

Exam April 2000

1. white infarcts
 - a. may be transiently red
 - b. occur in the intestine
 - c. result from venous occlusion
 - d. are always septic
 - e. occur predominantly in the liver

2. the first thing that occurs in acute inflammation is
 - a. vasodilation
 - b. increased permeability
 - c. diapedesis
 - d. vasoconstriction
 - e. stasis

3. which cell type is found predominantly in the periarteriolar sheaths in the white pulp of the spleen and paracortical areas of the lymph nodes
 - a. B lymphocyte
 - b. Neutrophil
 - c. Mast cell
 - d. T lymphocyte
 - e. Macrophage

4. hyperacute transplant rejection is due to
 - a. vasculitis
 - b. fibrosis
 - c. immune complex deposition
 - d. fibroblasts
 - e. fibrinoid reaction in arterial walls

5. what best defines the pathophysiology underlying shock
 - a. widespread tissue hypoxia as a result of decreased blood volume/ineffective blood volume
 - b. lactic acid production
 - c. low cardiac output
 - d. decreased blood volume
 - e. cellular hypoxia resulting from impaired tissue perfusion

6. which is an AIDS-defining illness
 - a. Salmonella enteritis
 - b. Hodgkins lymphoma
 - c. Invasive cervical cancer
 - d. EBV
 - e. X

7. regarding HIV, which is correct
 - a. the decrease in CD8+ T cells is greater than the decrease in CD4+ T cells
 - b. patients are able to mount antibody responses to new antigens
 - c. there is increased delayed type hypersensitivity
 - d. it causes polyclonal hypergammaglobulinaemia
 - e. there is increased chemotaxis

8. to which 2 organs do tumours most commonly spread haematogenously
 - a. lungs and brain
 - b. liver and lungs
 - c. x
 - d. x

9. all of the following are DNA viruses except
- CMV
 - HIV
 - VZV
 - HSV
 - EBV
10. Rickettsial infections
- Predominantly involve endothelial cells
 - Are spread via the airborne route
 - x
 - X
 - x
11. regarding the oral contraceptive pill – it is protective against
- venous thrombosis
 - breast carcinoma
 - cervical carcinoma
 - ovarian carcinoma
 - hepatic adenoma
12. regarding electrical injuries; which is correct
- all body tissue conduct equally
 - amperage is not important
 - massive skin burns may cause death
 - dry skin is a good electrical conductor
 - x
13. a man is brought into ED with heart failure and has a cardiac index of 81. which is most likely to cause this
- thiamine deficiency
 - myocardial ischaemia
 - vitamin B6 deficiency
 - vitamin B12 deficiency
 - arrhythmia
14. a deficiency of which can cause heart failure
- pyridoxine
 - vitamin D
 - vitamin C
 - zinc
 - thiamine
15. regarding air embolism, what amount of gas is required to produce symptoms
- 10mL
 - 20mL
 - 100mL
 - 1000mL
 - 1mL
16. regarding atrophy, all are correct except
- persistence of residual bodies
 - decreased myofilaments
 - decreased rough endoplasmic reticulum
 - decreased autophagic vacuoles
 - decreased smooth endoplasmic reticulum

17. which of the following is an example of hypertrophy
- increase in the size of the liver after partial hepatectomy
 - increase in the size of the female breast
 - increased respiratory epithelium in response to vitamin A deficiency
 - increase in the size of the female uterus in pregnancy
 - increased thickness of endometrium during the menstrual cycle
18. which of the following is true of nephrotic syndrome
- albumin is lost, but other globulins are unaffected
 - hypertension results
 - there is alteration in serum lipid levels
 - there is increased sodium and water excretion
 - there is haematuria
19. in chronic renal failure, morphology includes
- glomerular hyperplasia with dilation of tubules
 - slowing of filtrate through the loop of Henle
 - decreased pressure in the glomerulus
 - hyperplasia of nephrons
 - hypertrophy of nephrons
20. the type of emphysema most commonly associated with smoking is
- centrilobular
 - paraseptal
 - panacinar
 - bullous
 - irregular
21. the most common haemodynamic mechanism of pulmonary oedema is
- lymphatic obstruction
 - decreased oncotic pressure
 - increased oncotic pressure
 - increased hydrostatic pressure
 - x
22. conjugated hyperbilirubinaemia results from
- Gilberts syndrome
 - Physiologic jaundice
 - Excess production of bilirubin
 - Decreased hepatic uptake
 - Cholestasis
23. regarding hepatic failure
- occurs with loss of approximately 60% of functional liver capacity
 - encephalopathy is a result of increased ammonia production
 - the liver is the predominant site of synthesis of albumin
 - x
 - x
24. what happens to particles 1-5 micrometers in diameter?
- They are deposited in the nose
 - They lodge in the trachea and bronchi
 - They are phagocytosed by pulmonary alveolar macrophages
 - X
 - X

25. the pathogenicity of *Mycobacterium tuberculosis* is due to
- impaired antibody response
 - hypersensitivity response to products of tuberculosis bacteria
 - expanding granuloma
 - caseous necrosis
 - direct host cell killing by the bacillus
26. regarding obstructive atelectasis
- the mediastinum moves away from the lesion
 - it involves the reabsorption of air
 - it is caused by pleural fluid
 - it may be due to mesothelioma
 - ARDS is a feature
27. regarding non-atopic asthma
- x
 - x
 - x
 - x
 - is mainly triggered by viral respiratory illnesses
28. atherosclerosis
- predominantly affects large and medium sized arteries
 - is characterised by thickening of the media of arteries
 - when advanced is rarely calcified
 - commonly affects the renal arteries
 - produced lesions commonly containing neutrophils
29. which combination represents the major risk factors for atherosclerosis
- hypertension, male gender, age, family history
 - hypertension, sedentary lifestyle, obesity and family history
 - x
 - increased lipids, cigarette smoking, hypertension, diabetes mellitus
 - x
30. infective endocarditis
- is most commonly caused by *Staphylococcus aureus*
 - is most commonly caused by streptococci
 - involves abnormal valves in most acute cases
 - is confirmed by positive blood cultures in less than 50% of cases
 - may cause MacCallum's plaques to form on affected valves
31. which is NOT a cause of megaloblastic anaemia
- pregnancy
 - folate/B12 deficiency
 - EBV infection
 - Neoplasia
 - Hyperthyroidism
32. in iron deficiency
- there is increased serum ferritin
 - there is decreased transferrin saturation
 - there is decreased total iron binding capacity
 - a normal haematocrit
 - normal mean red cell volume

33. regarding acute pancreatitis
- less than 5% are idiopathic
 - 35% of patients with gallstones develop pancreatitis
 - Gallstones are present in 80% of cases
 - Trypsin plays a central role in the activation of the kinin system
 - involves acinar cell injury as a late event
34. which of the following may occur in acute pancreatitis
- hypercalcaemia
 - glycosuria
 - x
 - x
 - x
35. regarding hepatitis C
- has a high association with sexual transmission
 - transmission increases during pregnancy
 - greater than 50% become chronic
 - x
 - x
36. regarding type I diabetes mellitus
- it is due to decreased peripheral insulin receptors
 - it is more severe in pregnancy
 - insulin levels are normal or increased
 - there is early insulinitis
 - there is a 50% concordance in twins
37. in chronic renal failure, morphology includes
- glomerular hyperplasia with dilation of tubules
 - slowing of filtrate through the loop of Henle
 - decreased pressure in the glomerulus
 - hyperplasia of nephrons
 - hypertrophy of nephrons
38. regarding fatty change – which is INCORRECT
- it may result from protein malnutrition
 - fatty acids are oxidised in the mitochondria
 - it may result from diabetes mellitus
 - It may represent unmasking of normal fat cell content
 - X
39. regarding chronic inflammation
- it is characterised by hyperaemia, oedema, and leukocyte infiltration
 - monocytes use the same chemotactic pathways as neutrophils
 - it is always preceded by acute inflammation
 - it most frequently results in resolution
 - x
40. which type of emphysema is most commonly associated with smoking and chronic bronchitis
- centriacinar
 - panacinar
 - irregular
 - paraseptal
 - bullous

41. in the diagnosis of renal hypertension
- x
 - 60% of cases of reno-vascular hypertension are due to fibromuscular dysplasia
 - Malignant hypertension only occurs in patients with previous hypertension
 - Onion skinning is proportional to the degree of renal failure
 -
42. regarding ribosomes
- there are 3 subunits
 - they are 65% DNA
 - they synthesise haemoglobin
 - they contain 30% DNA
 - x
43. a patient has chest pain which is thought to be due to coronary artery vasoconstriction, this is likely to be due to
- Hypoxia
 - Acetylcholine
 - Decreased ATP in cells
 - The action of catecholamines on alpha-1 receptors
 - Increased CO₂
44. features of post-mortem clot include
- lines of Zahn
 - the absence of red blood cells in supernatant
 - adherence to vascular wall
 - firm consistency
 - composition including platelets, fibrin, erythrocytes and leukocytes.
45. stress fractures
- do not incite a periosteal reaction
 - result from repetitive stressors or abnormal axial loading
 - x
 - x
 - x
46. with regard to wound healing
- neutrophils proliferate at the wound margins at the same time as epithelial proliferation occurs
 - it is characterised by neovascularisation within the first six hours
 - it is called secondary intention when a wound is created by a clean surgical incision
 - leads to eventual scar formation within 24 hours
 - is considered to be abnormal if granulation tissue appears by day 5
47. with respect to the changes in acute inflammation, which occurs first?
- Arteriolar dilation
 - Arteriolar constriction
 - Oedema
 - Leukocyte margination
 - Stasis of blood flow
48. ischaemic acute tubular necrosis is associated with
- Tubular obstruction by casts
 - Distal necrosis only
 - An intact basement membrane
 - Predominantly proximal necrosis
 - A maintenance stage consisting of polyuria

49. which is correct regarding squamous cell carcinoma of the lung
- it has a 5 year survival rate of 60%
 - it is commonly associated with cigarette smoking
 - it is most commonly seen in females
 - it is most commonly peripheral
 - it metastasises widely and at an early stage

1. a	2. a	3. d	4. c	5. a
6. c	7. d	8. b	9. b	10. a
11. d	12. c	13. a	14. e	15. c
16. d	17. b/d	18. c	19. ?	20. a
21. d	22. e	23. c	24. c	25. b
26. b	27. e	28. a	29. d	30. b
31. c	32. b	33. d	34. b	35. c
36. d	37. ?	38. d	39. b	40. a
41. d	42. c	43. d	44. b	45. b
46. a	47. b	48. a	49. b	