Common Dental and Periodontal Diseases

Evaluation and Management

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KEYWORDS

• Dental caries • Dental abscess • Dental erosion • Dental attrition
• Periodontal disease • Gingivitis • Periodontal bone loss

KEY POINTS

- Dental caries is an infectious disease with multiple risk factors that can lead to pain, infection, loss of tooth structure, and loss of oral function.
- Dental abscesses can present locally surrounding a tooth with or without pain and/or swelling. Signs of an advanced dental infection may include trismus, facial paresthesia and swelling, dysphagia, odynophagia, fever, and lymphadenopathy.
- Dental erosion and attrition are considered pathologic, because each condition often negatively affects oral function and esthetics, and may be caused by a systemic condition.
- Periodontal disease is a chronic inflammatory condition of the supporting structures of teeth.
- Certain systemic conditions can manifest in the mouth in the form of periodontal disease (eg, leukemia, cyclic neutropenia).
- Uncontrolled diabetes is associated with destructive periodontitis, and improved glycemic control can positively affect periodontal disease.

INTRODUCTION

Physicians may encounter patients with dental and periodontal diseases in the context of outpatient medical practice. It is important for physicians to be aware of common

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dental and periodontal conditions and be able to assess for the presence and severity of these diseases. Dental caries, abscess, erosion, attrition, and periodontal disease are among the conditions in the oral cavity that physicians are readily able to recognize and for which they can initiate management and make appropriate referrals. Periodontal disease is a chronic, often painless inflammatory condition affecting the supporting tissues of teeth. If left untreated, bone and soft tissue loss can lead to mobility and eventual loss of teeth. Certain gingival conditions may present acutely in the form of a periodontal abscess, which may lead to disseminated infection and increased risk of septicemia. This article reviews common dental and periodontal conditions, their cardinal signs and symptoms, outpatient-setting assessment techniques, as well as common methods of treatment. Physicians detecting gross abnormalities on clinical examination should refer the patient to a dentist for further evaluation and management.

COMMON DENTAL DISEASES

Dental Caries

Dental caries is an infectious disease that results in tooth damage, can be associated with pain, and can lead to tooth loss. In a susceptible oral environment and/or host, dental caries occurs because of the interaction of bacteria with carbohydrates. The most common causal bacteria are *Streptococcus mutans*, *Streptococcus sobrinus*, *Lactobacillus*, and *Actinomyces* species.[1,2] Studies have shown that initial oral colonization by these bacteria often involves transmission from an infant's primary caregiver during the first 2 years of life.[3] Patients who develop dental caries must colonize causal bacteria, as well as provide food substrates and a persistent biofilm (dental plaque) environment that allows bacterial survival and proliferation. The acid generated by bacterial by-products damages the tooth structure via a demineralization process called caries (also known as tooth decay). Health care providers should screen children, adolescents, and adults for several risk factors associated with dental caries (**Boxes 1 and 2**). Providers should be aware that severe dental caries can affect the primary dentition (also known as early childhood caries and nursing bottle caries),

Box 1
High risk factors for dental caries in children 0 to 5 years old

- Mother/primary caregiver has active caries
- Parent/caregiver has low socioeconomic status
- Child has greater than 3 between-meal sugar-containing snacks or beverages per day
- Child is put to bed with a bottle containing natural or added sugar
- Child has special health care needs
- Child is a recent immigrant[a]
- Clinical evidence of white spot lesions or enamel defects
- Clinical evidence of visible cavities or fillings
- Clinical evidence of dental plaque on teeth

[a] Term is taken from the original article and refers to developing countries.[4]

Data from Guideline on caries-risk assessment and management for infants, children, and adolescents. In: American Academy of Pediatric Dentistry Clinical Guidelines. Reference Manual V 35|NO 6. 2013. Available at: http://www.aapd.org/media/Policies_Guidelines/G_CariesRiskAssessment.pdf. Accessed March 18, 2014.