

Lingual Schwannoma

S Sahu, M Husain, P Sachan

Citation

S Sahu, M Husain, P Sachan. *Lingual Schwannoma*. The Internet Journal of Surgery. 2007 Volume 17 Number 2.

Abstract

Schwannomas originate from Schwann cells of the nerve sheath which cover myelinated nerve fibres. The incidence of head and neck schwannoma ranges from 25-40% of all cases. Intraoral schwannoma is uncommon (only 1% of all head and neck schwannomas). Tongue, palate, cheek mucosa, lip and gingiva are the most frequent locations in the oral cavity. Lingual schwannomas are usually benign, slow growing and solitary encapsulated tumors. The tumor tissue consists of so-called Antoni A and B type cells. Surgical excision or enucleation is the treatment of choice of this rare tumor.

INTRODUCTION

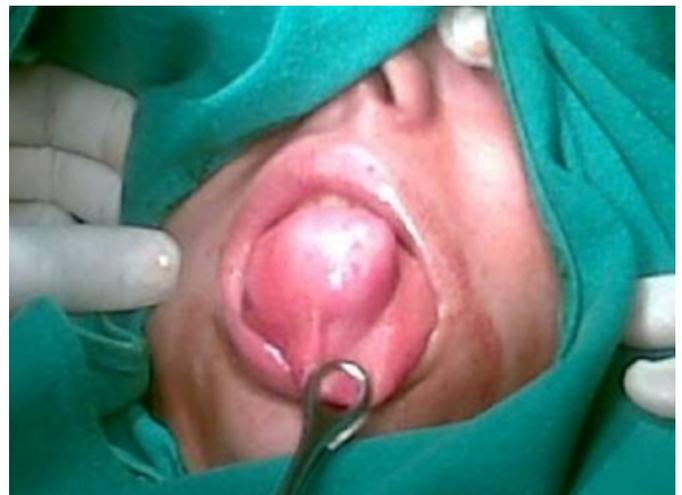
Nerve sheath tumors originating from the peripheral nerves are of two types: neurofibroma and schwannoma. Neurofibromas are benign neoplasms composed of neurites, Schwann's cells, and fibroblasts within a collagenous or myxoid matrix whereas schwannomas originate from Schwann cells of the nerve sheath which cover the myelinated nerve fibres. ¹

CASE REPORT

A 16-year-old female presented with a slowly progressive painless swelling in the tongue since the last 4 years. The patient had difficulty in swallowing and speaking at the time of presentation. Examination of the oral cavity showed a swelling of 4x4 cm on the anterior aspect of the tongue more towards the right side. The swelling was non-tender, smooth and firm to elastic in consistency. No regional lymphadenitis was detected (FIG. 1).

Figure 1

Figure 1: swelling in the anterior part of the tongue.



Routine investigations revealed a hemoglobin of 11 gm/dl, a total leukocyte count of 9340/cu.mm and a differential leukocyte count showing 60% neutrophils, 24% lymphocytes, 8% eosinophils, 2% basophils and 6% monocytes. Fine needle aspiration cytology of the mass was suggestive of schwannoma of the tongue.

Excision of the swelling was planned under general anesthesia. On incising the mucosa of the tongue, an encapsulated tumor was seen submucosally. Complete enucleation of the encapsulated mass with primary repair of the tongue was done. The patient had an uneventful postoperative recovery (FIG. 2 and 3).

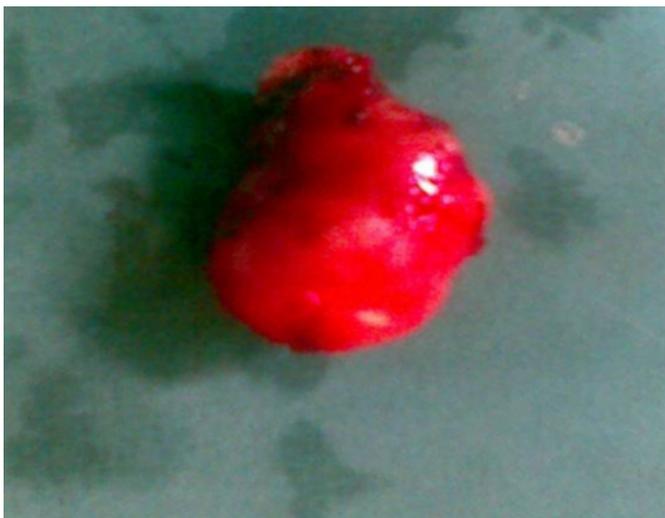
Figure 2

Figure 2: Enucleation Of The Tongue Schwannoma



Figure 3

Figure 3: Encapsulated Tongue Schwannoma



Histopathology of the enucleated specimen was suggestive of schwannoma.

DISCUSSION

Schwannoma was first reported by Virchow in 1908 and is found in all parts of the body. Neurilemmoma, neurolemoma, neurinoma, perineural fibroblastoma, peripheral glioma and peripheral nerve sheath tumor are the synonyms of this tumor. Most commonly, the tumor appears in the paravertebral region of the retroperitoneum, pelvis, mediastinum, extremities, nasal cavity, nasopharynx, orbit, parapharyngeal space, larynx and oral cavity. ^{2,3,4}

The incidence of head and neck schwannoma ranges from 25-40% of all cases. Intraoral schwannoma is uncommon (only 1% of all head and neck schwannomas). Tongue, palate, cheek mucosa, lip and gingiva are the most frequent locations in the oral cavity. The tip is the least affected part of the tongue. ^{5,6,7,8}

Lingual schwannomas are usually benign, slow growing and solitary encapsulated tumors. In more than 50% of intraoral lesions, it is not possible to differentiate between tumors of the lingual, hypoglossal and glossopharyngeal nerve as identification of the nerve is difficult. Direct relation with a nerve can be demonstrated in only approximately 10-50% of the cases. It may be found alone or in association with von Recklinghausen disease. The tumor develops in patients of all ages, without an obvious preference for either sex. ^{9,10}

Etiology of lingual schwannoma is still unknown and the disease is generally asymptomatic. The tumor usually presents as a slow growing painless nodule. Invasion of submucosal area leads to pain and discomfort. Dysphagia and dyspnoea are present depending upon the site of the tumor. The incidence of malignant transformation is 8-10%. ^{7,10,11,12,13}

MRI can show not only the tumor and its capsule, but also in certain cases the nerve from which it has developed. On imaging, schwannoma appears smooth and well-demarcated. This tumor is isointense to muscle on T1-weighted images and homogeneously hyperintense on T2-weighted images. ¹⁴

Diagnosis is confirmed by histopathological studies. The tumor tissue consists of so-called Antoni A and B type cells. Type-A tissue shows densely packed, elongated spindle cells, in the form of parallelly formed thin reticulin fibres, fusiform shaped cells and curled nuclei while type-B tissue has a more myxoid consistency. Amongst the sheets, there are acellular eosinophilic bodies called Verocay bodies, formed by thin cytoplasmic fibres. In addition, hemorrhage from adjacent tissue, necrosis, hyalinization and cystic degeneration may also occur in the tumor tissue. ^{7,15,16}

Malignant lesions such as squamous cell carcinomas and sarcomas and benign lesions as granular cell tumors, salivary gland tumors, schwannomas of the oral cavity, leiomyomas, rhabdomyomas, lymphangiomas, hemangiomas, dermoid cysts, lipomas, inflammatory lesions and lingual thyroid are the differential diagnoses of this entity. ¹⁷

Surgical excision or enucleation is the treatment of choice of

this rare tumor. Excision is usually easy to perform and the prognosis is excellent as malignant transformation is rare. ¹⁸

CORRESPONDENCE TO

Dr. Shantanu Kumar Sahu Assistant Professor, Department of General Surgery Himalayan Institute of Medical Sciences Swami Ram Nagar Post- Doiwala Dehradun Uttarakhand, India Mob.: 0-9412933868 Email: Intshantanu@yahoo.co.in

References

1. Benign tumors of peripheral nerves. In: Weiss SW, Goldblum JR (eds). *Enzinger and Weiss's Soft Tissue Tumors* (4th ed). St. Louis: Mosby Inc; 2001: 1111-1207.
2. Mosharrafa TM, Koppersmith RB, Porter JP, Donovan DT. Pathologic quiz case 1. Malignant peripheral nerve sheath tumor of the ethmoidal sinus. *Arch Otolaryngol Head Neck Surg* 1997; 123: 654, 656-7.
3. Harada H, Omura K, Maeda A. A massive pleomorphic adenoma of the submandibular salivary gland accompanied by neurilemmomas of the neck misdiagnosed as a malignant tumor: report of case. *J Oral Maxillofac Surg* 2001; 59: 931-5.
4. Kao GF. Neurilemmoma. Available from: URL: <http://www.emedicine.com/DERM/topic285.htm>.
5. Pfeifle R, Baur DA, Paulino A, Helman J. Schwannoma of the tongue: report of 2 cases. *J Oral Maxillofac Surg* 2001; 59: 802-4.
6. Hatziotis JC, Asprides H. Neurilemmoma (schwannoma) of the oral cavity. *Oral Surg Oral Med Oral Pathol* 1967; 24: 510-526.
7. Chiapasco M, Ronchi P, Scola G. Neurilemmoma (Schwannoma) of the oral cavity: a report of 2 clinical cases. *Minerva Stomatol* 1993; 42: 173-178.
8. Cinar F, Cinar S, Gulcin H. Schwannoma of the tip of the tongue in a child. *Plast Reconstr Surg* 2004; 114: 1657-1658.
9. Dreher A, Gutmann R, Grevers G. Extracranial schwannoma of the ENT region. Review of the literature with a case report of benign schwannoma of the base of the tongue. *HNO* 1997; 45:468-71.
10. Hibbert J. Laryngology and head and neck surgery. In: Kerr AG, ed. *Scott - Brown's Otolaryngology*. 6th ed. Oxford: 1997. p. 16:8-22:6.
11. Krolls SO, McGinnis JP Jr, Quon D. Multinodular versus plexiform neurilemmoma of the hard palate. Report of a case. *Oral Surg Oral Med Oral Pathol* 1994; 77:154-7.
12. Donnelly MJ, al-Sader MH, Blayney AW. Benign nasal schwannoma. *J Laryngol Otol* 1992; 106:1011-5.
13. B S Wasserman, A Finkleman, M John, J N Attie, R Tuazon, E Bronstein. Malignant schwannoma of the lingual nerve. A case report. *J Oral Med* 1977; 32: 67-9.
14. Flickinger FW, Lozano RL, Yuh WT, Sachs MA. Neurilemmoma of the tongue: MR findings. *J Comput Assist Tomogr* 1989; 13:886-8.
15. Batsakis JG. *Tumors of the head and neck. Clinical and pathological considerations*. 2nd ed. Williams and Wilkins: Baltimore; 1979. p. 313-33.
16. Van der Wall I, Snow GB. Benign tumors and tumor-like lesions of oral cavity and oropharynx. In: Cummings CW, Fredrickson JM, Harker LA, Krause CJ, Schuller DE, eds. *Otolaryngology Head and Neck Surgery*. 2nd ed. Mosby-Year Book: St. Louis; 1993. p. 1237-47.
17. Nelson W, Chuprevich T, Galbraith DA. Enlarging tongue mass. *J Oral Maxillofac Surg* 1998; 56:224-7.
18. Enoz M, Suoglu Y, Ilhan R. Lingual schwannoma. *Journal of Cancer Research and Therapeutics*, 2006; 2: 76-78.

Author Information

Shantanu Kumar Sahu, MS (General Surgery)

Assistant Professor, Department of General Surgery, Himalayan Institute of Medical Sciences

Musharraf Husain, MS (General Surgery), DNB (General Surgery), MRCS (Edin.)

Assistant Professor, Department of General Surgery, Himalayan Institute of Medical Sciences

Praveendra Kumar Sachan, MS (General Surgery)

Professor and head, Department of General Surgery, Himalayan Institute of Medical Sciences