commonly within Peyer's patches of the gut and does not involve lymph nodes.

30. Lack of which of the following proteins disrupts normal functioning of platelets and factor VIII in hemostasis?

A. Bence-Jones protein
B. von Willebrand factor
C. Factor XII
D. Fibrinogen
E. Glucose-6-phosphate dehydrogenase

31. The mode of inheritance of hemophilia B is:

A. autosomal recessive.
B. autosomal dominant.
C. X-linked dominant.
D. X-linked recessive.
E. none of the above as it is not an inherited disease.

32. Which of the following diseases is characterized by normal PT, prolonged PTT, normal bleeding time and normal platelet number?

A. Ehlers-Danlos syndrome
B. Deficiency in factor VII
C. Dysfunction in platelets causing a lack of platelet aggregation
D. Thrombocytopenia
E. Deficiency in factor XI

33. Which of the following diseases would most likely have a normal PT, normal PTT, decreased platelet number and prolonged bleeding time?

A. Scurvy
B. Hemophilia A
C. Acute lymphoblastic leukemia
D. Deficiency in factor X
E. Deficiency in vitamin K

34. A 31-year-old pregnant woman has a successful delivery, but shortly thereafter she experiences pain in many parts of her body followed by continuous vaginal bleeding that is difficult to control. Her delivery is most likely complicated by:

A. an episode of sickling caused by sickle cell anemia.
B. an episode of intravascular hemolysis due to a lack of glucose-6-phosphated dehydrogenase deficiency.
C. disseminated intravascular coagulation.
D. amyloid induced kidney failure.
E. right ventricular heart failure.

35. Polycythemia vera:

A. is a neoplastic proliferation of red blood cell progenitors resulting in an increased circulating red blood cell mass.
B. is an anemia due to the presence of a long-standing chronic disease.
C. is an increase in red blood cell mass as the result of living at high altitudes.
D. is a neoplastic proliferation of more than one type of lymphocyte.
E. is an increase in the number of macrophages in the spleen caused by hereditary spherocytosis.

36. Collapse of all or part of the lung due to a pleural effusion is referred to as:

A. microatelectasis.
B. compression atelectasis.
C. resorption atelectasis.
D. contraction atelectasis.
E. empyema.

37. Enzymatic destruction of elastin in the walls of lung acini is important in the pathogenesis of:

A. status asthmaticus.
B. emphysema.
C. chronic bronchitis.
D. atopic asthma.
E. viral pneumonia.

38. Which of the following best describes squamous cell carcinoma of the lung?

A. Exposure to asbestos is the most important etiologic agent in this form of lung cancer.
B. It usually presents as a thick, firm white plaque on the outer surface of the lung next to the diaphragm.
C. It responds to chemotherapy better than any other type of lung cancer.
D. Smoking is believed to be an important etiologic agent.
E. It usually develops as a small mass in the periphery of the lung and metastasizes widely at an early stage.

39. Which of the following malignant tumors has a very strong association with one of the herpes viruses?

A. Laryngeal squamous cell carcinoma
B. Lung squamous cell carcinoma
C. Hepatocellular carcinoma metastatic to the lung
D. Small cell carcinoma of the lung
E. Nasopharyngeal carcinoma

40. A 51-year-old man presents with dyspnea and small mucosal nodules of the oral cavity and upper respiratory airway. A chest radiograph reveals multiple hilar opacities with diffuse wispy consolidation elsewhere. A lung biopsy revealed granulomatous inflammation with multinucleated giant cells. Which of the following is the best diagnosis?

A. Small cell carcinoma of the lung
B. Breast carcinoma metastatic to the lung
C. Sarcoidosis
D. Mesothelioma
E. Extrinsic asthma brought on by cold air

41. Smoking cigarettes:

A. is a major cause of chronic obstructive lung disease.
B. is the most important cause of rheumatoid arthritis.
C. is the most important cause of acute rheumatic fever.
D. is not a risk factor in the development of atherosclerosis.
E. is the major cause of idiopathic diffuse interstitial fibrosis of the lung.

42. A characteristic morphologic change associated with ARDS and acute diffuse alveolar damage is:

A. the presence of eosinophils in the bronchial mucosa.
B. increased numbers of mucous glands in the bronchial submucosa.
C. squamous metaplasia of the bronchial respiratory epithelium.
D. the presence of hyaline membranes lining the alveoli.
E. moderate levels of dysplasia in the epithelium lining the vocal cords.

43. Long-term pulmonary hypertension and cor pulmonale are most likely going to develop in which of the following diseases?

A. Diffuse interstitial fibrosis of the lung
B. Pneumococcal pneumonia treated with antibiotics
C. Saddle embolus
D. Squamous metaplasia of bronchial epithelium
E. Lung adenocarcinoma

A

44. Centriacinar emphysema:

A. is more likely to be present in a smoker than panacinar emphysema.
B. is caused by a type I hypersensitivity reaction.
C. is a restrictive lung disease.
D. is caused by chronic bronchitis.
E. is caused by repeated pharyngeal infections with Group A Streptococci.

45. Laryngeal carcinoma:

A. is typically a small cell carcinoma of neuroendocrine origin.
B. is more common in men.
C. is best treated with chemotherapy.
D. has a very poor prognosis because it is not curable at any stage.
E. is typically an adenocarcinoma caused by EBV infection.

46. A 63-year-old man with a long history of heavy smoking presents with a palpable mass in the neck superior to the left clavicle. The mass is most suspicious of:

A. acute diffuse alveolar damage of the lung.
B. lobar pneumonia.
C. compression atelectasis.
D. resorption atelectasis.
E. metastatic bronchogenic carcinoma.

47. A 66-year-old woman with bronchogenic carcinoma also has elevated serum calcium levels due to overproduction of parathyroid hormone. The parathyroid glands are normal and are not the source of the increased hormone. This patient most likely has:

A. restrictive lung disease.
B. bronchopneumonia.
C. paraneoplastic syndrome.
D. pulmonary hypertension.
E. panacinar emphysema.

48. Atypical pneumonia:

A. is a combination of bronchopneumonia and lobar pneumonia.
B. is bronchopneumonia that has caused premalignant changes in the bronchial epithelium.
C. is pneumonia confined to the apex of the left side of the lung.
D. is caused by viral or chlamydial infection. (mycoplasma,)
E. is characterized by copious production of thick mucopurulent sputum.

49. A 32-year-old woman experienced fatigue, fever, night sweats and painless swelling of cervical lymph nodes. Based on the findings in a lymph node biopsy (See attached Figure 1), this patient most likely has:

A. follicular non-Hodgkin lymphoma.
B. acute myelogenous leukemia.
C. Hodgkin lymphoma. RS cells
D. thalassemia major.
E. folate deficiency.

50. In this photograph, a cross section of the ventricles of a normal heart is on the right and an abnormal heart is on the left (See attached Figure 2). Which of the following statements best describes the abnormality on the left?

A. The patient has had a recent (4 days ago) transmural infarct of the left ventricle.
B. The patient has dilated cardiomyopathy.
C. The patient has a left ventricular aneurysm.
D. The patient has cor pulmonale.
E. The patient has systemic hypertension.

B

51. In acute appendicitis, what type of necrosis develops in the appendiceal wall?

A. Coagulative necrosis
B. Liquefactive necrosis
C. Caseous necrosis
D. Fat necrosis
E. Apoptosis

52. Large colon cancers most commonly reveal what symptom?

A. Acute pain in the right lower quadrant of the abdomen with bloody stool
B. Epigastric burning sensation with exacerbated pain between meals
C. Right upper quadrant discomfort with jaundice
D. Left lower quadrant discomfort with occult or gross blood in the stool
E. Periumbilical discomfort becoming a right lower quadrant deep pain

53. Irregular melanin pigmentations around the mouth, lips, buccal mucosa, tips of fingers, feet, and perianal and genital regions are most commonly co-manifested with which of the following?

A. Multiple hamatomatous polyps in the gastrointestinal tract
B. Multiple osteomas in the mandible
C. Multiple impacted teeth in the maxilla
D. Multiple neuromas in the oral mucosa
E. Multiple dermoid cysts in the skin

E

54. What type of inflammatory response is most commonly observed in typhoid fever?

A. Suppurative inflammation in the caecum
B. Serous inflammation in the colon
C. Fibrinoid inflammation in the gastrointestinal blood vessels
D. Diffuse chronic inflammation in the ileum
E. Granulomatous inflammation in the reticuloendothelial system

55. Which of the following is thought to be caused by exaggerated peristaltic contractions due to low-fiber diet that elevate the intraluminal pressure?

A. Duodenal peptic ulcer
B. Terminal ileitis
C. Colonic diverticula ✓
D. Acute appendicitis
E. Chronic ulcerative colitis

56. A 35-year-old man has had epigastric pain for over 1 year. The pain tends to occur 2 to 3 hours after a meal and is relieved if he takes antacids or eats more food. Laboratory tests reveal he has infection by helicobacter pylori. If it is not treated, which of the following complications is he most likely to develop?

A. Fat malabsorption
B. Vitamin B12 deficiency
C. Hematemesis
D. Carcinoid syndrome
E. Hepatic metastasis

57. A 20-year-old woman has had nausea and vague lower abdominal pain for the past 24 hours, but now the pain has become more severe. Pregnancy test is negative and acute appendicitis is suspected. Which of the laboratory findings is most useful to aid in the diagnosis of this patient?

A. Entamoeba histologica cysts in the stool
B. Incresed serum alkaline phosphatase
C. Increased serum carcinoembryonic antigen
D. Hyperamylasemia
E. Leukocytosis

C

58. Patients with which of the following conditions most likely have an increased risk of developing gastric carcinomas?

A. Acute erosive gastritis
B. Acute stress ulcers
C. Chronic gastritis
D. Gastric peptic ulcer ✓
E. Duodenal peptic ulcer

59. A young man develops steatorrhea whenever he eats wheat bread. His physician advised him to avoid eating bread and his problem would improve. What is the most likely problem he has?

A. Celiac disease
B. Chronic ulcerative colitis
C. Crohn disease
D. Colonic diverticulitis
E. Chronic autoimmune gastritis

60. Dental radiographic examinations of 22-year-old man revealed multiple osteomas in the mandible and genetic analyses showed he has mutation of the APC gene. He is at a great risk of developing which of the following?

A. Achalasia
B. Esophageal varices
C. Peptic ulcer
D. Colon cancer
E. Crohn disease

61. Periampullary carcinomas usually present with:

A. right upper quadrant pain.
B. vomiting.
C. hematemesis.
D. obstructive jaundice.
E. intermittent fevers.

62. Nonalcoholic fatty liver disease is most commonly seen with:

A. esophageal varices.
B. portal hypertension.
C. systemic hypertension.
D. obesity.
E. vitamin deficiency.

63. Reye's syndrome is often associated with:

A. aspirin in viral infections.
B. acetaminophen with migraine.
C. methotrexate in rheumatoid arthritis.
D. penicillin in streptococcus infection.
E. chloramphenicol in urinary tract infections.

64. In right heart failure, the most common change in the liver is:

A. periportal sinusoidal congestion.
B. centrilobular sinusoidal congestion.
C. Steatosis.
D. portal inflammation.
E. lobular inflammation.

65. Microvesicular steatosis is seen in:

A. Obesity.
B. acute fatty liver of pregnancy.
C. halothane toxicity.
D. HEELP syndrome.
E. anemia.

66. The changes that are characteristic of Tylenol (acetaminophen) toxicity are:

A. granulomas.
B. cholestasis.
C. fibrosis.
D. ballooning change.
E. zone 3 necrosis.

67. The hallmark of chronic liver disease microscopically is:

A. necrosis.
B. nodule formation.
C. fibrosis.
D. bile duct proliferation.
E. cholangitis.

68. Chronic hepatitis is associated most with:

A. hepatitis A.
B. hepatitis C.
C. hepatitis E.
D. tetracycline toxicity.
E. vitamin A toxicity.

69. The most common significant complication of portal hypertension is:

A. rectal hemorrhoids.
B. caput medusa.
C. bleeding esophageal varices with hemetemesis.
D. jaundice.
E. edema.

70. Cirrhosis develops from abnormal fibrosis secondary to changes in the:

A. stellate cell.
B. Kupffer cell.
C. endothelial cell.
D. hepatocyte cell.
E. dendritic cell.

71. Ascites is the accumulation of fluid in the:

A. pleural cavity.
B. peritoneal cavity.
C. pelvic cavity.
D. pericardial cavity.
E. subcutaneous tissue.

72. The virus most associated with vertical transmission of infection is:

A. hepatitis A.
B. hepatitis B.
C. hepatitis C.
D. hepatitis D.
E. hepatitis E.

73. Alpha 1 antitrypsin deficiency is associated with:

A. acidophilic bodies.
B. Mallory's hyaline.
C. ground glass cytoplasm.
D. granulomas.
E. eosinophilic globules in hepatocytes.

74. Wilson's disease is associated with a pathology in the metabolism of:

A. iron.
B. zinc.
C. vitamin D.
D. copper.
E. estrogen.

75. Primary biliary cirrhosis is most often associated with an elevation in serum levels of:

A. antinuclear antibody.
B. anticytoplasmic antibody.
C. antimembrane antibody.
D. antimitochondrial antibody.
E. antimicrosomal antibody.

76. Primary sclerosing cholangitis has a strong association with:

A. Crohn's disease.
B. celiac sprue.
C. Whipple's disease.
D. pancreatic insufficiency.
E. ulcerative colitis.

77. Hepatocellular carcinoma is most often found in the US on a background of :

A. hepatitis E.
B. cirrhosis.
C. thorotrast usage.
D. parasitic infestations.
E. arsenic toxicity.

78. The most common consequence of cholelithiasis is:

A. cholecystitis.
B. pancreatitis.
C. hepatitis.
D. colitis.
E. cholangiolitis.

79. Unconjugated hyperbilirubinemia is often secondary to:

A. gallstones.
B. strictures in the bile duct.
C. tumor in the head of the pancreas.
D. excessive breakdown of red cells.
E. liver fluke infection.

didn't get to ~~liver~~ bile's

80. Acute pancreatitis has a strong association with:

A. meat and fish.
B. alcohol and gallstones.
C. smoking and intravenous drug abuse.
D. spicy foods.
E. allergies and asthma.

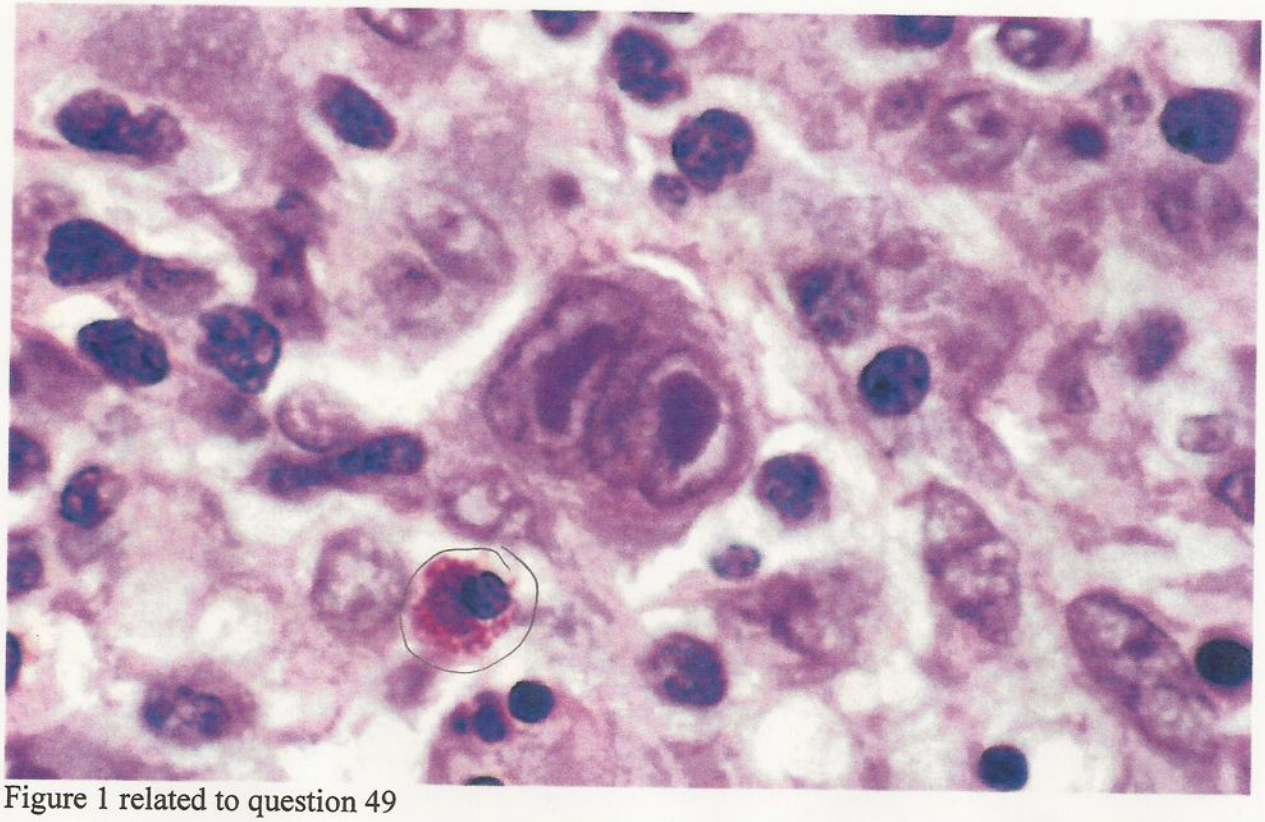

Figure 1 related to question 49

Figure 2 related to question 50