

Case Report

Schwannoma of the Tongue - A Case Report

Shashi Keshwar¹, Ashish Shrestha², Mehul R Jaisani³, Pradeep Acharya⁴

¹Assistant Professor, Department of Oral Pathology, B. P. Koirala Institute of Health Sciences, Dharan, Nepal;

²Additional Professor, Department of Oral Pathology, B. P. Koirala Institute of Health Sciences, Dharan, Nepal;

³Additional Professor, Department of Oral and Maxillofacial surgery, B. P. Koirala Institute of Health Sciences, Dharan, Nepal;

⁴Assistant Professor, Department of Oral and Maxillofacial surgery, B. P. Koirala Institute of Health Sciences, Dharan, Nepal

ABSTRACT:

Neurilemmoma or Schwannoma is the benign nerve sheath tumour. It is a solitary and encapsulated tumour that arise from Schwann cells of the peripheral nerve sheath. About 25-48% of all Schwannomas are located in head and neck region while intraoral location is uncommon and only 1-12% of all head and neck schwannomas. This article reports a case of schwannoma of the tongue in a 21-year-old male patient, involving the posterior dorsal surface of the tongue, which was slow growing and gradually increased in size. Complete excision of the tumour was done. The histopathological evaluation revealed streaming fascicles of spindle shaped Schwann cells surrounding eosinophilic acellular area of Verocay bodies in palisaded pattern of spindle shaped cells with high cellularity known as Antoni A pattern and randomly arranged less cellular Antoni B pattern confirming the diagnosis of schwannoma.

Key words: Antony A, Antony B, neurilemmoma, schwannoma, tongue.

Received: 21 January, 2020

Accepted: 28 January, 2020

Corresponding author: Dr. Shashi Keshwar, Assistant Professor, Department of Oral Pathology, B. P. Koirala Institute of Health Sciences, Dharan, Nepal

This article may be cited as: Keshwar S, Shrestha A, Jaisani MR, Acharya P. "Schwannoma of the Tongue" - A Case Report. J Adv Med Dent Scie Res 2020;8(2):45-47.

INTRODUCTION

Schwannoma is a solitary, benign, slow-growing, encapsulated, tumour originated from the Schwann cells of peripheral nerve sheath.¹ Schwannomas are mainly composed of the Schwann cells, which were first described by German histologist and physiologist Theodor Schwann.² Schwannomas mainly involving the vestibular branch of cranial nerve VIII or the dorsal roots of the spinal cord.² About 25-48% of all Schwannomas are located in head and neck region,³ while only 1-12% of it occurs intraorally.⁴ The cause of the tumour is unknown, but the chronic irritation, injury and radiation exposure might be the causative factors.⁵ Most common affected site is the tongue intraorally.⁶ Schwannoma generally occur in third decade of life, having no gender predilection and presented as painless mass. It can be troublesome

when present in the posterior one-third of the tongue.⁴ The earnestness of the symptoms are because of the tumour size and site.¹ Intraoral Schwannoma are rare entity so it's a challenge for clinicians to distinguish Schwannoma from other benign or malignant tumours, so biopsy is mandatory.

Here we report a case of a schwannoma involving the posterior dorsal surface of the tongue, which was slow growing and gradually increased in size.

CASE REPORT

A 20-year-old male patient visited the dental hospital with a chief complaint of a slow growing painless lump on the back surface of the tongue, noticed two years back after a fish bone injury that showed rapid growth since last three months. The patient reported discomfort while swallowing and eating. No

symptoms of neurological deficit/paraesthesia. The patient has the habit of smoking cigarette. The patient's medical, dental and family histories were unremarkable.

Intraoral clinical examination revealed the presence of a well demarcated nodular mass (3× 0.5 cm in size), firm, non-tender, papillomatous, reddish in colour and without fluctuation (Figure 1). Bilateral submandibular lymph nodes were firm, non-tender and movable on palpation.



Figure 1. Intraoral examination showing nodular growth on posterior surface of the tongue.

The lesion along with normal tissue was excised and fixed in 10% neutral buffered formalin. Gross examination revealed an ovoid shaped nodule of 3x2 cm in greatest dimension, creamish brown in colour, firm in consistency, having papillated surface four sections were made after dissections and sent for routine histopathological processing.

The histopathological findings revealed encapsulated tumour mass with fibro-cellular connective tissue along with streaming fascicles of spindle shaped Schwann cells surrounding eosinophilic acellular area of Verocay bodies in palisaded pattern of spindle shaped cells with high cellularity known as Antoni A pattern and randomly arranged less cellular Antoni B pattern were evident (figure 2b,2c).

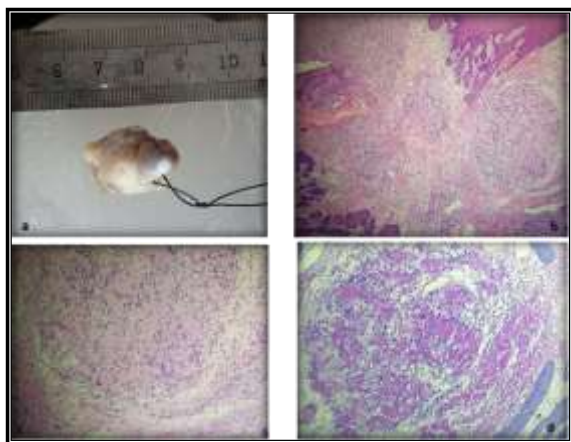


Figure 2. a. Gross specimen of the tumour; b. Photomicrograph exhibiting Antony A and Antony B pattern (H&E x 40); c. Photomicrograph showing palisading arrangement of tumour cells and acellular eosinophilic Verocay bodies. (H&E x 100); d. PAS positive Verocay bodies at low power magnification

Numerous minor salivary glands acini present along with the bundles of striated muscle fibres. Numerous endothelial cells lined blood vessels of variable sizes along with aggregates of inflammatory cells infiltrate predominantly lymphocytes and plasma cells were also evident. Overlying epithelium was parakeratotic with pseudoepitheliomatous hyperplasia. Correlating clinically, the histopathological features confirming the diagnosis of schwannoma of the tongue.

DISCUSSION

Schwannoma is a slow growing benign tumour of nerve sheath that arise from Schwann cells of peripheral, autonomic and cranial nerve.⁴ Intraoral schwannoma commonly occur in the tongue followed by palate, floor of the mouth, buccal mucosa and mandible.⁶ The lesion is usually painless, solitary, circumscribed mass having variable size. Rarely, trauma causes ulceration of the epithelium.⁷ The causative factors of the tumour is unknown but chronic irritation, injury or radiation exposer might be considered.⁵ In our case fish bone injury to the tongue might be the factor. Clinically, it's a challenge to distinguish neurilemmoma from other encapsulated benign tumours like epidermoid cyst, lipoma, lymphangioma, hemangioma, teratoma, leiomyoma, rhabdomyoma and lingual thyroid,⁸ so that biopsy and histological examination are mandatory to provide the confirmatory diagnosis.

Schwannoma is characterized by two basic tissue patterns. The tissue exhibits fascicles of spindle-shaped Schwann cells streaming around numerous acellular, eosinophilic areas surrounded by parallel or palisaded spindled cells with blunt, elongated nuclei known as Antoni type A pattern. Occasionally the nuclei are more whorled around a centre devoid of nuclei. Such a pattern is known as Verocay body, named after Jose Verocay a neuropathologist from Uruguay who described it in 1910. Earlier nerve sheath tumours had been classified as 'neuromas' a term introduced by Louis Odier. According to Verocay, nuclear palisading and Verocay bodies were seen mainly in the group of tumors which he termed as 'neurinomas' and which was later termed as 'neurilemmomas' by Arthur Purdy Stout. Harkin and Reed used the term 'schwannoma' as the ultrastructural studies had revealed that the tumour consist Schwann cells. The cells adjacent to the Verocay bodies are oriented along the long axes toward the acellular area, and in low power magnification represent like an aerial view of soldiers aligned against each other across multiple battlefield. PAS staining is positive for Verocay bodies suggesting glycoprotein origin, like in basement membrane. The second pattern lacks Verocay bodies and consists less cellular and more randomly arranged spindle cells in a loose, myxomatous stroma known as Antoni type B. Nils Antoni a Swedish neurologist described Antoni A and Antoni B pattern in 1920.⁹⁻¹¹

The associated peripheral nerve may be seen on microscopy. The older lesion may exhibit degenerative changes like cystic degeneration, haemorrhage, hemosiderin or melanin deposits, dense fibrosis and nuclear pleomorphism.^{10,11}

As schwannomas of the tongue are the benign lesions so they are often asymptomatic, but with course of time, they can lead to the problems such as dysphagia, dysarthria, and obstructive sleep apnoea.¹²

Most extracranial and intracranial schwannomas are benign, but malignant schwannomas are reported and account for 5% of all soft tissue sarcomas about 9% to 14% of these are present in the head and neck.¹³ To distinguish between benign and malignant schwannoma morphologic features, such as cellular atypia, necrosis, and mitoses, are helpful as these features are commonly seen in all malignant tumours of soft tissues.⁵

CONCLUSION

In the assessment of long standing tongue mass/nodule, reactive lesion of the tongue and benign soft tissue tumors need to be considered. Intraoral schwannomas are uncommon entity so it's a challenge for clinicians to distinguish schwannomas from other benign or malignant tumours although it rarely turns malignant but thorough histopathological evaluation is mandatory by the pathologist.

REFERENCES

1. Abreu I, Roriz D, Rodrigues P, Moreira Â, Marques C, Alves FC. Schwannoma of the tongue-A common tumour in a rare location: A case report. *Eur J Radiol Open*. 2017; 4:1–3. doi.org/10.1016/j.ejro.2017.01.002
2. Wippold FJ, Lubner M, Perrin RJ, Lämmle M, Perry A. Neuropathology for the neuroradiologist: Antoni A and Antoni B tissue patterns. *Am J Neuroradiol*. 2007; 28(9):1633–8.
3. Brad W. Neville, Douglas D. Damm, Allen CM, Chi A. *Oral and Maxillofacial Pathology*. 4th ed St. Louis: Elsevier; 2016.
4. Cohen M, Wang MB. Schwannoma of the tongue: Two case reports and review of the literature. *Eur Arch Oto-Rhino-Laryngology*. 2009; 266(11):1823–9.
5. Hwang K, Kim SG, Ahn SI, Lee S. Neurilemmoma of the Tongue. *J Craniofacial Surgery*. 2005; 16(5):859–61.
6. Bassichis BA, McClay JE. Pedunculated neurilemmoma of the tongue base. *Otolaryngol - Head Neck Surg*. 2004; 130(5):639–41.
7. jornet PL, Fenoll AB. Neurilemmoma of the tongue. *Oral Oncol EXTRA*. 2005; 41(7):154–7.
8. Ying B, Zhu S, Qiao Y, Ye W, Maimaiti A, Hu J, et al. Surgical approaches for tongue base schwannoma. *J Craniofac Surg*. 2013; 24(1):9–11.
9. Joshi R. Learning from eponyms : Jose Verocay and Verocay bodies, Antoni A and B areas, Nils Antoni and Schwannomas. 2012; 3(3):215–20.
10. Gneep DR. *Diagnostic Surgical Pathology of the Head and neck*. 2nd ed. Philadelphia: Saunders; 2009.
11. Firfer H, Sohn D, Heurlin R, Stuteville OH. Neurilemmoma of the tongue. *Oral Surgery, Oral Med Oral Pathol*. 1966; 21(2):139–42.
12. Karaca CT, Habesoglu TE, Naiboglu B, Habesoglu M, Oysu C, Egeli E. Schwannoma of the tongue in a child. *Am J Otolaryngol Neck Med Surg*. 2010; 31(1):46–8.
13. Lollar KW, Pollak N, Liess BD, Miick R, Zitch RP. Schwannoma of the hard palate. *Am J Otolaryngol Neck Med Surg*. 2010; 31(2):139–140.