

**TABLE 45-4 ALTERATIONS OF THE TONGUE**

Type of Change	Clinical Features
<b>Size or Morphology</b>	
Macroglossia	Enlarged tongue that may be part of a syndrome found in developmental conditions such as Down syndrome, Simpson-Golabi-Behmel syndrome, or Beckwith-Wiedemann syndrome; may be due to tumor (hemangioma or lymphangioma), metabolic disease (e.g., primary amyloidosis), or endocrine disturbance (e.g., acromegaly or cretinism); may occur when all teeth are removed
Fissured ("scrotal") tongue	Dorsal surface and sides of tongue covered by painless shallow or deep fissures that may collect debris and become irritated
Median rhomboid glossitis	Congenital abnormality with ovoid, denuded area in median posterior portion of tongue; may be associated with candidiasis and may respond to antifungal treatment
<b>Color</b>	
"Geographic" tongue (benign migratory glossitis)	Asymptomatic inflammatory condition of tongue, with rapid loss and regrowth of filiform papillae leading to appearance of denuded red patches "wandering" across surface
Hairy tongue	Elongation of filiform papillae of medial dorsal surface area due to failure of keratin layer of papillae to desquamate normally; brownish-black coloration may be due to staining by tobacco, food, or chromogenic organisms
"Strawberry" and "raspberry" tongue	Appearance of tongue during scarlet fever due to hypertrophy of fungiform papillae as well as changes in filiform papillae
"Bald" tongue	Atrophy may be associated with xerostomia, pernicious anemia, iron-deficiency anemia, pellagra, or syphilis; may be accompanied by painful burning sensation; may be an expression of erythematous candidiasis and respond to antifungal treatment

**TABLE 45-5 ORAL LESIONS ASSOCIATED WITH HIV INFECTION**

Lesion Morphology	Etiologies
Papules, nodules, plaques	Candidiasis (hyperplastic and pseudomembranous) <sup>a</sup>
	Condyloma acuminatum (human papillomavirus infection)
	Squamous cell carcinoma (preinvasive and invasive)
	Non-Hodgkin's lymphoma <sup>a</sup>
Ulcers	Hairy leukoplakia <sup>a</sup>
	Recurrent aphthous ulcers <sup>a</sup>
	Angular cheilitis
	Squamous cell carcinoma
	Acute necrotizing ulcerative gingivitis <sup>a</sup>
	Necrotizing ulcerative periodontitis <sup>a</sup>
	Necrotizing ulcerative stomatitis
	Non-Hodgkin's lymphoma <sup>a</sup>
	Viral infection (herpes simplex, herpes zoster, cytomegalovirus infection)
	Infection caused by <i>Mycobacterium tuberculosis</i> or <i>Mycobacterium avium-intracellulare</i>
Fungal infection (histoplasmosis, cryptococcosis, candidiasis, geotrichosis, aspergillosis)	
Bacterial infection ( <i>Escherichia coli</i> , <i>Enterobacter cloacae</i> , <i>Klebsiella pneumoniae</i> , <i>Pseudomonas aeruginosa</i> )	
Drug reactions (single or multiple ulcers)	
Pigmented lesions	Kaposi's sarcoma <sup>a</sup>
	Bacillary angiomatosis (skin and visceral lesions more common than oral)
	Zidovudine pigmentation (skin, nails, and occasionally oral mucosa)
Miscellaneous	Addison's disease
	Linear gingival erythema <sup>a</sup>

<sup>a</sup>Strongly associated with HIV infection.

major salivary glands secrete intermittently in response to autonomic stimulation, which is high during a meal but low otherwise. Hundreds of minor glands in the lips and cheeks secrete mucus continuously throughout the day and night. Consequently, oral function becomes impaired when salivary function is reduced. The sensation of a dry mouth (*xerostomia*) is perceived when salivary flow is reduced by 50%. The most common etiology is medication, especially drugs with anticholinergic properties but also alpha and beta blockers, calcium channel blockers, and diuretics. Other causes include Sjögren's syndrome, chronic parotitis, salivary duct obstruction, diabetes mellitus, HIV/AIDS, and radiation therapy that includes the salivary glands in the field (e.g., for Hodgkin's disease and for head and neck cancer). Management involves the elimination or limitation of drying medications, preventive dental care, and supplementation with oral liquid or salivary substitutes. Sugarless mints or chewing gum may stimulate salivary secretion if dysfunction is mild. When sufficient exocrine tissue remains, pilocarpine or cevimeline has been shown to increase secretions. Commercial saliva substitutes or gels relieve dryness. Fluoride supplementation is critical to prevent caries.

*Sialolithiasis* presents most often as painful swelling but in some instances as only swelling or only pain. Conservative therapy consists of local heat, massage, and hydration. Promotion of salivary secretion with mints or lemon drops may flush out small stones. Antibiotic treatment is necessary when bacterial infection is suspected. In adults, *acute bacterial parotitis* is typically unilateral and most commonly affects postoperative, dehydrated, and debilitated patients. *Staphylococcus aureus* (including methicillin-resistant strains) and anaerobic bacteria are the most common pathogens. Chronic bacterial *sialadenitis* results from lowered salivary secretion and recurrent bacterial infection. When suspected bacterial infection is not responsive to therapy, the differential diagnosis should be expanded to include benign and malignant neoplasms, lymphoproliferative disorders, Sjögren's syndrome, sarcoidosis, tuberculosis, lymphadenitis, actinomycosis, and granulomatosis with polyangiitis. Bilateral nontender parotid enlargement occurs with diabetes mellitus, cirrhosis, bulimia, HIV/AIDS, and drugs (e.g., iodide, propylthiouracil).

*Pleomorphic adenoma* comprises two-thirds of all salivary neoplasms. The parotid is the principal salivary gland affected, and the tumor presents as a firm, slow-growing mass. Although this tumor is benign, its recurrence is common if resection is incomplete. Malignant tumors such as mucoepidermoid carcinoma, adenoid cystic carcinoma, and adenocarcinoma tend to grow relatively fast, depending upon grade. They may ulcerate and invade nerves, producing numbness and facial paralysis. Surgical resection is the primary treatment. Radiation therapy (particularly neutron-beam therapy) is used when surgery is not feasible and as post-resection for certain histologic types with a high risk of recurrence. Malignant salivary gland tumors have a 5-year survival rate of ~68%.

#### DENTAL CARE FOR MEDICALLY COMPLEX PATIENTS

Routine dental care (e.g., uncomplicated extraction, scaling and cleaning, tooth restoration, and root canal) is remarkably safe. The most common concerns regarding care of dental patients with medical disease are excessive bleeding for patients taking anticoagulants, infection of the heart valves and prosthetic devices from hematogenous seeding by the oral flora, and cardiovascular complications resulting from vasopressors used with local anesthetics during dental treatment. Experience confirms that the risk of any of these complications is very low.

Patients undergoing tooth extraction or alveolar and gingival surgery rarely experience uncontrolled bleeding when warfarin anticoagulation is maintained within the therapeutic range currently recommended for prevention of venous thrombosis, atrial fibrillation, or mechanical heart valve. Embolic complications and death, however, have been reported during subtherapeutic anticoagulation. Therapeutic anticoagulation should be confirmed before and continued through the procedure. Likewise, low-dose aspirin (e.g., 81–325 mg) can safely be continued. For patients taking aspirin and another antiplatelet medication (e.g., clopidogrel), the decision to continue the second antiplatelet