CASE REPORT

Oral Schwannoma—An Unusual Oral Presentation: Case Report and Literature Review

[1]Reena Vardhaman Arwade, [2]Nimish Prakash, [3]Freny Karjodkar, [4]Kaustubh Sansare, [5]Rajiv Desai, [6]Bansari Bhuta

ABSTRACT

Schwannoma or neurilemmoma is benign, slow growing, usually solitary and encapsulated tumor, originating from schwann cells of the nerve sheath. Intraoral schwannoma accounts for 1% of head and neck region and commonly involves tongue. Most of the earlier reports in the literature, have described schwannomas that occurred in the tongue. In this article, we report a case of schwannoma involving an unusual site - mandibular labial vestibule, in a young patient. The lesion was completely excised with no reported complication for a follow-up of 15 months.

Keywords: Schwannoma, Nerve sheath, Benign tumor.

How to cite this article: Arwade RV, Prakash N, Karjodkar F, Sansare K, Desai R, Bhuta B. Oral Schwannoma—An Unusual Oral Presentation: Case Report and Literature Review. J Orofac Res 2014;4(1):55-58.

Source of support: Nil

Conflict of interest: None declared

INTRODUCTION

Schwannomas, also referred to as neurilemmoma and neurinoma are benign, slow growing, usually solitary and encapsulated tumor, originating from schwann cells of the nerve sheath. Schwannoma was first identified by Verocay in 1910.[1] Approximately 25 to 45% of all schwannomas are seen in the head and neck region. Intraoral schwannoma accounts for 1% of all head and neck region tumors and commonly involves tongue.[1,2] We report a patient with a Schwannoma of the mandibular anterior vestibule that was lucratively excised intraorally.

[1]Postgraduate Student (2nd Year), [2,6]Postgraduate Student (3rd Year), [3,5]Professor and Head, [4]Associate Professor

[1]Department of Oral Medicine, Diagnosis and Radiology, Nair Hospital Dental College, Mumbai, Maharashtra, India

[2-4]Department of Oral Medicine and Radiology, Nair Hospital Dental College, Mumbai, Maharashtra, India

[5,6]Department of Oral Pathology, Nair Hospital Dental College Mumbai, Maharashtra, India

Corresponding Author: Reena Vardhaman Arwade Postgraduate Student (2nd year), Department of Oral Medicine Diagnosis and Radiology, Nair Hospital Dental College Mumbai, Maharashtra, India, Phone: 23082714, e-mail: reenaarwade@yahoo.co.in

CASE REPORT

A 40-year-old female patient presented with gradually increasing swelling in mandibular left labial vestibule since 1 year. The lesion presented as an asymptomatic swelling, with no associated pain, discharge or paresthesia. The patient's medical history was noncontributory and has not undergone any surgery before.

Intraorally it was extended from mandibular left lateral incisior to first premolar in labial vestibule. The swelling was roughly 2.5 × 3 cm in size, oval shaped, nontender and firm in consistency. It was noncompressible, nonreducible and nonfluctuant with overlying mucosa appeared normal without erythematous or ulcerative changes and with normal temperature (Fig. 1). Swelling was not fixed to any underlying structures. Panoramic radiograph and a periapical radiograph of that region showed no significant changes (Fig. 2).

On the basis of history and clinical appearance a working diagnosis of benign oral tumor of mesenchymal origin was considered.

A differential diagnosis of fibrolipoma, lipoma, fibroma and mucocele was also considered.

As it was a solitary slow-growing lesion, excision biopsy was considered as a diagnostic and therapeutic approach. All routine blood examination conducted before the surgical

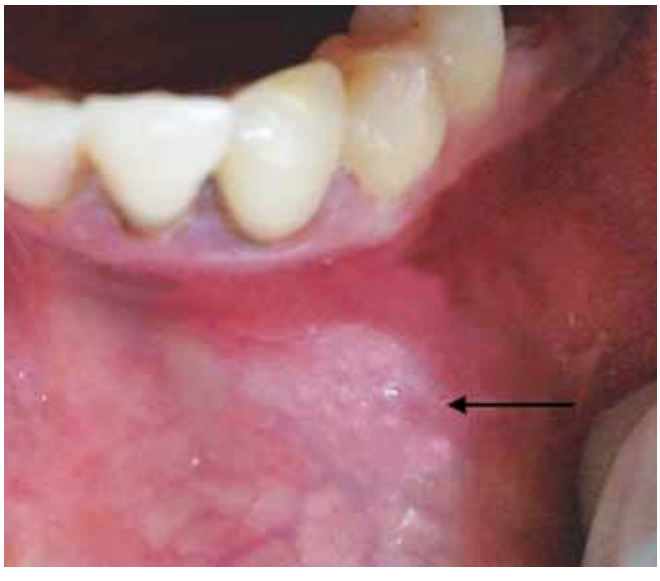
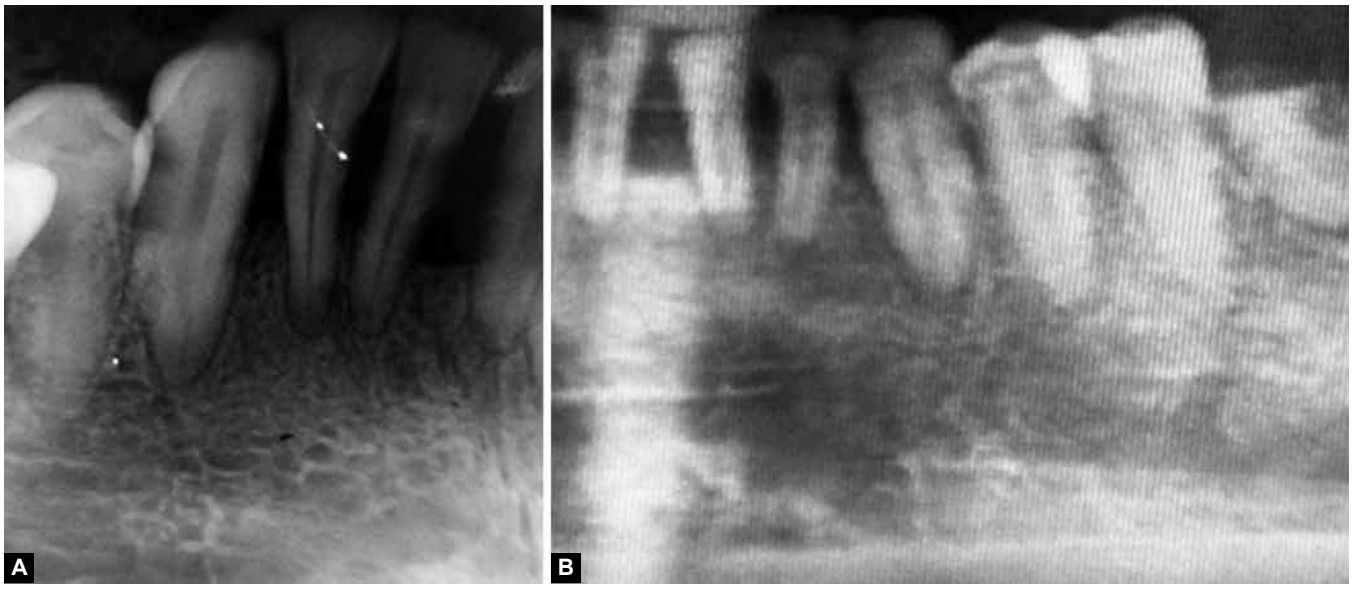


Fig. 1: Intraoral presentation of swelling with overlying normal skin and mucosa



Figs 2A and B: Normal bone pattern in periapical (A) and cropped panoramic radiograph (B)

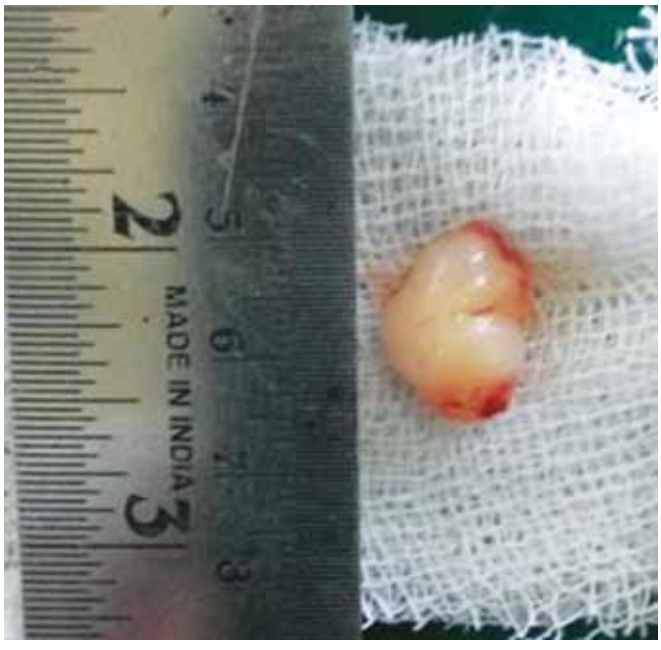


Fig. 3: Macroscopic picture of gross specimen after surgical excision

procedure were found to be within normal limits. Surgical excision of the tumor mass was achieved with no damage to adjacent vital structures.

Tissue sample was obtained as an approximately 1.6 × 1 cm firm, oval, mass yellowish white in color, smooth, shiny and glistening external surface (Fig. 3).

The histopathological examination demonstrated a thin fibrous capsule with antoni A type and antoni B type tissue arrangements. Antoni A type being characterized by closely packed schwann cells in bundles with palisading nuclei and verocay bodies. While in the antoni B type, disorganization of fusiform cells dispersed in a loose and random fashion was noted (Fig. 4). Histopathological findings were suggestive of oral schwannoma or neurilemmoma.

The immunohistochemical tests carried for reconfirmation, showed strongly positive antigenic reaction to S100 immunostaining in antoni A areas and less so in the antoni B areas (Fig. 5).

A thorough physical examination was made to rule out multiple tumors of neural origin. The results of this examination were negative. The patient is under clinical control, with no signs of recurrence even after 15 months.

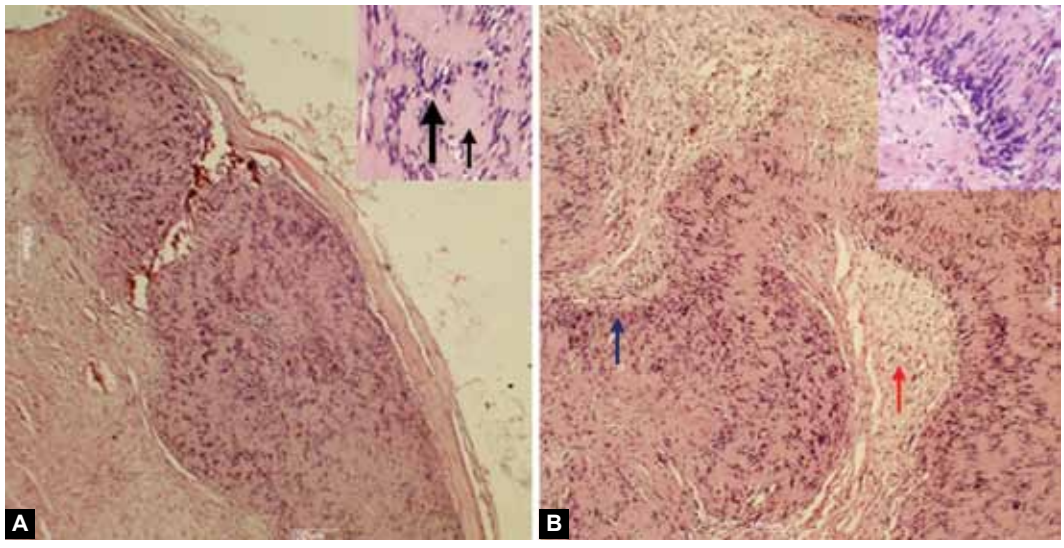
DISCUSSION

Schwannomas are benign, slow growing, usually solitary and encapsulated tumor, originating from schwann cells of the nerve sheath most commonly associated with a nervous trunks of the peripheral nervous system.[1] Approximately 25 to 45% of all schwannomas are seen in the head and neck region. Intraoral schwannoma accounts for 1% of all head and neck region tumors.[2] It commonly involves tongue (45.2-52%) followed by the (13.3%) cheek, (19.86%) buccal mucosa, and (19.24%) on lip and gingivae.[3,4] In this case mandibular vestibular involvement showed an unusual occurrence.

Though it originates from the nerve tissue, identification of the originating nerve especially when it is small may be difficult to demonstrate. Only in 50% of cases direct relation of nerve is demonstrated, where large nerve fibers are found to be splayed over the outer aspect of capsule.[5] In present case, being a small solitary lesion the tumor origin was not well defined.

Etiology of Schwannoma is still unknown and the disease is generally asymptomatic. The tumor develops in patients of all ages, without an obvious preference for either sex.

Oral schwannomas are found to exhibit themselves in two types—the common type is submucosal nodule which is



Figs 4A and B: Histological features demonstrating: (A) Schwannoma with discrete confining capsule and Antoni A tissue. Magnified view (right upper corner) shows Antoni A areas of nuclear palisading (black thick arrow) with verocay bodies (black thin arrow), (B) Alternating Antoni A (blue arrow) and Antoni B (red arrow) areas, with magnified view showing confluence of both tissues

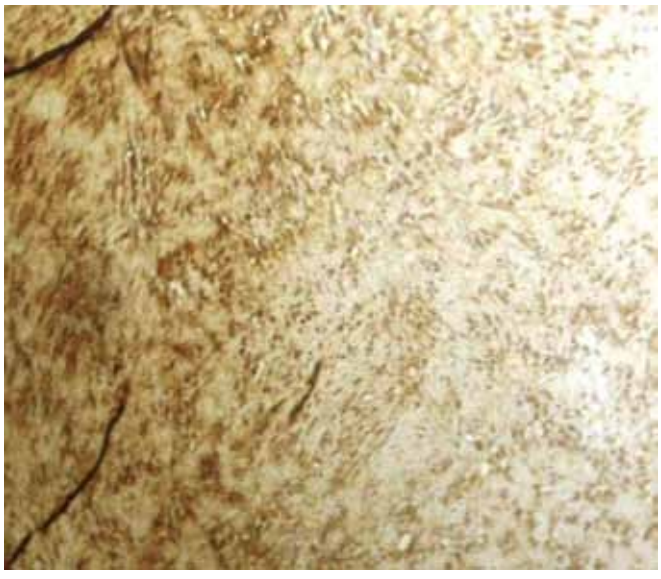


Fig. 5: Immunohistochemical features demonstrate Antoni A tissue showing strong positive reaction for S100 protein

encapsulated, well defined, firm in consistency, resembling a cyst. The second type is non encapsulated where the tumor is found below the basal layer of mucus membrane.[6] The present case presented as a encapsulated variety.

According to Wright and Jackson,[7] the differential diagnosis of schwannomas included benign and malignant neoformations of epithelial and connective tissue origin, such as lipomas, hemangiomas, eosinophilic granuloma, epidermoid and dermoid cysts, epithelial hyperplasia, granular cell tumor, leiomyoma, and lymphangioma.

However, the histological differential diagnosis could be made with neurofibroma, neuroma or muscular or fibroblastic origin tumor.

The histological findings of the present case are similar to those reported previously. The tumor tissue consists of so-called Antoni A and B type cells. Antoni A tissue shows densely packed, elongated spindle cells, while Antoni B tissue has a more myxoid consistency. Antoni A zone has parallely formed thin reticulin fibers, fusiform shaped cells and curled nucleus. In general, the zone includes a variety of different cells without apparent borders, among their cytosols. Among the sheets, there are acellular eosinophilic bodies called as verocay bodies, formed by thin cytoplasmic fibers.[8]

According to the literature survey, immunostaining analysis is essential in the diagnosis of this neoplasm, which shows positive reaction for S100 protein. According to Chrysomali et al[9] the tumoral cells with antoni A show greater intensity scores compared to antoni B tumor pattern.

Expression of S100 protein could assist in lesion differentiation like neurilemmomas with fibrosis, deep seated neurilemmomas and well-differentiated leiomyosarcomas, by immunostaining of palisaded nucleus.

The treatment for benign schwannoma consists of total surgical excision. The recurrences as well as the malignant transformation are rare events, although few acceptable examples have been reported.[10]

The presence of schwannoma calls for the careful search for nerve tumors in other parts of the body, although in most cases none may be found. The differentiation of schwannoma from neurofibroma is essential, because an apparently solitary neurofibroma may be a manifestation of neurofibromatosis.[4]

SUMMARY

The schwannoma represents a lesion not often encountered in clinical practice. It is therefore vital for the clinicians to be aware that schwannomas could also present in unusual mucosal sites such as the labial vestibule. The submucosal

forms of this lesion are usually indistinguishable clinically from other benign neoplasms that are also usually seen in the same region. The final diagnosis should be done after histopathological and immunohistochemical analysis. The therapeutical conduct is the total removal of the lesion.

REFERENCES

1. Martins MD, et al. Intraoral schwannoma: case report and literature review. Indian J Dent Res 2009;20:121-125.
2. Carmen López-Carriches, et al. Schwannoma located in the palate: clinical case and literature review. Med Oral Patol Oral Cir Bucal 2009 Sep 1;14 (9):e465-468.
3. Jurkovic R, et al. Recurrent malignant epitheloid schwannoma of the lower lip. Bratisl Lek Listy 2009;110:116-119.
4. Baderca F, et al. Schwannoma of the lip: case report and review of the literature. Rom J Morphol Embryol 2008;49:391-398.
5. Cohen M, Wang MB. Schwannoma of the tongue: two case reports and review of the literature. Eur Arch Otorhinolaryngol 2009;266:1823-1829.
6. Subhashraj K, et al. Ancient schwannoma arising from mental nerve. A case report and review. Med Oral Patol Oral Cir Bucal 2009 Jan 1;14(1):E12-14.
7. Wright BA, 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 Oral Radiol Endod 1980;49:509-522.
8. Rajendran R. Benign and malignant tumors of oral cavity. In: Shafer's Textbook of oral pathology. 5th ed. Elsevier 2006.p.283.
9. Chrysomali E, et al. Benign neural tumors of the oral cavity: a comparative immunohistochemical study. Oral Surg Oral Med Oral Pathol Oral Radiol Endod 1997;84:381-390.
10. Colreavy MP, et al. Head and neck schwannomas-10 years review. J Laryngol Otol 2000;114:119-124.