Little: Dental Management of the Medically Compromised Patient, 8th Edition

Chapter 02: Infective Endocarditis

Test Bank

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 has 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; however, the effectiveness of such prophylaxis in humans has never been substantiated, and accumulating evidence more and more questions the validity of this practice.

   PTS: 1 REF: p. 27-28

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.

   PTS: 1 REF: p. 20

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.

PTS: 1 REF: p. 24

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. one week
   B. two weeks
   C. one month
   D. two 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, so it is very unlikely that the initiating bacteremia was associated with dental treatment.

   PTS: 1 REF: p. 25

5. Where are Janeway lesions located?
   A. the tricuspid valve
   B. the palms of the hands and soles of the feet
   C. the pulp of the digits
   D. the 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. Osler's nodes are small, tender subcutaneous nodules that develop in the pulp of the digits. Splinter hemorrhages are in the nail beds.

   PTS: 1 REF: p. 25

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
Exposure to low inocula of bacteria in the bloodstream is probably the cause of cases of IE caused by oral bacteria. No published data support the contention that the magnitude of bacteremias resulting from dental procedures is more likely to cause IE than that seen with bacteremias resulting from daily activities. Emphasis on maintaining good oral hygiene and eradicating dental or oral disease is key to decreasing the frequency of bacteremia produced by normal daily activities. The magnitude of bacteremia resulting from a dental procedure is relatively low, is similar to that of bacteremia resulting from normal daily activities, and is far less than that needed to cause experimental BE in animals.

PTS: 1 REF: p. 28

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, toothbrushing, 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
Visible bleeding is not a reliable predictor of bacteremia. Also, it is impossible to predict with any accuracy the likelihood that significant bleeding will be encountered during a given dental procedure. The vast majority of dental visits result in some degree of bacteremia.

PTS: 1 REF: p. 28

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.

PTS: 1 REF: p. 29

9. The American Heart Association currently recommends antibiotic prophylaxis before dental treatment to prevent endocarditis for patients with which of the following cardiac conditions?
   A. mitral valve prolapse with regurgitation
   B. rheumatic heart disease
   C. prosthetic cardiac valve
   D. a, b, and c
   E. a and c

   ANS: C
   Prophylaxis with antibiotics before a dental procedure is recommended for a prosthetic cardiac valve, previous infective endocarditis, and some forms of congenital heart disease.

   PTS: 1 REF: pp. 30

10. Which of the following antibiotics is the best choice if a patient who requires premedication before dental treatment is already taking penicillin for eradication of an infection?
   A. amoxicillin
   B. clindamycin
   C. cephalosporins
   D. keep the patient on the penicillin because the blood level has already been achieved

   ANS: B
   The presence of viridans group streptococci that are relatively resistant to penicillin or amoxicillin is likely in patients already taking penicillin or amoxicillin for eradication of an infection. Clindamycin, azithromycin, or clarithromycin should be selected for prophylaxis if treatment is immediately necessary. Cephalosporins should be avoided due to cross resistance. Another approach is to wait for at least 10 days after the completion of antibiotic therapy before administration of prophylactic antibiotics.

   PTS: 1 REF: p. 31-32