

The level of microscopic grading of mucoepidermoid is of paramount importance to establish the prognosis (Auclair, Goode, and Ellis 1992; Goode, Auclair, and Ellis 1998; Speight and Barrett 2002). These tumors may be graded as low grade, intermediate grade, or high grade. The grade of a lesion is ascertained as a sum of five parameters. Sums that are 0–4 are regarded as low grade, those that are 5–6 are considered intermediate grade, and sums 7–14 are regarded as high-grade cancers. The five parameters considered are

1. Intracystic component (+2).
2. Neural invasion present (+2).
3. Necrosis present (+3).
4. Mitosis (≥ 4 per 10 high-power field) (+3).
5. Anaplasia present (+4).

Importantly, retrospective reviews of mucoepidermoid carcinoma of the major salivary glands have revealed a statistical correlation between this point-based grading system and outcome for parotid tumors; however, similar rigor was not deemed useful for tumors of the submandibular glands (Goode, Auclair, and Ellis 1998) or minor salivary glands (Guzzo et al. 2002). When more emphasis on features of tumor invasion was employed, better correlations were obtained, indicating that tumor staging may be a better indicator of prognosis (Ellis and Auclair 1996). These results reinforce the need for analyses that encompass absolute effect measures (Brandwein et al. 2001).

Adenoid Cystic Carcinoma

Adenoid cystic carcinoma, in earlier times known as “cylindroma,” is a slow-growing but nevertheless aggressive neoplasm with a notable capacity for recurrence (Brookstone and Huvos 1992). Three growth patterns have been acknowledged: cribriform, tubular, and a solid (basaloid) pattern. The tumors are classified according to the predominant pattern (Batsakis, Luna, and el-Naggar 1990; Brookstone and Huvos 1992; Ellis and Auclair 1996). The cribriform pattern is the most common, while the solid pattern is the least common (Perzin, Gullane, and Clairmont 1978). Solid adenoid cystic carcinoma is a high-grade lesion with reported recurrence rates of as much as 100%, compared with 50–80% for the tubular and cribriform variants (Ellis and Auclair 1996).

Reports from the AFIP indicate that adenoid cystic carcinoma is the fifth most common malignant epithelial tumor of the salivary glands after mucoepidermoid carcinomas; adenocarcinomas, NOS (not otherwise specified); acinic cell carcinomas; and polymorphous low-grade adenocarcinomas (PLGAs) (Ellis and Auclair 1996). The peak incidence for this tumor is stated to be in the fourth through sixth decades of life (Ellis and Auclair 1996).

These neoplasms characteristically progress as slow-growing lesions in the preauricular or submandibular region. Not infrequently, pain and facial paralysis are noted with progressive growth of the tumors, which may be attributed to their propensity to invade nerves (Ellis and Auclair 1996). Adenoid cystic carcinomas have a tendency to have an extended course resulting in a poor clinical result. The 10-year survival for these tumors is considered to be less than 50% (Speight and Barrett 2002). In that these carcinomas characteristically repeatedly recur and spur late distant metastases, clinical staging of these lesions appears to be a more superior prognostic indicator than histologic grade (Friedrich and Bleckmann 2003; Hamper et al. 1990; Speight and Barrett 2002.)

Adenocarcinomas

Acinic Cell Carcinoma

The acinic cell carcinoma, also referred to as “acinic cell adenocarcinoma,” is a malignant epithelial neoplasm in which the tumor cells convey acinar serous differentiation as opposed to mucous acinar cells (Ellis and Auclair 1996). AFIP data has indicated that acinic cell carcinoma is the third most common salivary gland epithelial neoplasm after mucoepidermoid carcinoma and adenocarcinoma, NOS. Moreover, acinic cell carcinoma comprised 17% of primary malignant salivary gland tumors with more than 80% occurring in the parotid gland. Women are generally more affected than males, with a mean age of 44 years. However, others have reported a 0–19% frequency of acinic cell carcinoma among malignant salivary gland neoplasms (Ellis and Auclair 1996). Patients usually present with a slowly increasing mass in the parotid. Pain is a symptom in approximately 33% of patients. Again, staging appears to be a better prognostic predictor than histologic grading (Ellis and Auclair 1996).