

lacking any myxochondroid features typical of mixed tumors.

### *Canalicular Adenoma*

Canalicular adenomas are benign salivary gland tumors composed of interconnecting and branching cords of columnar cells manifesting as single or double rows of cells.

### *Oncocytoma*

The oncocytoma is a rare benign salivary gland neoplasm composed of large eosinophilic granular cells (oncocytes) containing atypical mitochondria.

### *Sebaceous Adenoma*

The sebaceous adenoma is a rare benign salivary gland neoplasm that demonstrates sebaceous differentiation.

### *Sebaceous Lymphadenoma*

Sebaceous lymphadenoma is believed by some to be a variant of sebaceous adenoma but contains sebaceous glands that are surrounded by lymphoid elements.

### *Myoepithelioma*

Myoepitheliomas are tumors that demonstrate myoepithelial differentiation and are believed to represent a spectrum of mixed tumors but which lack chondroid and myxochondroid features.

### *Cystadenoma*

The cystadenoma is a rare benign tumor that is characterized by unicystic or polycystic growths that contain regions of overgrowth that may at times be papillary in character.

### *Ductal Papillomas*

Ductal papillomas have been categorized by the WHO into three morphological types. These include (a) intraductal papillomas, which are luminal papillary lesions that result in cystic dilatation of a duct; (b) inverted duct papillomas, a papillary proliferation that occurs at the junction of salivary duct and mucosal surface; and (c) sialadenoma papilliferum, an exophytic growth involving the mucosal surface and salivary ductal structures.

### *Sialoblastoma*

Sialoblastoma is a rare neoplasm of major salivary glands. The tumors are either congenital or arise in the prenatal period. It has been suggested that these tumors be divided into benign and malignant lesions based on cytologic features and patterns of growth that include nerve and vascular invasion and necrosis (Batsakis and Frankenthaler 1992; Ellis and Auclair 1996).

## **Malignant Epithelial Neoplasms**

### *Mucoepidermoid Carcinoma*

There still exists some conjecture about whether mucoepidermoid carcinoma exists as only low-grade and high-grade neoplasms (Spiro et al. 1978). The presence of mucoepidermoid carcinoma is usually asymptomatic and presenting as solitary, painless masses. When present, symptoms encompass pain, drainage from the ipsilateral ear, dysphagia, trismus, and facial paralysis (Ellis and Auclair 1996). On rare occasions, mucoepidermoid carcinoma may occur within the mandible or maxilla (3:1) (Brookstone and Huvos 1992). These tumors are referred to as “central mucoepidermoid carcinomas” (Ellis and Auclair 1996).

Mucoepidermoid carcinomas may consist of various proportions of mucous, epidermoid, intermediate, columnar, and clear cells, and are often cystic in pattern. These tumors constitute the majority of malignant neoplasms found in both major and minor salivary glands (Speight and Barrett 2002). Thus, mucoepidermoid carcinoma embodies 29% to 34% of malignant salivary gland tumors residing in both major and minor salivary glands (Ellis and Auclair 1996; Eveson and Cawson 1985; Spiro et al. 1978; Spitz and Batsakis 1984). The best evidence to date indicates that 84–93% of these neoplasms initiate within the parotid glands (Goode, Auclair, and Ellis 1998; Guzzo et al. 2002). Among the minor salivary glands, mucoepidermoid carcinoma has an affinity for the lower lip (Ellis and Auclair 1996). Generally, the mean age for these carcinomas is 47 years; however, there exists a broad age range of 8 years to 92 years, and this is one of the few salivary gland malignancies occurring in childhood (Ellis and Auclair 1996). Notably, previous exposure to ionizing radiation has been suggested to significantly increase the risk of mucoepidermoid carcinomas of the major salivary glands (Ellis and Auclair 1996; Guzzo et al. 2002).