

# Schwannoma of the Tongue – A Rare Clinical Entity

Venkatesh Jayaraman<sup>1\*</sup>, Balaguhan Balasubramanian<sup>2</sup>, Rajakumari Senthivelu<sup>3</sup>

<sup>1</sup>Department of Oral Medicine and Radiology, Rajah Muthiah Dental College, Chidambaram, India

<sup>2</sup>Department of Oral and Maxillofacial Surgery, Karpaga Vinayaga Institute of Dental sciences, Chennai, India

<sup>3</sup>Junior Consultant, J.R Dental Care, Chidambaram, India

\*Corresponding author: [venkateshjay@gmail.com](mailto:venkateshjay@gmail.com)

Received September 30, 2013; Revised November 15, 2013; Accepted December 09, 2013

**Abstract** Schwannoma is a nerve sheath tumour originating from the Schwann cell of nerve sheath. We present case report of a 30 year old female who presented with a swelling on the right lateral border of the tongue since 1 ½ years with notable increase in size for past two months. The swelling was a solitary, mobile, well defined mass, firm in consistency. It was associated with constant irritation from the palatally placed lower right canine. Regional nodes were not palpable. A provisional diagnosis of traumatic fibroma was made. The patient underwent complete enucleation with primary closure. Histological examination after surgical excision revealed schwannoma. The patient had an uneventful postoperative recovery. There was no recurrence after the removal of the mass during the past 2 years of follow up.

**Keywords:** schwannoma, tongue swelling, intra-oral swelling, benign

**Cite This Article:** Venkatesh Jayaraman, Balaguhan Balasubramanian, and Rajakumari Senthivelu, "Schwannoma of the Tongue – A Rare Clinical Entity." *International Journal of Dental Sciences and Research* 1, no. 3 (2013): 53-55. doi: 10.12691/ijdsr-1-3-3.

## 1. Introduction

Schwannoma is a benign, encapsulated slow growing tumour of perineural sheath that is derived from Schwann cell of the nerve sheath [1]. Schwann cell forms myelin sheath around nerve membranes. They help to transmit messages to and from the brain and spinal cord and the rest of the body. Schwannoma typically develops along nerves of head and neck region [2].



Figure 1. Preoperative photograph-lateral view

Schwannomas in the head and neck region constitute about 25% of all the extracranial schwannomas; among those, only 1% show an intraoral origin, and the tongue is

the most common site [2,3]. The intraoral lesions have a predilection for the tongue, followed by the palate, floor of mouth, buccal mucosa and mandible<sup>4</sup>. In the tongue, the base of tongue is commonly affected and the tip is the least affected part [5]. Oral Schwannoma occurs approximately equally in males and females [6]. It is more often found in the second and third decades of life. We present a case of Schwannoma of the lateral border of tongue.

## 2. Case Report

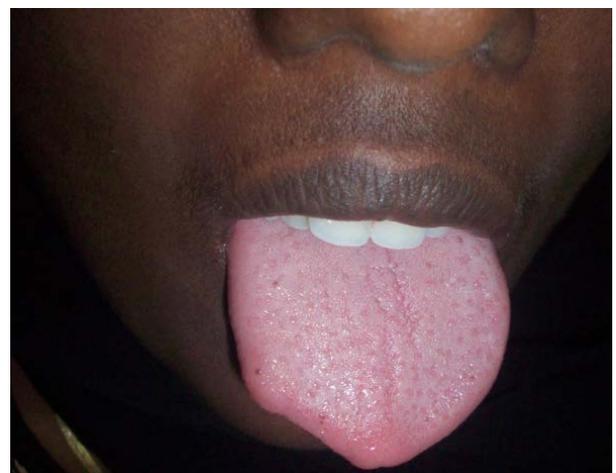


Figure 2. Pre-operative photograph

A 25 year old female presented with a slow growing painless swelling on the right side of the tongue for past 1 ½ years with history of rapid growth for the past two

months. There was no history of pain or bleeding. Intraoral examination revealed a 3 cm x 2 cm smooth mobile mass on the right lateral border of the tongue. The margins were well circumscribed and the swelling was firm in consistency. There was constant irritation by the supraerupted lower right canine. Regional nodes were not palpable. The clinical impression was traumatic fibroma of the tongue. Blood investigations were normal. The mass was totally excised surgically. Histological examination revealed Schwannoma of the tongue. No recurrence was noted after the removal of the mass.



Figure 3. Per-operative photograph

Histopathology report of the swelling exhibited tissue made up of interlacing bundles of spindle cells with hyperchromatic spindle nuclei and indistinct cytoplasm resembling Schwann cells. Antoni type B were predominant with few focal Antoni type A areas showing nuclear palisading. Few Verocay bodies were also seen throughout the section. The periphery shows a thick well formed capsule. It was suggestive of Schwannoma.

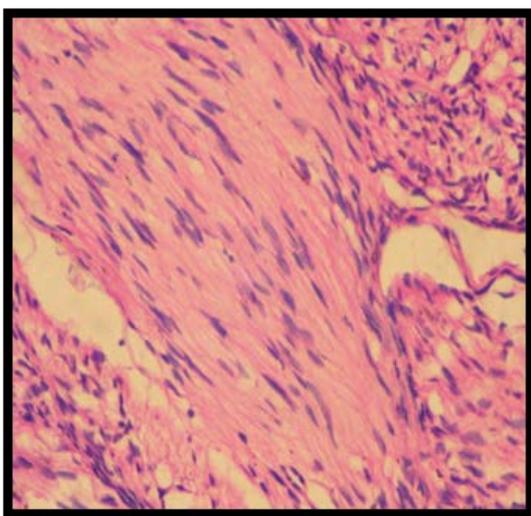


Figure 4. Histopathology of the swelling

### 3. Discussion

Schwannoma typically develops along the nerves of head and neck region. Although the etiology [7] is

unknown, it is believed that the lesion arises from proliferation of Schwann cells at a point inside the perineurium, which causes displacement and compression of the surrounding normal nerve. Oral Schwannoma occur approximately equally in males and females, are more often found in the second and third decades of life [6]. Although Schwannoma account for just over 1% of benign tumours reported in the oral cavity, they are the most commonly encountered nerve sheath tumours in this location. The intraoral lesions have a predilection for the tongue, followed by the palate, floor of mouth, buccal mucosa and mandible [4]. Schwannoma developing around eighth cranial nerve is known as acoustic neuroma or vestibular Schwannoma. Schwannomatosis is a rare inherited disorder involving multiple Schwannoma of head neck and limb region.

The disease is usually asymptomatic. Pain and paraesthesia sometimes occur due to pressure against the surrounding structures. Intraoral lesions usually present as slow growing masses in the sublingual region or the ventral or dorsal aspect of tongue. Neurological weakness of the tongue may or may not be present [5,10]. In vestibular Schwannoma the symptoms are deafness, tinnitus, loss of balance and facial paralysis. In perineal Schwannoma bowel and bladder problems arise. Differential diagnosis to be considered in a slowly growing and macroscopically circumscribed mass of the tongue are lipoma, hemangioma, eosinophilic granuloma, epidermoid and dermoid cysts, mucocele, epithelial hyperplasia, granular cell tumor, benign salivary gland tumors, rhabdomyoma, leiomyoma, lingual thyroid and lymphangioma [8,9].

Imaging techniques such as CT and MRI [11] are used to locate the extension of the tumour. MRI allows an accurate measurement of tumor size and precise localization in relation to other structures. On MRI, tongue schwannomas appear isointense to muscle on T1-weighted images and homogeneously hyperintense on T2-weighted images. Moreover, these tumors usually appear smooth, well demarcated, and do not invade the surrounding musculature.

Histological examination [12] reveals characteristic Antoni A and Antoni B patterns. *Antoni type A* consists of closely packed Schwann cells that form bundles or are arranged in rows with palisading, elongated nuclei. Free bands of amorphous substance between rows of nuclei constitute the *Verocay bodies*. Antoni B shows loosely arranged less elongated cells in a meshwork of reticulum fibers and microcysts. In addition to these characteristic patterns, diagnosis is aided by immunohistochemical [13] markers, S-100 and Leu 7, which support the Schwann cell nature of these tumors. Radiograph will be useful to identify central bone lesion involving mandible. There will be considerable bone destruction with cortical bone expansion. Treatment of Schwannoma is complete surgical excision. Radiotherapy is not useful. The goal of surgical therapy is complete resection in a way to avoid recurrence. Schwannoma does not undergo malignant transformation.

### 4. Conclusion

Schwannoma should be considered in the differential diagnosis when observing a tumor in the oral cavity. Any

painless nodule in the head and neck region must be investigated to exclude schwannoma. The definitive preoperative diagnosis could only be carried out with a biopsy and histopathological study. The treatment consists of surgical excision by transoral resection in a manner that precludes recurrence and avoids causing morbidity of tongue function. The chance of malignant transformation of these tumors is exceedingly unlikely.

## List of abbreviations

CT- computed tomography

MRI- magnetic resonance imaging

## References

- [1] Gallo W.J, Moss M, Shapiro D.N, Gaul J.V. "Neurilemoma: Review of the literature and report of five cases". *J Oral Surg.* 35. 235-6.1977.
- [2] Sethi D, Sethi A, Nigam S, Agarwal A.K. "Schwannoma of oral tongue. A rare benign neoplasm." *Internat J Head Neck Surg.* 3(1). 2009.
- [3] SK, Husain M, Sachan PK. Lingual schwannoma. *Internet J Surg.* 17(1). 2008.
- [4] Krolls S.O, McGinnis J.P Jr, Quon D., "Multinodular versus plexiform neurilemmoma of the hard palate - Report of a case". *Oral Surg Oral Med Oral Pathol.* 77. 154-7. 1994.
- [5] Gallesio C, Berrone S., "Schwannoma located in the tongue - A clinical case report". *Minerva Stomatol.* 41. 583-90. 1992.
- [6] Pfeifle R, Baur D.A, Paulino A, Helman J. "Schwannoma of the tongue: report of 2 cases". *J Oral Maxillofac Surg.* 59. 802-4. 2001.
- [7] Hsu Y.C, Hwang C.F, Hsu R.F, Kuo F.Y, Chien C.Y. "Schwannoma (Neurilemmoma) of the tongue". *Acta Otolaryngol.* 126. 861-5, 2006.
- [8] Wright B.A, Jackson D. "Neural tumors of the oral cavity: a review of the spectrum of benign and malignant oral tumors of the oral cavity and jaws". *Oral Surg Oral Med Oral Pathol.* 49(6). 506-522. 1980.
- [9] Enoz M, Suoglu Y, Ilhan R. "Lingual Schwannoma". *J Can Res Ther.* 2(2). 76-78. 2006.
- [10] Sutay S, Tekinsoy B, Ceryan K, Aksu Y. "Submaxillary hypoglossal neurilemmoma." *J Laryngol Otol.* 107. 953-954. 1993.
- [11] Flickinger F.W, Lozano R.L, Yuh W.T.C, Sachs M.A "Neurilemoma of the tongue: MR findings". 13. 886-888. 1989.
- [12] Cherrick H.M, Eversole L.R "Benign neural sheath neoplasm of the oral cavity." *Oral Surg Oral Med Oral Pathol.* 32. 900-909. 1981.
- [13] Lopez J.I, Ballestein C. "Intraoral schwannoma: a clinicopathologic and immunohistochemical study of nine cases." *Arch Anat Cytol Pathol.* 41. 18-23. 1993.