

## **Chapter 01: Patient Evaluation and Risk Assessment**

### **Little: Dental Management of the Medically Compromised Patient, 9th Edition**

#### **MULTIPLE CHOICE**

1. Elective dental care should be deferred for patients with severe, uncontrolled hypertension, meaning that the blood pressure is greater than or equal to \_\_\_\_\_ mm Hg.
  - a. 200/140
  - b. 180/140
  - c. 180/110
  - d. 160/110

ANS: C

Elective dental care should be deferred for patients with severe, uncontrolled hypertension, which is blood pressure greater than or equal to 180/110 mm Hg, until the condition can be brought under control.

2. The American Heart Association currently recommends antibiotic prophylaxis for a patient with which of the following cardiac conditions?
  - a. Mitral valve prolapse
  - b. Prosthetic heart valve
  - c. Rheumatic heart disease
  - d. Pacemakers for cardiac arrhythmias

ANS: B

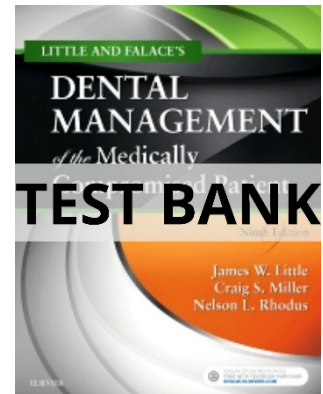
Previously, the American Heart Association (AHA) recommended antibiotic prophylaxis for many patients with heart murmurs caused by valvular disease (e.g., mitral valve prolapse, rheumatic heart disease) in an effort to prevent infective endocarditis; however, current guidelines omit this recommendation on the basis of accumulated scientific evidence. If a murmur is due to certain specific cardiac conditions (e.g., previous endocarditis, prosthetic heart valve, complex congenital cyanotic heart disease), the AHA continues to recommend antibiotic prophylaxis for most dental procedures.

3. One consequence of chronic hepatitis (B or C) or cirrhosis of the liver is decreased ability of the body to \_\_\_\_\_ certain drugs, including local anesthetics and analgesics.
  - a. absorb
  - b. distribute
  - c. metabolize
  - d. excrete

ANS: C

Patients also may have chronic hepatitis (B or C) or cirrhosis, with impairment of liver function. This deficit may result in prolonged bleeding and less efficient metabolism of certain drugs, including local anesthetics and analgesics.

4. Which of the following symptoms and signs is most consistent with allergy?
  - a. Heart palpitations
  - b. Itching
  - c. Vomiting



d. Fainting

ANS: B

Symptoms and signs consistent with allergy include itching, urticaria (hives), rash, swelling, wheezing, angioedema, runny nose, and tearing eyes. Isolated signs and symptoms such as nausea, vomiting, heart palpitations, and fainting generally are not of an allergic origin but rather are manifestations of drug intolerance, adverse side effects, or psychogenic reactions.

5. Which of the following is true of the patient with a history of tuberculosis?
- A positive result on skin testing means that the person has active TB.
  - Most patients who become positive skin testers develop active disease.
  - Patients with acquired immunodeficiency syndrome (AIDS) have a high incidence of tuberculosis.
  - A diagnosis of active TB is made by a purified protein derivative (PPD) skin test.

ANS: C

The potential coexistence of tuberculosis and acquired immunodeficiency syndrome (AIDS) should be explored because patients with AIDS have a high incidence of tuberculosis. A positive result on skin testing means specifically that the person has at some time been infected with TB, not necessarily that active disease is present. Most patients who become positive skin testers do not develop active disease. A diagnosis of active TB is made by chest x-ray, imaging, sputum culture, and clinical examination.

6. Vasoconstrictors should be avoided in patients who cocaine or methamphetamine users because these agents may precipitate \_\_\_\_\_.
- severe hypotension
  - severe hypertension
  - respiratory depression
  - cessation of intestinal peristalsis

ANS: B

Vasoconstrictors should be avoided in patients who are cocaine or methamphetamine users because the combination may precipitate arrhythmias, MI, or severe hypertension.

7. It has been shown that the risk for occurrence of a serious perioperative cardiovascular event (e.g., MI, heart failure) is increased in patients who are unable to meet a \_\_\_-MET (metabolic equivalent of task) demand during normal daily activity.
- 4
  - 6
  - 8
  - 10

ANS: A

Daily activities requiring 4 METs include level walking at 4 miles/hour or climbing a flight of stairs. Activities requiring greater than 10 METs include swimming and singles tennis. An exercise capacity of 10 to 13 METs indicates excellent physical conditioning.

8. Which of the following alterations in the fingernails is associated with cirrhosis?
- Yellowing
  - Clubbing
  - White discoloration
  - Splinter hemorrhages

ANS: C

Alterations in the fingernails, such as clubbing (seen in cardiopulmonary insufficiency), white discoloration (seen in cirrhosis), yellowing (from malignancy), and splinter hemorrhages (from infective endocarditis) usually are caused by chronic disorders.

9. A blood pressure cuff should be placed on the upper arm and inflated until \_\_\_\_\_.  
a. the radial pulse disappears  
b. the radial pulse disappears and then inflated an additional 20 to 30 mm Hg  
c. two fingers cannot fit comfortably under the cuff  
d. the pulse no longer can be heard with the stethoscope

ANS: B

While the radial pulse is palpated, the cuff is inflated until the radial pulse disappears (approximate systolic pressure); it is then inflated an additional 20 to 30 mm Hg.

10. Which of the following is true of a patient classified ASA III according to the American Society of Anesthesiologists (ASA) Physical Status Classification System?  
a. Patient has mild systemic disease.  
b. Patient's disease has significant impact on daily activity.  
c. Patient's disease is unlikely to have impact on anesthesia and surgery.  
d. Patient is moribund.

ANS: B

Patient with severe systemic disease is a constant threat to life (e.g., recent myocardial infarction, stroke, transient ischemic attack [ $<3$  months], ongoing cardiac ischemia, severe valve dysfunction, respiratory failure requiring mechanical ventilation). Serious limitation of daily activity; likely major impact on anesthesia and surgery.

## **Chapter 02: Infective Endocarditis**

### **Little: Dental Management of the Medically Compromised Patient, 9th Edition**

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#### **MULTIPLE CHOICE**

1. Which of the following is true concerning infective endocarditis (IE)?  
a. IE is always due to a bacterial infection.  
b. Since the advent of antibiotics, morbidity and mortality associated with IE have been virtually eliminated.  
c. IE is currently classified as acute or subacute, to reflect the rapidity of onset and duration.  
d. Accumulating evidence questions the validity of antibiotic prophylaxis in an attempt to prevent IE prior to certain invasive dental procedures.

ANS: D

Antibiotics have been administered before certain invasive dental procedures in an attempt to prevent infection. Of note, however, the effectiveness of such prophylaxis in humans has never been substantiated, and accumulating evidence more and more questions the validity of this practice.

2. Which of the following is currently the most common underlying condition predisposing to infective endocarditis (IE)?  
a. Aortic valve disease  
b. Rheumatic heart disease (RHD)

- c. Mitral valve prolapse (MVP)
- d. Tetralogy of Fallot

ANS: C

Mitral valve prolapse, which accounts for 25% to 30% of adult cases of native valve endocarditis (NVE), is now the most common underlying condition among patients who acquire IE. Previously, rheumatic heart disease (RHD) was the most common condition predisposing to endocarditis. In developed countries, however, the frequency of RHD has markedly declined over the past several decades.

3. The leading cause of death due to infective endocarditis (IE) is \_\_\_\_\_.
- a. chronic obstructive pulmonary disease
  - b. heart failure
  - c. pulmonary emboli
  - d. atheromas

ANS: B

The most common complication of IE, and the leading cause of death, is heart failure, which results from severe valvular dysfunction. This pathologic process most commonly begins as a problem with aortic valve involvement, followed by mitral and then tricuspid valve infection. Embolization of vegetation fragments often leads to further complications, such as stroke. Myocardial infarction can occur as the result of embolism of the coronary arteries, and distal emboli can produce peripheral metastatic abscesses.

4. The interval between the presumed initiating bacteremia and the onset of symptoms of infective endocarditis (IE) is estimated to be less than \_\_\_\_\_ in more than 80% of patients with IE.
- a. 1 week
  - b. 2 weeks
  - c. 1 month
  - d. 2 months

ANS: B

It is less than two weeks in more than 80% of patients with IE. In many cases of IE that have been purported to be due to dentally induced bacteremia, the interval between the dental appointment and the diagnosis of IE has been much longer than 2 weeks (sometimes months), so it is very unlikely that the initiating bacteremia was associated with dental treatment.

5. Where are Janeway lesions located?
- a. Tricuspid valve
  - b. Palms of the hands and soles of the feet
  - c. Pulp of the digits
  - d. Nail beds

ANS: B

Janeway lesions are small, nontender erythematous or hemorrhagic macular lesions on the palms and soles. Janeway lesions are one of the peripheral manifestations of IE due to emboli and/or immunologic responses.

6. Which of the following is true of the magnitude of bacteremia required to cause infective endocarditis (IE)?
- a. The magnitude of bacteremias resulting from dental procedures is more likely to cause IE than that seen with bacteremias resulting from normal daily activities.

- b. Cases of IE caused by oral bacteria probably result from frequent exposure to low inocula of bacteria in the bloodstream due to daily activities and not a dental procedure.
- c. The quality of oral hygiene has no appreciable effect on the magnitude of bacteremia after toothbrushing.
- d. The magnitude of bacteremia resulting from dental procedures is greater than that needed to cause experimental bacterial endocarditis (BE) in animals.

ANS: B

An assumption often made is that the magnitude of bacteremias resulting from dental procedures is more likely to cause IE than that seen with bacteremias resulting from normal daily activities. Published data do not support this contention. Furthermore, the magnitude of bacteremia resulting from dental procedures is relatively low (with bacterial counts of fewer than  $10^4$  colony-forming units/mL), is similar to that of bacteremia resulting from normal daily activities, and is far less than that ( $10^6$  to  $10^8$  colony-forming units/mL) needed to cause experimental BE in animals.

- 7. Visible bleeding during a dental procedure is a reliable predictor of bacteremia. It is not clear which dental procedures are more or less likely to cause transient bacteremia or to result in a greater magnitude of bacteremia than that caused by routine daily activities such as chewing food, tooth brushing, or flossing.
  - a. Both statements are true.
  - b. Both statements are false.
  - c. The first statement is true, the second statement is false.
  - d. The first statement is false, the second statement is true.

ANS: D

It has been shown that visible bleeding during a dental procedure is not a reliable predictor of bacteremia. Collective published data suggest that the vast majority of dental office visits result in some degree of bacteremia, and that it is not clear which dental procedures are more or less likely to cause transient bacteremia or to result in a greater magnitude of bacteremia than that caused by bacteremia produced by routine daily activities such as chewing food, tooth brushing, or flossing.

- 8. Which of the following is true regarding the efficacy of antibiotic prophylaxis?
  - a. Data show that a reduction in the incidence, nature, and duration of bacteria caused by antibiotic therapy reduces the risk of or prevents IE.
  - b. Antibiotics given to at-risk patients before a dental procedure will prevent or reduce a bacteremia.
  - c. Prospective randomized, placebo-controlled trials have been conducted to examine the efficacy of antibiotic prophylaxis for preventing IE in patients who undergo a dental procedure.
  - d. Investigators have concluded that dental or other procedures probably only caused a small fraction of cases of IE, and that prophylaxis would prevent only a small number of cases, even if it were 100% effective.

ANS: D

This conclusion came as the result of a study from the Netherlands by van der Meer and colleagues that investigated the efficacy of antibiotic prophylaxis in preventing IE in dental patients with native or prosthetic cardiac valves.