

## **Schwannoma on the Ventral Surface of Tongue; a Rare Clinical Entity: Case Report**

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**Article History**

*Received: 03.01.2018*

*Accepted: 20.01.2018*

*Published:30.01.2018*

**DOI:**

10.36347/sjmcr.2018.v06i01.013



**Abstract:** Schwannomas or neurilemmomas are the tumor originate from Schwann cells of the nerve sheath. These are benign, encapsulated and usually gradually increasing tumors. Malignant transformation and recurrence is very rare in case of schwannoma, these tumors usually responses well to simple surgical excision. Most of the cases are seen in the head and neck region and relatively uncommon intraorally so surgeon can be misdiagnose it. Here we are presenting a case of schwannoma on the ventral surface of tongue in 18 year old male patient.

**Keywords:** Schwannoma, neurilemmoma, neural tumor, ventral surface of tongue, verocay bodies.

### **INTRODUCTION**

Schwannoma also known as neuroma or neurilemmoma [1]; is a benign, slow growing usually solitary neural tumor, arise from nerve fiber sheath cells or Schwann cells [2]. Most of the schwannomas occur in the head and neck area; intracranial region being the most common site for the tumor. Only 1% of the schwannomas occur intra-orally, tongue is the most common site followed by the palate, floor of mouth, buccal mucosa, lips and jaws. Many authors reported that schwannoma occurs regardless of age and sex, grows gradually and painlessly. Schwannoma does not recur, and the malignant transformation is rare [3]. Here we are presenting a case of schwannoma on the ventral surface of tongue.

### **CASE REPORT**

An 18 year old, systemically healthy male patient reported to the department with the chief complains of swelling in floor of mouth since 6 months. Which caused discomfort while swallowing. Patient gave a history of gradual increase in size of swelling over last 6 months.

On examination it was solitary swelling, covered by intact and slightly pale colored mucosa

compared to adjacent soft tissue on ventral surface of tongue more on right side of midline causing elevation of tongue. No sign of local inflammation or draining sinus or any abnormal sensation like paresthesia was found on examination and tongue movements also were normal and swelling were not causing airway obstruction. No other abnormality found anywhere intra orally as well as extra orally (fig1).



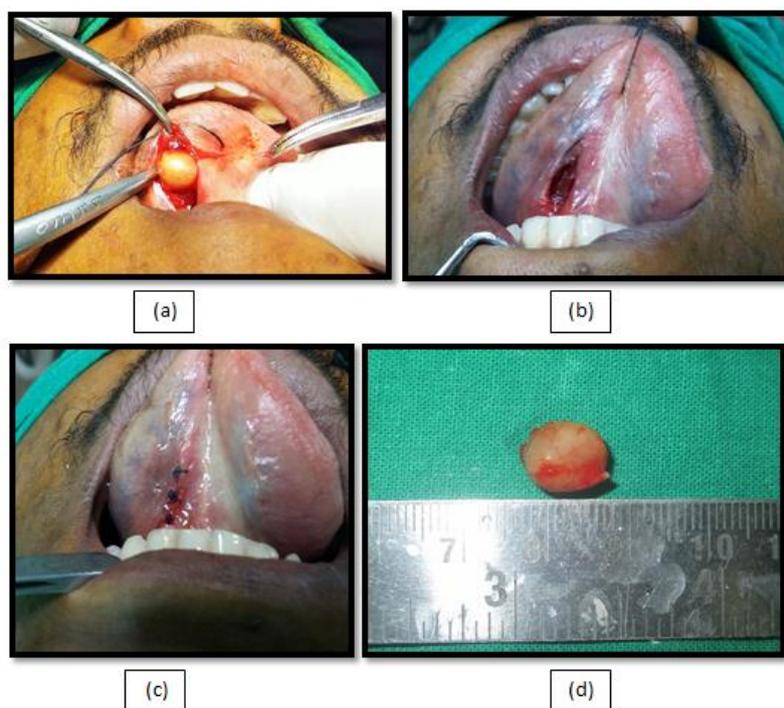
**Fig-1: pre-operative photograph showing a mass on ventral surface of tongue**

Palpation of intraoral mass revealed a smooth, nontender, encapsulated, swelling which was mobile and not fixed to underlying tongue musculature. In addition, the mass was not pulsatile, non-reducible and firm in consistency; ruling out any cystic lesion like mucocele or radula which is more common at this site. We made a provisional diagnosis as fibroma and posted the case for excision of lesion under local anesthesia.

Under all aseptic and controlled condition after standard painting and draping local anesthetic injection with adrenaline (1:80000) injected locally. Stay suture was placed at tip of the tongue to manipulate the tongue in favorable direction intraoperatively. Tongue was pulled out and raised to access the lesion and incision involving the mucosa placed with no.15 blade, away from expected course of lingual vein. Blunt dissection using mosquito forceps (small curved artery forceps)

was carried out underneath the mucosa to expose encapsulated round, whitish brown mass; which was excised and sent for histopathological examination (fig2a-2d).

Microscopic examination after hematoxylin and eosin staining of specimen revealed encapsulated lesion containing spindle shaped cells arranged in palisading pattern suggestive of Antoni A areas and irregularly arranged cells in Antoni B pattern. Spindle cells also found around acellular eosinophilic areas suggestive of verocay bodies. Surrounding connective tissue was minimal with moderate dense bundles of collagen fibers and few chronic inflammatory cells like lymphocytes, plasma cells, blood vessels filled with RBCs. Areas of extravagated RBCs and nerve bundles also found. All these findings suggested of neurilemmoma or schwannoma.



**Fig-2: intra-operative photographs showing (a) dissection at ventral surface of tongue to expose oval mass. (b) After excision of lesion. (c) Wound closure. (d) Specimen sent for histopathological examination.**

## DISCUSSION

Verocay who describe a group of neurigenic tumors in 1910; he referred it as neuromas [4]. Approximately 25-40% of all Schwannoma are seen in head and neck region and intraoral schwannoma accounts only for 1% of cases [5]. Head and neck schwannoma can be associated with any cranial nerve but not with optic and olfactory nerves because these nerves are direct extension of white matter of brain. Among all cranial nerves, 8<sup>th</sup> cranial nerve is most commonly involved which accounts 90% of all intracranial schwannomas followed by trigeminal

glossopharyngeal and vagus and rarely hypoglossal nerve[6].

Intraorally The tongue is the most common site of occurrence, but other oral sites like palate buccal mucosa are also susceptible and the palate is the second most common oral subsite to be involved [7]. Clinically, schwannomas show few symptoms and are usually recognized by the presence of a nontender, slow-growing mass. They rarely manifest as an ulcerated or infected lesion [8].

Histopathologically, schwannomas are solitary masses surrounded by a capsule of epineurium and residual nerve fibers, often with the edge of the neoplasm attached to the peripheral nerve. The tumor shows mixture of two cellular patterns: Antoni A and Antoni B. Antoni A areas are composed of compact spindle cells with twisted nuclei arranged in bundles. In highly differentiated areas, there may be nuclear palisading and formation of Verocay bodies. These verocay bodies formed by alignment of two rows of nuclei and cell processes which assume oval shape. A low power microscopic view of this tissue resembles aerial view of soldier's position against each other across multiple battlefields. Antoni B variant is less cellular and less organized, representing degenerated Antoni A foci composed of irregularly arranged spindle or oval cells within a myxoid, loosely textured, hypocellular matrix with micro cysts, inflammatory cells and delicate collagen fibers [9].

Panoramic x-ray can be used to rule out any associated dental lesion or the involvement of bone due to adjacent lesion. MRI, CT, ultrasound can also be considered as investigation option. MRI provides detailed information about schwannoma, as it is a nerve cell tumor; but histopathological study of lesion with the study of two typical cell arrangements: Antoni A and Antoni B is confirmatory [10].

In case of schwannoma surgical excision is the treatment of choice. The tumors do not respond to radiation therapy; recurrence is uncommon and very rarely transformed to malignancy [11-14].

## CONCLUSION

Although schwannoma is slow-growing tumor and pushes the nerve aside. When this associated with intrabony lesion as with the inferior alveolar nerve, it can produce paresthesia; in the preauricular region it may produce facial nerve weakness, thus can mislead the surgeon as malignancy. However, schwannomas are entirely benign and Prognosis is excellent after simple surgical excision as we shown in our case.

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