

# Sclerotherapy for the treatment of Warthin's tumour of the parotid\*

Margarita Mesa Marrero<sup>1</sup>, Natalia Carrasco Fons<sup>2</sup>, Elena Hernández Montero<sup>1</sup>,  
Marta Villarreal Salcedo<sup>3</sup>

<sup>1</sup>Department of Otolaryngology, Hospital de Viladecans, Barcelona, Spain

<sup>2</sup>Department of Pharmacology, Hospital de Viladecans, Barcelona, Spain

<sup>3</sup>Department of Radiology, Hospital de Viladecans, Barcelona, Spain

Email: [margamesamarrero@hotmail.com](mailto:margamesamarrero@hotmail.com)

Received 6 February 2012; revised 11 March 2012; accepted 15 March 2012

## ABSTRACT

Warthin's tumour (WT) is the second most common benign salivary gland tumour of the parotid gland. Several treatments have been proposed. Surgery is considered the treatment of choice. We report a case of an 83-year-old woman who was treated using sclerotherapy and discuss the possible benefits of this method. To our knowledge this is the first report on sclerotherapeutic treatment of WT.

**Keywords:** Warthin's Tumour; Parotid Gland; Doxycycline Sclerotherapy

## 1. INTRODUCTION

Cystadenolymphoma or Warthin's tumour is the second most common benign neoplasm after pleomorphic adenoma of the parotid gland. It accounts for about 15% of all epithelial tumours of the parotid gland [1]. WT most commonly occurs as an asymptomatic mass in the tail of the parotid gland. WT may grow large and disfigure the patient. The details of the pathogenesis of WT are still unclear. WT is considered a tumour-like lesion [2]. Malignant transformation of WT is extremely rare [3,4].

Many therapeutic approaches have been proposed including repeated percutaneous aspiration, tumorectomy, partial parotidectomy and local excision of parotid gland [5,6].

We present the first reported case of a WT treated using doxycycline sclerotherapy.

## 2. CASE REPORT

An 83-year-old woman, with senile dementia and chronic severe pathology presented to our unit with a soft mass of the left parotid gland. Sonographic appearance of the

lesion was suggestive of WT and showed a well-defined, hypoechoic mass, 2, 2 cm in diameter, with an internal anechoic cyst.

Examination of a fine needle aspiration biopsy specimen confirmed the diagnosis of WT.

As the general condition of the patient might cause high surgical morbidity even mortality, this therapeutic option was disregarded. WT was treated by repeated percutaneous aspiration for 5 years. This modality achieved only limited success due to the fast recurrence of the cyst and its progressive growth reaching a total of 6 cm in diameter (**Figure 1**). Then, another nonsurgical modality was proposed. Doxycycline sclerotherapy empiric treatment was chosen following review of the literature, between several options.

Under sterile conditions and without any anaesthesia we performed the procedure (**Figure 2**). A 50 ml 18-gauge syringe-needle combination was used under ultrasonographic guidance. We obtained 25 cm<sup>3</sup> of a brown viscous liquid. The syringe was removed and the angiocatheter remained in place. Then we injected 25 cm<sup>3</sup> of doxycycline (10 mg/ml) (**Figure 3**). The procedure was well tolerated by the patient.

Ten days after sclerosing treatment, there was a minimal decrease in the size of the cyst. No adverse effects were observed.

After a one-month interval, we decided to repeat the procedure. We aspirated 20 cm<sup>3</sup> of fluid and injected 20 cm<sup>3</sup> of doxycycline. Slight cutaneous erythema and local pain in the first few days after injection were recorded. A 25% of reduction in volume was achieved one month after the second procedure.

Additional sclerotherapy was offered, but the patient's family decided to stop the doxycycline treatment.

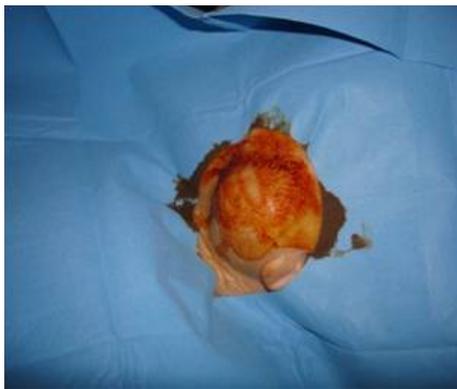
## 3. DISCUSSION

Although benign, WT may grow large, cause pain and

\*Conflict of interest statement: None of authors has any potential conflict of interest.



**Figure 1.** Ultrasonogram shows the heterogeneous nodular lesion with hypodense central area.



**Figure 2.** Sterile conditions for puncture of WT of the left parotid gland.



**Figure 3.** 18-gauge catheter has been placed into the cyst portion of WT. After aspiration of the liquid cyst the doxycycline infiltration is being performed.

become disfiguring to the patient.#

Superficial parotidectomy has been the most widely accepted therapy. However, this surgery has important risks associated with it. Several authors give an excellent overview of limited parotidectomy, with low rates of

morbidity and recurrence [5,6]. Additional treatment options have been reported such as repeated needle aspirations and nodulectomy. First we performed repeated percutaneous aspiration with poor results.

Several chemical agents have been used to sclerose a cystic space. Tetracycline, doxycycline, and sodium morrhuate sclerosis have been used as a treatment for benign lymphoepithelial cysts of the parotid with optimal results [7-9]. Their efficacy as sclerosing agents are based on their low pH. Therefore, this characteristic produces inflammation and obliteration of the cyst. Doxycycline was used in the present case because it is inexpensive and is produced in an injectable form. In addition, only local adverse effects have been reported with doxycycline sclerotherapy. Sclerotherapy administration is possible under local anaesthesia. Our patient underwent the puncture without anaesthesia.

Another important consideration is whether recurrences or lesions remaining after sclerotherapy can be removed by surgery. Moreover, smaller lesion after sclerosing therapy might offer safer and faster surgery than the same tumour before this treatment. Sclerotherapy should be considered a procedure preceding the surgery in selected cases.

We report, to our knowledge, the first clinical use of doxycycline sclerotherapy in a WT. Although the patient had a limited improvement in tumour size reduction the family was very satisfied. Sclerotherapy could be a safe alternative to the treatment of WT in elderly population. More experience is necessary to demonstrate its efficacy. Other sclerosing agents could be tested.

## REFERENCES

- [1] Pinkston, J.A. and Cole, P. (1999) Incidence rates of salivary gland tumors: Results from a population-based study. *Otolaryngology—Head and Neck Surgery*, **120**, 834-840. [doi:10.1016/S0194-5998\(99\)70323-2](https://doi.org/10.1016/S0194-5998(99)70323-2)
- [2] Teymoortash, A. and Werner, J.A. (2005) Tissue that has lost its track: Warthin's tumour. *Virchows Archiv*, **446**, 585-588. [doi:10.1007/s00428-005-1276-5](https://doi.org/10.1007/s00428-005-1276-5)
- [3] Foschini, M.P., Malvi, D. and Betts, C.M. (2005) Oncocytic carcinoma arising in Warthin tumour. *Virchows Archiv*, **446**, 88-90. [doi:10.1007/s00428-004-1122-1](https://doi.org/10.1007/s00428-004-1122-1)
- [4] Bell, D. and Luna, M.A. (2009) Warthin adenocarcinoma: Analysis of 2 cases of a distinct salivary neoplasm. *Annals of Diagnostic Pathology*, **3**, 201-207. [doi:10.1016/j.anndiagpath.2008.02.015](https://doi.org/10.1016/j.anndiagpath.2008.02.015)
- [5] Yu, G.Y., Ma, D.Q., Liu, X.B., Zhang, M.Y. and Zhang, Q. (1998) Local excision of the parotid gland in the treatment of Warthin's tumour. *British Journal of Oral and Maxillofacial Surgery*, **36**, 186-189. [doi:10.1016/S0266-4356\(98\)90495-8](https://doi.org/10.1016/S0266-4356(98)90495-8)
- [6] O'Brien, C.J. (2003) Current management of benign parotid tumors—the role of limited superficial parotidectomy.

- Head Neck*, **25**, 946-952. [doi:10.1002/hed.10312](https://doi.org/10.1002/hed.10312)
- [7] Suskind, D.L., Tavill, M.A. and Handler, S.D. (2000) Doxycycline sclerotherapy of benign lymphoepithelial cysts of the parotid: A minimally invasive treatment. *International Journal of Pediatric Otorhinolaryngology*, **52**, 157-161. [doi:10.1016/S0165-5876\(99\)00301-8](https://doi.org/10.1016/S0165-5876(99)00301-8)
- [8] Marcus, A. and Moore, C.E. (2005) Sodium Morrhuate sclerotherapy for the treatment of benign lymphoepithelial cysts of the parotid gland in the HIV patient. *Laryngoscope*, **115**, 746-749. [doi:10.1097/01.mlg.0000161349.53622.03](https://doi.org/10.1097/01.mlg.0000161349.53622.03)
- [9] Echavez, M.I., Lee, K.C. and Sooy, C.D. (1995) Tetracycline sclerosis for treatment of benign lymphoepithelial cysts of the parotid gland in patients infected with human immunodeficiency virus. *Laryngoscope*, **105**, 164.