

Table 16-1 Oral Manifestations of Some Systemic Diseases

Systemic Disease	Associated Oral Changes
Infectious Diseases	
Scarlet fever	Fiery red tongue with prominent papillae (raspberry tongue); white-coated tongue through which hyperemic papillae project (strawberry tongue)
Measles	Spotty enanthema in the oral cavity often precedes the skin rash; ulcerations on the buccal mucosa about Stensen duct produce Koplik spots
Infectious mononucleosis	Acute pharyngitis and tonsillitis that may cause coating with a gray-white exudative membrane; enlargement of lymph nodes in the neck, palatal petechiae
Diphtheria	Characteristic dirty white, fibrinosuppurative, tough, inflammatory membrane over the tonsils and retropharynx
Human immunodeficiency virus	Predisposition to opportunistic oral infections, particularly herpes virus, <i>Candida</i> , and other fungi; oral lesions of Kaposi sarcoma and hairy leukoplakia (described in text)
Dermatologic Conditions*	
Lichen planus	Reticulate, lacelike, white keratotic lesions that sometimes ulcerate and rarely form bullae; seen in more than 50% of patients with cutaneous lichen planus; rarely, is the sole manifestation
Pemphigus	Vesicles and bullae prone to rupture, leaving hyperemic erosions covered with exudates
Bullous pemphigoid	Oral lesions (mucus membrane pemphigoid) resemble those of pemphigus but can be differentiated histologically
Erythema multiforme	Maculopapular, vesiculobullous eruption that sometimes follows an infection elsewhere, ingestion of drugs, development of cancer, or a collagen vascular disease; when there is widespread mucosal and skin involvement, it is referred to as <i>Stevens-Johnson syndrome</i>
Hematologic Disorders	
Pancytopenia (agranulocytosis, aplastic anemia)	Severe oral infections in the form of gingivitis, pharyngitis, tonsillitis; may extend to produce cellulitis of the neck (<i>Ludwig angina</i>)
Leukemia	With depletion of functioning neutrophils, oral lesions may appear like those in pancytopenia
Monocytic leukemia	Leukemic infiltration and enlargement of the gingivae, often with accompanying periodontitis
Miscellaneous	
Melanotic pigmentation	May appear in Addison disease, hemochromatosis, fibrous dysplasia of bone (Albright syndrome), and Peutz-Jeghers syndrome (gastrointestinal polyposis)
Phenytoin (Dilantin) ingestion	Striking fibrous enlargement of the gingivae
Pregnancy	A friable, red, pyogenic granuloma protruding from the gingiva ("pregnancy tumor")
Rendu-Osler-Weber syndrome	Autosomal dominant disorder with multiple congenital aneurysmal telangiectasias beneath mucosal surfaces of the oral cavity and lips

*See Chapter 25.

antibiotics that eliminate or alter the normal bacterial flora of the mouth can result in the development of oral candidiasis.

Deep Fungal Infections

In addition to their usual sites of infection, certain deep fungal infections have a predilection for the oral cavity and the head and neck region. Such fungi include histoplasmosis, blastomycosis, coccidioidomycosis, cryptococcosis, zygomycosis, and aspergillosis. With an increasing number of patients who are immunocompromised due to diseases such as AIDS or therapies for cancer and organ transplantation, the prevalence of fungal infections of the oral cavity has increased in recent years.

Oral Manifestations of Systemic Disease

The mouth is not merely a gateway for delicacies; it is also the site of oral lesions in many systemic diseases. In fact, *it is not uncommon for oral lesions to be the first sign of some underlying systemic condition.* Some of the more common disease associations and their oral changes are cited in

Table 16-1. Only hairy leukoplakia is characterized in more detail here.

Hairy Leukoplakia

Hairy leukoplakia is a distinctive oral lesion on the lateral border of the tongue that is usually seen in immunocompromised patients and is caused by Epstein-Barr virus (EBV). It can be observed in patients infected with the human immunodeficiency virus (HIV) and may portend the development of AIDS. However, the lesions can also be found in patients who are immunocompromised for other reasons including cancer therapy, transplant associated immunosuppression, and advancing age. Hairy leukoplakia takes the form of *white, confluent patches of fluffy ("hairy"), hyperkeratotic thickenings, almost always situated on the lateral border of the tongue.* Unlike thrush, the lesion cannot be scraped off. The distinctive microscopic appearance consists of *hyperparakeratosis and acanthosis with "balloon cells" in the upper spinous layer.* Special stains can be used to demonstrate the presence of EBV RNA transcripts and proteins within the lesional cells. Sometimes there is superimposed candidal infection on the surface of the lesions, adding to the "hairiness."