WEEK 2 EXAM
Chapter 6

Multiple Choice

1. Which of the following is an important upper airway structure?

A. carina
B. bronchus
C. larynx
D. alveoli

2. Which of the following anatomic structures located in the nose can be a significant source of epistaxis?

A. Mcburney's point
B. circle of Willis
C. Kisselbach's plexus
D. Broca's area

3. The most common cause of airway obstruction in the unconscious patient is:

A. the tongue.
B. the epiglottitis.
C. the peritonsillar abscess.
D. laryngeal trauma.

4. Which anatomical area describes the portion of the pharynx that is inferior to the epiglottis?

A. nasopharynx
B. oropharynx
C. posterior pharynx
D. hypopharynx

5. The structures of the larynx include the epiglottis, the vallecula, and the:

A. turbinates.
B. hyoid bone.
C. thyroid cartilage.
D. manubrium.

6. Each alveoli is in contact with the pulmonary capillary. This is referred to as:

A. the alveolar–arterial gradient.
B. the pulmonary capillary membrane.
C. the alveolar capillary membrane.
D. the alveolar bed.

7. Which of the following most closely represents the normal pressure in the pulmonary artery?

A. 10/5 mm Hg
B. 20/10 mm Hg
C. 25/10 mm Hg
D. 30/15 mm Hg

8. While caring for a critical patient with profound hypoxia, you recall that changes in the V/Q ratio is one of the most common causes of hypoxemia. Which of the following best describes the V/Q ratio?

A. a marker for inflammation when a blood clot may be present
B. a measure of the coaguability of the pulmonary blood flow
C. a measurement of how much blood flow must be present at the alveolar capillary membrane for perfusion to take place
D. a serologic measurement of pulmonary injury

9. Your team is preparing to intubate a pediatric patient. As you prepare, you recall that some anatomic differences are evident in pediatric patients. Which of the following is indicative of such a difference?

A. The pediatric airway is higher and narrower.
B. The pediatric epiglottis is smaller and more rigid.
C. Nasal congestion in infants may result in respiratory distress.
D. The larger occiput in pediatric patients may cause hyperextension of the neck, making it difficult to visualize the larynx.

10. In the normal, healthy adult, which of the following provides the stimulus for breathing?

A. the need to eliminate carbon dioxide from the blood
B. the need to increase oxygenation of the blood
C. the need to maintain a normal SaO_2 level
D. the need to maintain a normal V/Q ratio

11. You are caring for a patient who is being mechanically ventilated. The current ventilator settings are as follows: tidal volume of 600 mL, respiratory rate of 12 breaths/min, FIO_2 of 40%. While considering normal respiratory parameters, you recall that the minute ventilation is measured by:

A. the respiratory rate x the SaO_2.
B. the tidal volume x the AA gradient.
C. the PaO_2 x the respiratory rate.
D. the respiratory rate x the tidal volume.

12. Which of the following best describes how positive end-expiratory pressure (PEEP) works?

A. It forces more air into the lungs at the end of inhalation.
B. It decreases the end-expiratory pressure and allows for better perfusion.
C. It increases the functional residual capacity.
D. It decreases the anatomic dead space.

13. Obstructive disease states result in difficulty moving air out of the lungs. Examples of obstructive diseases include asthma, cystic fibrosis, chronic obstructive pulmonary disease (COPD), and:

A. pneumonia.
B. acute respiratory distress syndrome (ARDS).
C. bronchiectasis.
D. pulmonary embolism.

14. Because adequate oxygenation is essential to the life and metabolism of every cell in the body, it is important to identify the cause of any hypoxia. Which of the following is one of the four categories of hypoxia?

A. hypothermic hypoxia
B. hypovolemic hypoxia
C. hypercarbic hypoxia
D. anemic hypoxia

15. While performing a respiratory assessment on your patient, you auscultate the lung fields and note bronchiovesicular breath sounds. Which of the following statements best describes these lung sounds?

A. The inspiratory and expiratory sounds are both loud.
B. The inspiratory sounds are shorter than the expiratory sounds.
C. The inspiratory and expiratory sounds are about the same and of medium intensity.
D. The inspiratory sounds are longer than the expiratory sounds and both are faint.

CHAPTER 7

16. _____ occurs when one drug enhances the effect of another drug.

A. Summation
B. Synergism
C. Agonism
D. Potentiation

17. While preparing drugs for administration for rapid-sequence intubation (RSI), you select etomidate. Although you know that etomidate has no absolute contraindications, you do know that it has a high incidence of:

A. respiratory paralysis.
B. decorticate posturing.
C. malignant hyperthermia.
D. myoclonic muscle movements.

18. While transporting your mechanically ventilated patient, you will be maintaining an already established infusion of propofol (Diprivan). Which of the following statements is TRUE regarding this drug?

A. It may cause profound hypertension.
B. It may increase intracranial pressure (ICP).
C. It may exacerbate epileptic seizures.
D. It provides both aesthetic and amnesic effects.

19. While preparing to administer a benzodiazepine, you review the drug's product information. Which of the following is a TRUE statement regarding benzodiazepines?

A. Naloxone (Narcan) can be used as a reversal agent for an overdose.
B. Benzodiazepines are a pregnancy category C medication.
C. Abrupt cessation of a benzodiazepine may trigger brain herniation.
D. Midazalom (Versed) is a unique benzodiazepine in that it has both sedative and amnesia properties.

20. During RSI procedures, chemical paralytic agents are used. What neurotransmitter is affected by these agents?

A. acetylcholinesterase
B. dopamine
C. midazalom
D. acetylcholine

21. Depolarizing paralytics work by acting as an _____ in the nicotinic receptor and mimicking the activity of _____.

A. antagonist, acetylcholine
B. agonist, norepinephrine
C. agonist, acetylcholine
D. antagonist, dopamine

22. Succinylcholine (Anectine) is used during RSI as a neuromuscular blocker. Which of the following statements is TRUE of succinylcholine?

A. It may cause profound hypokalemia.
B. It may cause intracerebral hypoperfusion by dropping the intracranial pressure (ICP).
C. It may cause transient muscle fasciculation.
D. It may require higher than usual dosages and the presence of acetylcholinesterase inhibitors.

23. While caring for a patient with chronic obstructive pulmonary disorder (COPD) with increasing respiratory insufficiency, you administer a nebulized beta-2 agonist. Based on your knowledge of this type of medication, which of the following is a TRUE statement?

A. Bradycardia is a possible side effect.
B. Hypotension is a possible side effect.
C. Bronchoconstriction may occur at high dosages.
D. Tachycardia is a possible side effect.

24. While caring for your patient with a severe asthma exacerbation, you are preparing to administer nebulized ipratropium bromide (Atrovent). Which of the following is a TRUE statement regarding this medication?

A. A possible side effect is constipation.
B. Continued use may increase mucous production.
C. It is categorized as an anticholinergic medication.
D. Abrupt withdrawal may precipitate bradycardia.

25. Corticosteroids are used to suppress inflammation that may be present during an asthma or COPD exacerbation. Which of the following is a TRUE statement regarding these drugs?

A. A possible side effect is hyperkalemia.
B. They should be used with caution in cases of respiratory infection.
C. The diabetic patient receiving these should be monitored for hypoglycemia.
D. The time of onset of action is approximately 1 hour.

26. When caring for a patient with cardiac concerns or issues, the CCTP should focus on three areas of concern with regard to cardiac pharmacology. These areas are:

A. mesotropic, paleotropic, and dromotropic.
B. chronotropic, inotropic, and dromotropic.
C. chronotropic, pelurotropic, and inotropic.
D. inotropic, dromotropic, and paleotropic.

27. When administering alpha-adrenergic antagonists, the CCTP should understand that alpha receptors are present in the _____ and cause _____ when acted upon by endogenous catecholamines.

A. vascular smooth muscle, vasoconstriction
B. skeletal muscle, vasoconstriction
C. cardiac muscle, vasodilation
D. pulmonary capillary bed, vasodilation

28. While administering labetalol (Trandate) intravenously to a patient with a hypertensive emergency, the CCTP is aware that it has _____ properties.

A. alpha and mu
B. beta and opiate
C. alpha and beta
D. beta and mu

29. Angiotensin-converting enzyme inhibitors (ACE-I) play an integral role in the pharmacologic management of hypertension. The CCTP should have an understanding of their mechanism of action. Which of the following statements best reflects how ACE-I work?

A. They inhibit the release of angiotensin I from the kidneys.
B. They block the conversion of angiotensin I to angiotensin II.
C. They relax the vascular smooth muscles.
D. They inhibit the transmitter rennin.

30. Antiarrhythmic medications are classified based on their mechanism of action. Class I antiarrhythmic medications have been found to work by:

A. altering the sodium-potassium pump in the myocardial cells.
B. working at calcium receptor sites and altering their effects.
C. increasing the conduction velocity of the cardiac electrical impulse.
D. increasing the effective refractory period.

31. Class II antiarrhythmic medications:

A. act as a sympathomimetic at cardioselective receptor sites.
B. competitively bind to beta receptors to inhibit stimulation.
C. serve as agonists at beta receptors.
D. increase parasympathetic outflow.

CHAPTER 8

31. Your patient has sustained a myocardial infarction. In addition to the 12-lead ECG showing significant ST elevations in II, III, and AVF, which of the following specifically indicates myocardial damage?

A. a troponin value of 0.02 ng/mL
B. a troponin value of 0.12 ng/mL
C. a CK-MB level of 124 ng/mL
D. a lactate dehydrogenase (LDH) level of 24 U/L

32. Your patient is suffering from profound liver failure. When reviewing the patient's laboratory values, you note that the direct bilirubin level is 2.2 mg/dL. Based on this information, you would anticipate which of the following physical findings?

A. a body-wide petechial rash
B. anemia
C. hypotension
D. pulmonary edema

33. Your patient is complaining of severe left-upper-quadrant pain, nausea, and vomiting and is moderately hypotensive. Which of the following laboratory values most closely reflects acute pancreatitis as the possible cause?

A. lipase = 452 U/L
B. amylase = 122 U/L
C. alkaline phosphatase = 109 U/L
D. hemoglobin = 12.2 g/dL

34. While working in the coronary care unit, you have been caring for a patient with a recent myocardial infarction who received tissue plasminogen activator (tPA) during the course of his care. You recognize that this patient is at risk for bleeding as a result of the tPA administered. Which of the following lab values most closely reflects a patient who is at risk of bleeding?

A. a prothrombin time (PT) of 28 seconds
B. an activated partial thromboplastin time (aPTT) of 30 seconds
C. an international normalized ratio (INR) of 1.1
D. a bleeding time of 2 seconds

35. You are transporting a trauma patient to a tertiary care facility for definitive care. Prior to transport, this patient underwent a prolonged resuscitation effort at the sending hospital. Based on the prolonged resuscitation, which of the following would be the most specific test to reflect organ perfusion?

A. bicarbonate
B. serum pH
C. alkaline phosphatase
D. lactate

36. Which of the following is considered the respiratory component of the ABG values?

A. PaO_2
B. $PaCO_2$
C. HCO_3
D. pH

37. The percentage of potential oxygen-binding sites on hemoglobin that are occupied by oxygen molecules is reflected by which of the following values?

A. PaO_2
B. FiO_2
C. SaO_2
D. hemoglobin

38. You are preparing to draw an ABG panel on a ventilated patient. Prior to performing the draw, you know that you will perform Allen's test. The purpose of Allen's test is:

A. to determine accurately the specific site for arterial puncture.
B. to determine the best size needle to use during the arterial puncture.
C. to assess for a potential arterial occlusion of the radial or ulnar arteries.
D. to assess for any preexisting nerve damage prior to arterial puncture.

39. You are preparing to draw venous blood samples on your patient. Which of the following statements reflect the correct association between blood tubes and laboratory tests?

A. The lavender tube is used for coagulation studies.
B. The gray tube is used to determine the lactate level.
C. The red tube is used for chemistry studies.
D. The marbled tube is used for a blood bank.

40. You are caring for a patient who was found initially unresponsive. Which of the following laboratory values most likely represents a cause for this depressed mental state?

A. acetaminophen (Tylenol) level = 125 µg/mL
B. carboxyhemoglobin = 5%
C. alcohol = 0.6%
D. lithium = 1.4 mEq/L

41. A specific gravity of 1.150 is most likely attributable to which of the following?

A. prolonged resuscitation
B. acute renal failure
C. dehydration
D. total body surface area burns greater than 25%

42. In a patient suffering from diabetes insipidus, which of the following urine specific gravity values would you most likely expect to see?

A. 1.041
B. 1.025
C. 1.004
D. 1.001

43. Your patient has a history of chronic hypertension, which has been poorly treated in the past. You suspect that the patient may be experiencing renal failure secondary to the essential hypertension. Which of the following is a TRUE statement regarding protein in the urine?

A. Proteinuria is always due to a renal cause.
B. Up to 40 to 80 mg of protein may be excreted in the urine normally and is not detectable.
C. In renal failure, the protein level is zero.
D. Protein in the urine has a better specificity than sensitivity for renal disease.

44. Your patient has detectable hematuria on the most recent urinalysis. Some possible causes for this include neoplasms, ureterolithiasis, trauma, and:

A. kidney obstruction.
B. prostatitis.
C. orchitis.
D. pyelonephritis.

45. You are caring for a patient who potentially has acute bacterial meningitis. A lumbar puncture to obtain cerebrospinal fluid (CSF) has been performed. Which of the following is an abnormal value from a CSF panel?

A. opening pressure = 100 mm H_2O
B. total protein = 30 mg/100mL
C. glucose = 5 mL
D. cell count = 1 white blood cell (WBC)

CHAPTER 9

46. When there is too little circulating blood volume within the vascular system that results in hypotension, _____ is present.

47. Hypovolemic shock that is refractory to fluid resuscitation should be treated by the infusion of _____.

48. Neurogenic shock is a form of distributive shock caused by loss of _____.

49. Neurogenic shock results from conditions that impede the ability of the sympathetic nervous system to control the constriction and dilation of _____ walls.

50. Anaphylactic shock is a severe, life-threatening allergic reaction that produces systemic _____ in response to histamine release.

51. _____ is the leading cause of SIRS and septic shock.

52. The microorganisms responsible for activating the immune system are referred to as _____.

53. The chemical mediators released from cellular injury in response to tissue insult are called _____.

54. Distributive shock has two phases. Phase one is the _____ state, which is referred to as warm shock. Phase two is the _____ state, which is referred to as cold shock.