Bilateral Warthin Tumors of the Parotid Gland

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Received: 14 May 2008 / Accepted: 21 May 2008 / Published online: 12 July 2008
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History

A 61-year-old male presented with bilateral, asymptomatic cheek masses that had been enlarging slowly over many years. The patient had a history of smoking, with a 10 year pack history (half pack-per-day for 20 years). Image studies were performed, along with fine needle aspirates. The left mass was resected in 2004 and the right lesion was resected in 2006, after it continued to enlarge.

Radiographic Features

Computerized tomography of the neck, with contrast, showed a 6 mm, round, enhancing soft tissue mass in the posterior right parotid gland and a similar 10 mm lesion in the posterior left parotid gland (Fig. 1).

Diagnosis

Histologic examination of hematoxylin and eosin stained slides demonstrated a well circumscribed, thinly encapsulated cystic lesion filled with papillary projections of epithelial cells intimately associated with aggregates of lymphocytes. The papillae are composed of two layers of oncocytic cells; a luminal layer of tall columnar cells which demonstrate peripheral palisading of the nuclei and an inner layer of cuboidal cells. The epithelial cells are

bland and without mitotic activity. The stalks of the papillae contain dense lymphoid tissue with occasional germinal centers. The cystic fluid contains cellular debris and scattered acute and chronic inflammatory cells (Fig. 2).

Discussion

Warthin tumor, also known as papillary cystadenoma lymphomatosum, is a tumor composed of a papillary, bilayered, oncocytic epithelium with a dense lymphoid stroma. It is the second most common salivary gland tumor and accounts for 5.3% of all epithelial tumors of the parotid [1]. Warthin tumors occur most commonly in whites and Asians, with a mean age of diagnosis in the sixth decade. Historically, it has affected men at a much higher percentage than women, but in more recent reports, the male to female ratio has shown less of a male bias [1, 2]. Nearly all Warthin tumors occur in the parotid gland or periparotid lymph nodes. Multifocality has been detected in 20.5% of tumors, with bilaterality in 6.5% of tumors [3]. There is a strong association with smoking. In fact, the increase of female smokers in the last few decades may account for the increase of this tumor in females [2, 4].

Most patients present with an asymptomatic mass in the lower portion of the parotid gland that has slowly been enlarging over many years. Computer assisted tomography demonstrates an enhancing, well circumscribed lesion. Fine needle aspiration smears show focal collections of oncocytic epithelial cells surrounded by lymphocytes. The epithelial cells are typically bland, form orderly sheets, and have finely granular cytoplasm. The cyst contents, or background, consists of an amorphous, granular or ropy substance that frequently is mucoid [5]. Grossly, most tumors are well circumscribed with a thin fibrous capsule

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Fig. 1 Computerized tomography neck, with contrast, demonstrates bilateral, round, enhancing parotid masses

Fig. 2 A high-power view of epithelial lining showing double row of oncocytes with adjacent lymphoid stroma

and are partially cystic. The cyst is filled with a brown to mucoid gritty fluid. Histologically, the tumor is characterized by a papillary lesion made of oncocytic epithelial cells with a dense lymphocytic stroma in a cystic space. The papillae are composed of a bilayered epithelium, consisting of a luminal layer of tall columnar cells which demonstrate peripheral palisading of their nuclei and an inner layer of cuboidal cells. The lymphocytic stroma usually contains germinal centers. Analysis of the epithelial portion of the tumor for the X-linked human androgen receptor gene showed that Warthin's tumor is non-clonal, suggesting that it is not neoplastic, but may actually represent a metaplastic response to stress [6].

Warthin tumor is a benign lesion; however a very low rate of malignant transformation to squamous cell carcinoma or low grade lymphoma is recognized. The treatment for Warthin tumor is surgery, with a low rate of recurrence, most likely due to multifocality [1].

Acknowledgements Disclaimer The opinions and assertions expressed herein are those of the author and are not to be construed as official or representing the views of the Department of the Navy or the Department of Defense.

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