Tuberculosis Infection within a Warthin’s Tumor of the Parotid Gland: A Case Report

Warthin’s tumor (WT) is a common benign tumor of the parotid gland. Because WT has a lymphoid stroma, lymph node pathology can be superimposed on a WT, and its appearance can differ from that of a typical WT on imaging studies. We report on a rare case of a WT and tuberculosis within another WT in the same parotid gland, with a good correlation between histological sections and computed tomography scans. The patient underwent a superficial parotidectomy and received anti-tuberculous treatment. The patient recovered without complication. In summary, clinicians and radiologists should be concerned about lymph node pathology superimposed on a WT, particularly when an unusual imaging finding of a WT is suspected.

Index terms
Parotid Gland
Tuberculosis
Warthin’s Tumor
CT

INTRODUCTION

Warthin’s tumor (WT) is the second most common benign salivary gland tumor, occurring almost exclusively in the parotid gland and is usually located at the superficial lobe of the tail end of the parotid gland (1). Multifocal WT is uncommon and is reported in 2% of cases (1). Histologically, WT is an adenomatous epithelial proliferation from the entrapment of heterotopic salivary gland ductal epithelial tissue within the intraparotid and periparotid lymph nodes. WT has lymphoid stroma; therefore, lymph node pathology, such as lymphoma, metastasis, and tuberculosis (TB) can develop within a WT (2-5). To the best of our knowledge, only a few cases of parotid gland TB within a WT have been reported (6).

We report on a rare case of two WTs in the upper and lower posterior aspect of the superficial lobe of the left parotid gland, which differed in appearance; one was composed only of a WT and the other was composed of TB within a WT.

CASE REPORT

A 51-year-old female was admitted to the otorhinolaryngology outpatient ward complaining of a palpable nontender mass at the left infra-auricular area, which had been growing slowly over a period of two months. The patient had no other symptoms or complaints. All laboratory tests were within normal range. However, a chest X-ray revealed linear and nodular opacities in both upper lobes, suggesting inactive TB. Her sputum culture and acid-fast bacilli (AFB) smear were negative for mycobacterium TB. A chest X-ray revealed linear and nodular opacities in both upper lobes, suggesting inactive TB. Her sputum culture and acid-fast bacilli (AFB) smear were negative for mycobacterium TB. A neck sonographic examination demonstrated a well-demarcated mixed hypoechoic and anechoic intra-parotid lesion measuring 3.0 × 2.4 cm within the inferior aspect of the left parotid tail. No definite color signals were noted in the mass on power Doppler imaging (Fig. 1A). However, computed tomography (CT) revealed two masses in the same parotid gland that differed in appearance. The mass detected by sonogram showed central low
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mor (1). WT is bilateral in 10-15% and multifocal in 2% of cases (1). On ultrasonographic examination, WTs are oval, hypoechoic, well-defined tumors, which often contain multiple anechoic areas (2). Many of these tumors were shown as low density in plain CT and homogeneous enhancement or thin rim enhancement with contrast material (2). Since the lymphoid stroma of WT shares features with normal or reactive lymph nodes, lymph node pathology, such as TB, lymphoma, and metastasis can develop within a WT. However, reported cases are rare (3-7). When lymph node diseases develop within a WT, its appearance may differ from that of a typical WT.

TB of the parotid gland is uncommon, comprising 2.5% to 10.0% of parotid gland lesions (8). Incidence of TB of the parotid gland has increased due to the increased prevalence of human immunodeficiency virus (9). TB is of particular importance because it is contagious by the respiratory route and preventable with chemoprophylaxis (10). Even with FNA cytology, it is impossible to distinguish TB from a parotid gland neoplasm. Most cases are diagnosed after histopathologic examination.

TB within a WT is an even more rare disease entity. According to Ozcan et al. (6), only 5 cases of parotid gland TB within a WT have been reported in the literature. Our case showed two multifocal WTs in the same parotid gland that differed in appearance. One appeared as a solid WT and the

density, including necrosis, and peripheral irregular thick rim enhancement in the lower posterior aspect of the parotid gland, without internal calcification (Fig. 1B, C). The other mass showed homogeneous enhancement in the upper posterior aspect of the parotid gland, and showed no internal calcification (Fig. 2A). No pathologic lymph nodes, including TB or metastasis, were noted in the neck. Sonography-guided fine-needle aspirates (FNA) revealed epithelial cells with oncocytic change; WT was considered. Under the impression of parotid WT, a superficial parotidectomy was performed. On a serial section, the cut surface showed two well-demarcated myxoid yellowish discolored lesions confined within the parotid gland, and measuring 3 × 2.5 cm and 1.5 × 1.8 cm (Fig. 2B). The smaller mass consisted of proliferative oncocytic columnar epithelium and lymphocytic infiltration within the stroma, characteristic of WT (Fig. 3A). In the larger mass, TB was detected in the lymphoid stroma intermingled with WTs (Fig. 3B). AFB were found within TB granuloma (Fig. 3C). Therefore, our patient was diagnosed with TB within a WT. The patient was stable postoperatively and was discharged 7 days after surgery. The patient received antituberculous treatment and recovered without complication.

DISCUSSION

WT is the second most common benign salivary gland tu-

Fig. 1. A 51-year-old female with multifocal Warthin’s tumors.
A. Axial neck sonogram shows a mixed hypoechoic and anechoic, well defined mass measuring 3.0 × 2.4 cm in the left inferior aspect of the parotid tail.
B. Non-contrast enhanced axial CT scan reveals a low density mass without internal calcification.
C. Contrast enhanced study shows a well-defined lesion with central low density, including necrosis and thick irregular rim-enhancement (arrows).
Although the definitive diagnosis requires a histologic confirmation after surgery, clinicians and radiologists should be concerned about lymph node pathology superimposed on a WT, particularly when an unusual imaging finding of a WT is suspected.

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