Warthin Tumor of the Parotid Gland: A Case Report

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Warthin tumor, also known as papillary cystadenoma lymphomatosum is a benign neoplasm which occurs mostly in the parotid gland. It is the second most common benign neoplasm of the parotid gland, following pleomorphic adenoma. In occasion, the size of neoplasm grows slowly, and there is no symptom, except swelling. To prevent the recurrence, some surgeons prefer superficial parotidectomy, but the others prefer local resection with minimal surrounding tissue due to its low recurrence rate. We present a case of Warthin tumor of 55-year-old male.

Key words: Warthin tumor, Parotid gland, Salivary gland tumor, Partial parotidectomy

I. INTRODUCTION

Tumors of the salivary glands usually occur in parotid glands, accounting for approximately 60-90%.1,2 Among the various tumors of parotid glands, Warthin tumor, also known as papillary cystadenoma lymphomatosum, is the second most common benign neoplasm of the parotid gland.3 It had been more frequently seen in male patients than female patients, but recently the female patients increased due to the rising prevalence of smoking habits among women, while Warthin tumor is related to smoking habits.1,3,4 Also, it mostly occurs in age of sixties to seventies.2

Papillary cystadenoma lymphomatosum represents the pathological characteristics of Warthin tumor. The tumor is composed of a mixture of ductal epithelium and a lymphoid stroma. It shows numerous papillary elements lining cystic spaces in a lymphoid stroma, and also double layered epithelial lining with inner oncocystic columnar layer and outer cuboidal cells abutting the basement membrane.5

Surgical removal is recommended for patients with Warthin tumor. Local resection with minimal surrounding tissue is one of the options for patients with Warthin tumor. However, to prevent the recurrence, subtotal or total parotidectomy can be another option for the treatment.2

The aim of this study is to report the case of Warthin tumor in the left parotid gland, describing the clinical and pathological characteristics, the process of surgery, the prognosis, and the complications.
II. CASE REPORT

A 56-year-old male patient was referred from local dental clinic to the department of oral and maxillofacial surgery at Seoul St. Mary’s Hospital of the Catholic University of Korea for the evaluation of the swelling on the posterior area of the left mandibular angle. There was no history of pain, discomfort, bleeding, trismus, paresthesia except the swelling. He recognized the asymptomatic swelling about 3 weeks before his first visit. He had no underlying disease. He has been smoking lasting for more than 20 years.

Physical examination revealed a well-circumscribed mass on the posterior area of the left mandibular angle. (Fig 1) The size measured 2.5 cm x 2.5 cm. On palpation, the swelling was slightly hard and firm without tenderness, and the skin over the swelling was mobile. There was no evidence of inflammatory sign including no local heat, redness, nor fever. There was no specific finding related to the tumor intraorally.

There was no specific finding related to the tumor in the panorama radiograph. To evaluate the soft tissue mass, the patient took the enhanced computed tomography (CT). A strongly enhancing mass at the left parotid gland, presenting the size of 31 x 29 x 35mm, was detected in the enhanced...
CT. There was no abnormal lymph node in bilateral neck, (Fig 2)

By the physical examination and the radiological analysis, the mass was suspected to be a pleomorphic adenoma or Warthin tumor. For the exact diagnosis and treatment, excisional biopsy under general anesthesia was planned. The patient underwent preoperative examinations, and there was no specific finding in hematology.

The skin incision was made right upon the tumor due to its location, which was the posterior area of the posterior border of the left mandibular ramus. This is usually called retromandibular approach. The tumor was located inferiorly to the tragus to oral commissure line, which usually represents the lower border of buccal branches of facial nerve variation. Platysma incision was made and the tissue was dissected to expose the tumor. The tumor was removed and sent to the department of the pathology for biopsy. A drainage tube was inserted into the tumor-removed area and layered suture was done, (Fig 3) Warthin tumor of the left parotid gland was diagnosed by the pathologist. The specimen revealed the composition of a mixture of ductal epithelium and a lymphoid stroma, Epithelial lining showed double row of oncocytes with adjacent lymphoid stroma, (Fig 4)

After the surgery, the daily dressing was done and drain was removed after 3 days of the operation. There was no complication, like facial nerve palsy or Frey’s syndrome, related to the surgery. There was no recurrence and additional complication during one year of follow-up.

### III. DISCUSSION

Warthin tumor has been the second most frequent benign neoplasm found in the parotid gland. It represents about 15% of parotid tumors. The most frequent location in the parotid gland is the tail part of parotid gland, as same as the above case, According to the previous studies, the incidence of Warthin tumor was about five times higher in men than in women, however, the women tend to suffer from Warthin tumor more often. This can be explained by the increased smoking population of the women, The

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**Fig. 3.** Excised tumor: a measured 4.0 x 2.3 cm of rubbery consistency mass from parotid gland

**Fig. 4.** Microscopic findings: The specimen showed bilayered oncocytic epithelium and lymphoid stroma
The correlation between the smoking and Warthin tumor has been reported. Pinkston et al, reported 90% of Warthin tumor patients were smokers.\textsuperscript{6,7} In this case report, the patient has been smoking for more than 20 years. The location of the tumor was the tail part of the parotid gland, which is common place to occur.

Before the surgery, physical and radiographic examination should be performed for the exact diagnosis. In general, there is no specific finding on physical examination, except the swelling. For the further examination, computed tomography (CT), magnetic resonance imaging (MRI), fine needle biopsy (FNB), and ultrasonography can be used. Fine needle biopsy is an useful tool for diagnosis and shows to have a sensitivity of 90.4%\textsuperscript{8}. However FNB cannot be the sole diagnostic method, because Warthin tumor can be misdiagnosed as malignancy, accounting for about 26% in case of FNB.\textsuperscript{9} The enhanced CT is usually used for the diagnosis, offering the information about the exact border, anatomical location, or etc. Also, CT is relatively cheaper and faster than MRI. In this case, after the physical examination, the enhanced CT was taken at first. The radiological result showed well-defined benign lesion, so there was no further preoperative examination, including FNB.

In usual, surgical removal is recommended for the treatment of Warthin tumor. But the range of the resection is controversial. Local resection, including the partial parotidectomy, is more conservative than the total parotidectomy. If the tumor includes the deep area of parotid or the both parotid glands, total parotidectomy can be recommended to prevent the recurrence. Partial parotidectomy can be suggested if the tumor is located locally only on the superficial lobe or the tail part of the parotid gland. Partial parotidectomy usually involves only the marginal mandibular branches of the facial nerve, so the lesser complications are reported than total parotidectomy.

On the other hand, total parotidectomy occasionally related to the facial nerve may have a result of complication. Facial nerve palsy or Frey’s syndrome are sometimes reported after total parotidectomy. Lai et al reported the morbidity rates for facial nerve palsy and Frey syndrome as 22.5% and 59.2%.\textsuperscript{10} El Fol et al reported the incidence of facial nerve palsy in a systematic review. The incidence of facial nerve palsy for partial parotidectomy was ranged from 0% to 23% (mean 6.75%), and the incidence for total parotidectomy was ranged from 0% to 45% (mean 15%).\textsuperscript{11} In this case, there was no complication related to the partial parotidectomy.

The current report presents the case of Warthin tumor of parotid gland in 56-year-old male. There was no other symptom except the swelling on the left retromandibular area. By physical and radiographic examination, the lesion was suspected as Warthin tumor or pleomorphic adenoma, Partial parotidectomy was done under general anesthesia, and there was no complication and recurrence postoperatively.

REFERENCES