

1. The characteristic, localized cardinal signs of acute inflammation include:
  - A) fever.
  - B) fatigue.
  - C) redness.
  - D) granuloma.
  
2. The vascular, hemodynamic stage of acute inflammation is initiated by momentary vasoconstriction followed by vasodilation that causes localized:
  - A) bleeding.
  - B) congestion.
  - C) pale skin.
  - D) coolness.
  
3. The cellular stage of acute inflammation is marked by the movement of leukocytes into the area. Which of the following cells arrives early in great numbers?
  - A) Basophils
  - B) Lymphocytes
  - C) Neutrophils
  - D) Platelets
  
4. The phagocytosis process involves three distinct steps. What is the initial step in the process?
  - A) Engulfment
  - B) Intracellular killing
  - C) Antigen margination
  - D) Recognition and adherence
  
5. Which of the following mediators of inflammation causes increased capillary permeability and pain?
  - A) Serotonin
  - B) Histamine
  - C) Bradykinin
  - D) Nitric oxide
  
6. Inflammatory exudates are a combination of several types. Which of the following exudates is composed of enmeshed necrotic cells?
  - A) Serous
  - B) Fibrinous
  - C) Suppurative
  - D) Membranous

7. The acute-phase systemic response usually begins within hours of the onset of inflammation and includes:
- A) fever and lethargy.
  - B) decreased C-reactive protein.
  - C) positive nitrogen balance.
  - D) low erythrocyte sedimentation rate.
8. In contrast to acute inflammation, chronic inflammation is characterized by which of the following phenomena?
- A) Profuse fibrinous exudation
  - B) A “shift to the left” of granulocytes
  - C) Metabolic and respiratory alkalosis
  - D) Lymphocytosis and activated macrophages
9. Exogenous pyrogens (interleukin-1) and the presence of bacteria in the blood lead to the release of endogenous pyrogens that:
- A) stabilize thermal control in the brain.
  - B) produce leukocytosis and anorexia.
  - C) block viral replication in cells.
  - D) inhibit prostaglandin release.
10. An older adult patient has just sheared the skin on her elbow while attempted to boost herself up in bed, an event that has precipitated acute inflammation in the region surrounding the wound. Which of the following events will occur during the vascular stage of the patient's inflammation?
- A) Outpouring of exudate into interstitial spaces
  - B) Chemotaxis
  - C) Accumulation of leukocytes along the epithelium
  - D) Phagocytosis of cellular debris
11. Which of the following individuals most likely has the highest risk of experiencing chronic inflammation?
- A) A patient who has recently been diagnosed with type 2 diabetes
  - B) A patient who is a carrier of an antibiotic-resistant organism
  - C) A patient who is taking oral antibiotics for an upper respiratory infection
  - D) A patient who is morbidly obese and who has a sedentary lifestyle

12. Which of the following core body temperatures is within normal range?
- A) 35.9°C (96.6°F)
  - B) 38.0°C (100.4°F)
  - C) 35.5°C (95.9°F)
  - D) 37.3°C (99.1°F)
13. A postsurgical patient who is recovering in the postanesthetic recovery unit states that she is “freezing cold.” Which of the following measures is likely to be initiated in the patient's hypothalamus in an effort to reduce heat loss?
- A) Opening of arteriovenous (AV) shunts
  - B) Reduced exhalation of warmed air
  - C) Contraction of pilomotor muscles
  - D) Decreased urine production
14. An elderly patient is dressed only in a hospital gown and complains of a draft in her room. Consequently, she has requested a warm blanket while she sits in her wheelchair. Which of the following mechanisms of heat loss is most likely the primary cause of her request?
- A) Evaporation and conduction
  - B) Radiation and convection
  - C) Conduction and convection
  - D) Convection and evaporation
15. Which of the following pathophysiologic processes are capable of inducing the production of pyrogens? Select all that apply.
- A) Acute inflammation
  - B) Obesity
  - C) Myocardial infarction
  - D) Malignancy
  - E) Renal failure
16. Which of the following patients is most likely to be susceptible to developing a neurogenic fever?
- A) A patient who has stage II Alzheimer disease
  - B) A patient who has sustained a head injury in a bicycle crash
  - C) A patient who has become delirious after the administration of a benzodiazepine
  - D) A patient who has begun taking a selective serotonin-reuptake inhibitor (SSRI) for the treatment of depression

17. Patients are commonly administered antipyretics when their oral temperature exceeds 37.5°C (99.5°F). Which of the following statements related to the rationale for this action is most accurate?
- A) Temperatures in excess of 37.5°C (99.5°F) can result in seizure activity.
  - B) Lower temperatures inhibit the protein synthesis of bacteria.
  - C) There is little empirical evidence for this treatment modality.
  - D) Most common antipyretics have been shown to have little effect on core temperature.
18. A patient has sought care because of recent malaise and high fever. Upon assessment, the patient states that his current fever began two days earlier, although he states that for the last 2 weeks he is in a cycle of high fever for a couple of days followed by a day or two of normal temperature. Which of the following fever patterns is this patient experiencing?
- A) Recurrent fever
  - B) Remittent fever
  - C) Sustained fever
  - D) Intermittent fever
19. A febrile, 3-week-old infant has been brought to the emergency department by his parents and is currently undergoing a diagnostic workup to determine the cause of his fever. Which of the following statements best conveys the rationale for this careful examination?
- A) The immature hypothalamus is unable to perform normal thermoregulation.
  - B) Infants are susceptible to serious infections because of their decreased immune function.
  - C) Commonly used antipyretics often have no effect on the core temperature of infants.
  - D) Fever in neonates is often evidence of a congenital disorder rather than an infection.
20. An 84-year-old patient's blood cultures have come back positive, despite the fact that his oral temperature has remained within normal range. Which of the following phenomena underlies the alterations in fever response that occur in the elderly?
- A) Disturbance in the functioning of the thermoregulatory center
  - B) Increased heat loss by evaporation
  - C) The presence of comorbidities that are associated with lowered core temperature
  - D) Persistent closure of arteriovenous shunts

## **Answer Key**

1. C
2. B
3. C
4. D
5. C
6. D
7. A
8. D
9. B
10. A
11. D
12. D
13. C
14. B
15. A, C, D
16. B
17. C
18. D
19. B
20. A