Papillary cystadenoma lymphomatosum (Warthin tumor).

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Papillary cystadenoma lymphomatosum (Warthin tumor, adenolymphoma) is a benign salivary gland tumor that occurs almost exclusively in the parotid gland. It represents 5 to 6% of all salivary gland tumors, and it is the second most common benign parotid neoplasm. Men are affected more often than women, usually in the fifth to seventh decades of life, although this gender proportion is changing. Warthin tumor is associated with smoking. The most common clinical manifestation is a painless, slowly growing mass in the inferior pole of the superficial lobe of the parotid gland, usually at the level of the mandibular angle. Multifocality occurs in up to 14% of cases; when two salivary gland neoplasms are present synchronously, Warthin tumor is the most common second tumor.

Figure 1. Low-power view of the tumor's typical architecture shows the epithelium-lined papillary projections extending into cystic spaces that contain mucinous debris. The surrounding polyclonal lymphoid proliferation is also displayed.
Figure 2. High-power view shows the double-layered epithelial lining of the cystic spaces. The inner layer is cuboid and contains basal nuclei with apical columnar cells.

Macroscopically, the tumor appears as a firm, lobular, cystic mass that ranges from 1 to 8 cm in its maximum dimension. Histologically, the tumor exhibits the characteristic triad of *papillary epithelial projections of oxyphilic* (oncocytic, granular) *cells* into cystic spaces in association with a variable amount of *lymphoid stroma* (figure 1). The epithelium is arranged in a double layer (a “tram-tracking” or “railroad” arrangement). The basal layer is made up of cuboid cells with a basal location of the nucleus, while the apical cells are columnar and nonciliated (figure 2). The cystic spaces usually contain mucinous debris and inflammatory cells that are tissue-toxic when extravasated. The resulting irritation is associated histologically with areas of squamous metaplasia, and it can progress to a sialocutaneous fistula. The lymphoid component is made up of mature lymphocytes and plasma cells, which are frequently arranged around germinal centers. Special studies (histochemical or immunohistochemical) are not needed for the diagnosis. The epithelial elements are cytokeratin and epithelial membrane antigen-immunoreactive. The polyclonal B- and T-cell populations are identified in their appropriate compartments. These is no light-chain restriction within the B-cell population. Malignant transformation of either the epithelial or the lymphoid elements is very rare.

Treatment requires excision of the tumor, usually via superficial parotidectomy. Recurrences are uncommon: when they do occur, they are usually the result of multi-centricity rather than incomplete resection.

**Suggested reading**

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