

Case Report

Infected Warthin Tumor: Complicated with Acute Facial Nerve Paralysis

Sin Wee Lim, Boon Chin Te, Wan Emelda Wan Mohamad

Department of Otorhinolaryngology - Head and Neck Surgery, Hospital Sultanah Nora Ismail, Jalan Korma 83000, Batu Pahat, Malaysia.

Corresponding Author: Boon Chin Te

Received: 03/06/2016

Revised: 23/06/2016

Accepted: 27/06/2016

ABSTRACT

Facial nerve paralysis in the presence of a parotid mass is a strong indicator of an underlying malignancy. It is rare to find facial nerve palsy in benign parotid tumors. We present a unique presentation of acute onset facial nerve paralysis caused by an infected Warthin tumor.

Key words: Warthin tumor, facial nerve, parotid.

INTRODUCTION

Facial nerve paralysis is a manifestation of malignant infiltration in the presence of parotid mass. [1] Nonetheless, some cases of benign parotid mass do cause facial nerve paralysis, but rare. We report a known case of Warthin tumor which thereafter developed sudden onset of facial nerve paralysis due to infection. The possible underlying mechanism is discussed and awareness of facial nerve paralysis in benign parotid tumor is emphasized.

CASE REPORT

A 46 years old, Malay gentleman, presented to our clinic with complaint of sudden loss of right facial movement.

Our patient was an active smoker, who also a known case of right Warthin tumor based on the earlier fine needle aspiration cytology (FNAC) as well as ultrasonographic imaging. Patient was under our follow up and was planned for right superficial parotidectomy.

Unfortunately, before the date of operation, patient brought himself to our clinic as patient was concerned regarding the sudden onset of right facial weakness

which occurred rapidly within one day. Two days prior to that, he started to have increasing size of preexisting right parotid mass. It was also associated with two weeks of intermittent low grade fever. Besides, his right parotid swelling was painful and warm. Otherwise, there was no history of trauma or insect bite over the swelling.

Physical examination revealed a warm, tender, as well as fluctuant mass which measuring 5cm in diameter over the right parotid region. (Figure 1) The right facial nerve palsy was graded as four on the House-Brackmann Scale. (Figure 2) Other examinations were unremarkable.

The blood investigation showed leucocytosis with total white cell count of $17 \times 10^9/L$ and raised erythrocyte sedimentation rate (ESR) of 56 which was consistent with ongoing inflammation. CT scan of neck noted there was a well-defined, rim-enhancing, hypodense lesion measuring 4cm x 3cm x 4cm in the right parotid gland, with Hounsfield unit (HU) ranging 29 to 35. Neither calcification nor invasion of surrounding of structure was seen. (Figure 3) Impression of right parotid abscess was made. Aspiration of the swelling was done

but 10cc of cloudy haemoserous fluid instead of purulent material was withdrawn. Aspirate fluid FEME showed only minimal cells while Ziehl-Neelsen staining had no acid fast bacilli seen and culture of fluid failed to yield any organism.

IV Cefoperazone 1g BD and IV Metronidazole 500mg TDS was commenced. The right parotid swelling was aspirated to decompress the mass. The facial nerve palsy improved to House-Brackmann grade 2 after 5 days of intravenous antibiotics. The size of swelling and its tenderness was also markedly reduced. Patient completed a course of total 2 weeks of antibiotics. During follow up at our clinic in 6 months, the right facial nerve remained as House-Brackmann grade 2 and the right parotid swelling was persistent with size measuring 2cm in diameter. Thereafter, parotidectomy was offered but patient refused.



Figure 1: Patient presents with right parotid swelling.



Figure 2: Right facial nerve palsy is graded as four on the House-Brackmann Scale.

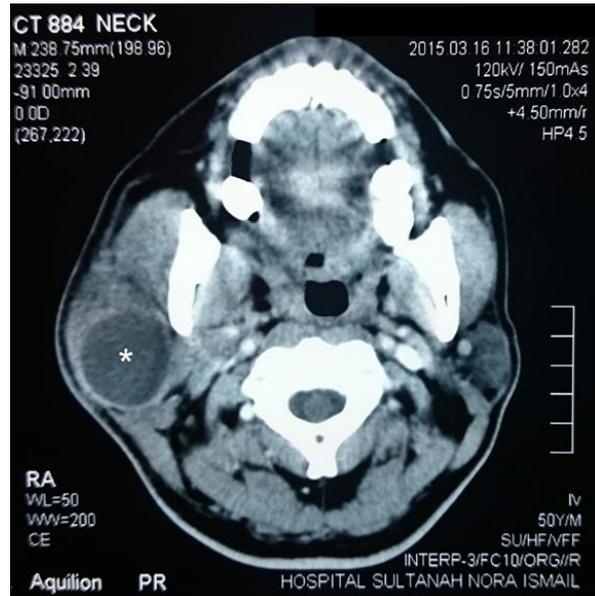


Figure 3: CT scan of neck shows there was a well-defined, rim-enhancing, hypodense lesion measuring 4cm x 3cm x 4cm in the right parotid gland, with Hounsfield unit (HU) ranging 29 to 35. Lesion is marked with *.

DISCUSSION

Warthin tumor, also known as papillary cystadenoma is a slow - growing asymptomatic tumor which commonly affects men between the 5th and 6th decade. It is the second most common benign salivary gland tumor and it makes up 14-30% of all parotid tumors. [2] Various theories have been proposed to explain the origin of this tumor; still its origin is unknown.

Smoking has been shown to be one of the main risk factors for development of multiloculated Warthin tumor. [3] Chung YF *et al* (1999) reported that smokers are 40 times greater to develop this tumor. [4] It is the only benign neoplasm of the salivary gland to be associated with smoking. [5]

Facial nerve paralysis in the presence of parotid tumor is a reliable indicator of underlying malignancy. A review by Eneroth in 1972 on 2158 cases of parotid tumors reported 46 cases, all of which were malignant tumors, have facial nerve paralysis. [6] However, 22 cases of benign parotid neoplasms causing facial nerve paralysis have been reported in the literature and among those, 11 cases (50%) were caused by Warthin tumor. [7] To the best of our knowledge, our literature

researches have yet to encounter cases of a known Warthin tumor which is later infected and complicated with acute facial nerve palsy. There are a few possible explanations for the occurrence of facial nerve paralysis in benign parotid tumor.

In our case, the diagnosis of Warthin tumor was based solely on fine needle aspiration which carries the sensitivity of diagnosing head and neck masses as 89.6%.^[8] There may be a simultaneous occurrence of various types of carcinoma, pleomorphic adenoma or malignant lymphoma.^[9] The concurrent tumors may have been missed. Patient was offered to proceed for parotidectomy in view of the presence of persistent parotid swelling. Malignancy cannot be ruled out without excisional biopsy. However, patient was not keen for any surgical intervention as the facial nerve had improved to almost normal.

Besides, another possible explanation can be that the acute onset of the infection with a rapidly increasing mass leading to extrinsic compression and stretching of the facial nerve causing transient neurapraxia.^[5] Patient's clinical history in the sudden development of facial paralysis within one day supported this proposed theory.

Furthermore, the local neurotoxic effect in the perineural region of the facial nerve caused by the release of inflammatory mediators can result in inflammation and ischemia which further compromise the function of facial nerve.^[10] In our present case, the patient's inflammatory markers were significantly raised and correlated well with the clinical findings. However, the haemorrhagic fluid from the aspiration done showed no signs of infection on either microscopy or culture.

Our dilemma in approaching this issue is in correlating our clinical findings to CT scan report. Although his physical examinations and CT findings led to our initial diagnosis as parotid abscess, surgical drainage was not done in view of the nature of the aspirated fluid from the mass. Based on our clinical judgement, we proceeded

with a trial of antibiotics and he responded well. Y Noorizan et al (2009) and Gino et al (2003) had reported parotid abscess complicated with facial nerve paralysis, both of cases were treated with surgical drainage and antibiotics.^[7,10]

In terms of approach to diagnosing a parotid tumor, FNAC on its own is not sufficient to provide confirmation of the nature of the tumor. Excision biopsy of the tumor remains the gold standard. Even though facial nerve paralysis has been an indicator of malignancy, as clinicians we need to be aware of the odds that benign neoplasm of the parotid gland may also present with facial weakness. Given this controversy, a detailed clinical assessment and background knowledge of rare anomalies are highly recommended.

Conflict of Interest Statements: All authors had no conflict of interest on this study.

REFERENCES

1. Małgorzata Wierzbicka, Tomasz Kopeć, Witold Szyfter et al. The Presence of facial nerve weakness on diagnosis of a parotid gland malignant process. *Eur Arch Otorhinolaryngol.* 2012 Apr; 269(4): 1177-82
2. Robert L. Hatch, MD, and Sejal Shah, BS. Warthin Tumour: A Common, Benign Tumor Presenting As A Highly Suspicious Mass. *JABFM.* 2005 July-August; 18(4): 320-2.
3. Jens Peter Klusmann, Claus Wittekindt, Simon Florian Preuss et al. High risk for bilateral Warthin tumor in heavy smokers- review of 185 cases. *Acta Oto-Laryngologica.* 2006; 126(2): 1213-7.
4. Chung YF, Khoo ML, Heng MK et al. Epidemiology of Warthin's tumour of the parotid gland in an Asian population. *Br J Surg.* 1999; 86:661-4.
5. Yoo GH, Eisele DW, Askin FB et al. Warthin's tumor: A 40 year experience at The Johns Hopkins Hospital. *Laryngoscope.* 1994; 104:799-803.
6. Eneroth CM. Facial nerve paralysis. A criterion of malignancy in parotid tumors. *Arch Otolaryngol.* 1972 Apr; 95(4):300-4.

7. Gino Marioni, Cosimo de Filippis, Elena Gaio, Gaetano et al. Facial nerve paralysis secondary to Warthin's tumour of the parotid gland. *The Journal of Laryngology & Otology*. 2003 June; 117(6):511-3.
8. Tandon S, Shahab R, Benton JI et al. Fine-needle aspiration cytology in a regional head and neck cancer center: comparison with a systematic review and meta-analysis. *Head & Neck*. 2008 Sep; 30(9):1246-52.
9. Teymoortash A and Werner JA. Tissue that has lost its track: Warthin's tumour. *Virchows Arch*. 2005 Jun; 446(6):585-8.
10. Y Noorizan, Y K Chew, A Khir et al. Parotid abscess: an unusual cause of facial nerve palsy. *Med J Malaysia*. 2009 Jun; 64(2):172-3.

How to cite this article: Lim SW, Te BC, Mohamad WEW. Infected warthin tumor; complicated with acute facial nerve paralysis. *Int J Health Sci Res*. 2016; 6(7):422-425.

International Journal of Health Sciences & Research (IJHSR)

Publish your work in this journal

The International Journal of Health Sciences & Research is a multidisciplinary indexed open access double-blind peer-reviewed international journal that publishes original research articles from all areas of health sciences and allied branches. This monthly journal is characterised by rapid publication of reviews, original research and case reports across all the fields of health sciences. The details of journal are available on its official website (www.ijhsr.org).

Submit your manuscript by email: editor.ijhsr@gmail.com OR editor.ijhsr@yahoo.com