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# ORAL SCHWANNOMA-BEGNIN BUT CHALLENGING LESION

Maxillofacial Surgery

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## ABSTRACT

Schwannoma is a benign tumour that affects 25–45% of the head and neck region, with the oral cavity accounting for less than 1% of cases. It is most frequently observed in the second and third decade of life who have a slight predilection for females. This lesion has a very low recurrence rate and grows slowly. In clinical practice, this lesion is typically ignored, and a variety of benign formations based on epithelial and connective tissues are included in the differential diagnosis. When neurofibromatosis is present, schwannomas typically occur as a single lesion, though they can also occur in multiples. This case report includes the surgical treatment for a rare instance of peripheral soft tissue schwannoma of the mandible along with its surgical management and histological examination.

## KEYWORDS

Schwannoma, Neurofibromatosis.

## INTRODUCTION-

A rare benign neural tumour called schwannoma, also called neurilemmoma, neurinoma, or perineural fibroblastoma develops from the neural sheath Schwann cells of the peripheral, cranial, or autonomic nerves. At some point inside the perineurium schwann cells proliferate and cause the lesion. Originating most frequently from a nervous trunk, it usually affects the entire position along the peripheral nervous system. The normal nerve tissue in the vicinity of the lesion will be compressed and displaced.[1-2]

This neoplasm has predilection for the head and neck region where one-thirds of the cases are reported, however intraoral lesions are rare.[1-3] When it is found in oral structures, the tongue is reported to be the favored site.[4] Clinically, the benign schwannoma is a slow-growing encapsulated nodular lesion, usually solitary. It is usually asymptomatic, though paraesthesia and pain are possible side effects. The lesion dislocates the nerve within its growth. Although it can appear at any age, it is more common in the second and third decades of life. It is certain that there is a slight predilection for females.[1,6,7]

Clinically, the differential diagnosis could include any other benign tumoral lesions, including salivary gland tumours, lipomas, neurofibromas, and fibromas. But other neural origin lesions, such as neurofibroma and neuroma, or tumours with fibroblastic or muscular origin, are included in the histological differential diagnosis. [5,8]

The characteristic histological features of schwannomas are similar under the microscope. These include the entire encapsulation of the tumour as well as its composition, which is made up of alternating regions of hypocellularity referred to as Antoni A and Antoni B, respectively.[9-10]

Treatment of choice is conservative surgical removal; wide excision is not recommended. After being fully removed, schwannomas do not recur.[9] While there have been a few reported isolated cases, the prognosis is good and the malignant transformation of benign schwannoma is still debateful.[11]This study's goals are to present a review of the literature and describe a clinical case of benign schwannoma at the floor of the mouth, whose diagnosis was made based on histological and clinical findings.

## Case Report-

A 24-year-old male patient was referred to the Department of Oral and Maxillofacial Surgery, K.D. Dental college and Hospital, with the chief complaint of swelling on the lingual aspect of mandible towards the floor of the mouth that had been there for almost for 20 years now. The Swelling was left unattended because there was no pain. The medical history was non contributory.

**Extra Oral Examination-** No evident changes were observed .

**Intraoral examination-** A submucosal nodular lesion was examined on the right lingual vestibule in the floor of the mouth, covered with normal mucosa, measuring approximately 3.5*2.5cm (Approx) (figure 1(A)). The lesion was moderately firm and was not fixed to the surrounding tissues, with no pain on touch. The provisional diagnosis was a benign soft-tissue neoplasm process or minor salivary gland tumor.

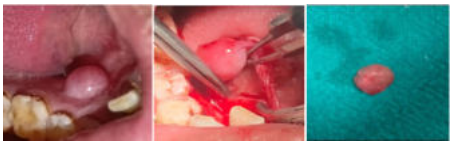

**Figure 1.** (A) Intraoral image of the swelling (B) Excision under local anesthesia (C) Gross specimen after excisional biopsy

## Treatment plan-

Excisional biopsy was done under local anesthesia, as the lesion was a non inflammatory mass with no bony involvement was planned along with oral prophylaxis. (figure 1(B)).

## Histopathological examination-

Specimen approximately 3.5*2.5cm in diameter, reddish pink in color and soft to firm in consistency sent for examination. (figure 1©). Microscopic findings revealed a mucous surface covered with stratified squamous keratinized epithelium. In lamina propria, a benign mesenchymal neoplasm composed of dense irregularly arranged cells, elongated spindle tumor cells circumscribed by a thin well-defined fibrous connective tissue capsule. The tumor cells had a fusiform aspect, with no precise cytoplasmatic limits and were organized forming arrangements of Antoni type B .

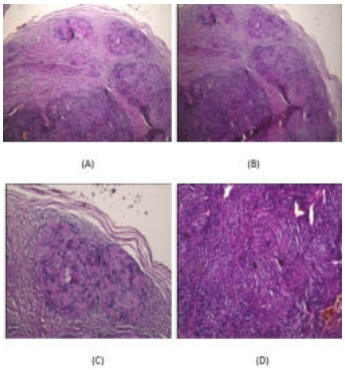

**Figure 2.** Photomicrographs showing **(a; b):** Antoni A and Antoni B type of arrangements of cells with elongated Schwann cells. **(c)** Verocay bodies and **(d)** microcysts formation.

Numerous blood vessels were able to be observed. Rare areas with Antoni type A aspect, forming Verocay bodies, were observed.(figure 2 ).

**Confirmatory diagnosis**

Based on the clinical behavior, histopathological, the final diagnosis was of schwannoma.

**Post operative follow up**

Healing was uneventful with no signs of recurrence even after one year.

## DISCUSSION

Neurilemmomas comprise less than 1% of all bone-related neoplasms, and of those, the mandible is most commonly affected, especially in the back of the body and ramus. The tongue is the most common location for them to be detected in the oral cavity, where they are not frequently observed.[12]

There are two primary categories of oral schwannomas: ancient/chronic schwannomas, which are well-encapsulated, long-lasting lesions that show atypia and degenerative changes, and submucosal nodules, which are nonencapsulated lesions that resemble cysts and are typically located beneath the basal layer of the mucous membrane.[13,14]

**There are three ways that schwannomas might affect bone:**

1. A tumour may develop centrally within a bone.
2. A nutrition canal may become the site of a tumour.
3. A soft tissue or periosteal tumour may produce secondary erosion and penetration into bone.[15]

On radiographs, mandibular central schwannomas usually show up as distinct sclerotic boundaries with cortical thinning and multilocular radiolucency. These features were absent in our instance, though, and the lesion only showed up as a soft tissue shadow on the mandibular occlusal radiograph, indicating that it was a peripheral soft tissue schwannoma. A radiographic differential diagnosis involving angiofibroma, neurofibroma, leimyoma, or vascular abnormalities should be performed based on the presence of mandibular canal dilation.[16]

**Three forms of schwannoma are distinguished histologically:**

1. Antoni A tissue makes up the majority of cellular schwannomas, which may also exhibit significant nucleoli, mitotic activity, and occasionally substantial glial fibrillary acidic protein and staining.[12]
2. Multinodular architecture can be detected both macroscopically and in histological sections of plexiform schwannoma. They occasionally take the form of Verocay bodies and are primarily made of Antoni A tissue.[12]
3. Nucleoli and significant cytoplasmic vacuolation, as well as intranuclear pseudoinclusions and uncommon calcified psammoma bodies, are features of melanotic schwannoma.[12]

Conservative surgical enucleation with periodic follow-up examinations is the preferred treatment plan. Recurrence is rare and typically results from malignant cases or ineffective removal. Careful dissection from surrounding tissues is essential to prevent neurologic disturbances such as paraesthesia and other pain syndromes.

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