Intraoral Schwannoma: A Rare Case Report

ABSTRACT
Schwannomas or neurilemmomas are benign, encapsulated tumor arising from nerve sheath cells. Intracranial Schwannomas are most common with rare occurrence in the extracranial region. It rarely occurs in the floor of the mouth with very few cases reported. We present a rare case report of Schwannoma of the floor of the mouth, thereby highlighting the consideration of this rare entity as one of the differential diagnosis in cases who present to us with swelling of the floor of the mouth and also the importance of immunohistochemistry in coming to the diagnosis.

CASE REPORT
A 28 years old female came to ENT Outpatient Department (OPD) with painless, progressive swelling in the right-side of the floor of the mouth for past 6 months. There was no history of neural disease like Von-Recklinghausen’s disease nor any history of trauma. On examination of the oral cavity, a well-circumscribed mass with well-defined border of size around 2.5 × 2.0 cm was present on right-side of the floor of mouth just encroaching the midline. The mucosa over lying the swelling was intact. On palpation, the swelling was found to be firm, smooth and mobile with no local fixity, it was noncompressible, nonreducible and nonfluctuant with normal movements of the tongue. There was no other swelling in the body. Magnetic resonance imaging showed a heterogenous hyperintense signal intensity lesion of size 4.5 × 2.8 × 2.9 cm in the right-side of floor of mouth, below the ventral aspect of tongue and medially to the midline with internal hyperintense areas on T2W and heterogenous hypointense signals on T1W images (Figs 1A to C). The excision of the swelling was planned under general anesthesia. After cannulating the submandibular duct, a incision of around 3 cm was given in the right-side of floor of mouth, submucosal tissue was dissected and swelling was released. Further capsule of the swelling was dissected from the surrounding structure and a well-encapsulated tumor was removed there was no adhesion to the surrounding structure. Bleeding was very minimal and hemostasis (Fig. 2) was achieved and wound was closed with absorbable sutures. The removed mass was encapsulated, and measured 4.5 × 3.5 × 2.0 cm. It was oval, smooth and firm in consistency. Cut section of the tumor showed thickened-wall with cystic areas and hemorrhagic spots (Fig. 3). Histopathological examination revealed an encapsulated tumor with solid hypercellular areas (Antony A) and hypocellular areas (Antony B). Cells consisting of proliferating groups of palisading nuclei, consistent with Schwann cells, forming Verocay bodies were also observed. In some areas, the tumor was infiltrated by large numbers of siderophages and histiocytes. Immunohistochemistry of the tumor cells showed diffuse, strongly positive staining for S-100 protein. According to these histological findings, the diagnosis of an Schwannoma of the left-mouth floor was made (Figs 4A and B).

DISCUSSION
Although, approximately 25 to 40% of all Schwannomas occur in the head and neck area, but they rarely occur in the oral cavity. There is no gender preponderance. Schwannomas may be solitary or multiple lesions. Solitary neurilemoma is encapsulated, slow growing tumor arising in association with a nerve trunk, it pushes aside the nerve trunk as it grows. Oral Schwannoma has an intact overlying epithelium.
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Eversole and Howell (1971) reported the first intraoral case of ancient Schwannoma, although Cherrick and Eversole presented two additional cases in the same year.  

It is difficult to clinically distinguish ancient Schwannoma from other Schwannoma. Commonly Schwannoma is found in the tongue. On review of available literature most intraoral ancient Schwannomas are located in the floor of the mouth. In none of the cases, neither the recurrence nor malignant transformation has been reported. Surgical excision has been suggested to be the treatment of choice.

Ancient Schwannomas can vary from firm, solid masses to fluctuant cysts. The predominant histopathological findings are of an encapsulated lesion consisting of a mixture of spindle cells forming highly cellular so-called Antoni A tissues (with hypercellularity) and less cellular, myxoid Antoni B tissues (with hypocellularity).  

Antoni A tissues formed by fusiform cells with elongated nuclei arranged in a well-organized palisading pattern. Groups of fusiform nuclei, known as Verocay bodies, can frequently be seen. Antoni B tissues shows a disordered arrangement of cells distributed in a loose fibrillar matrix with areas described as microcysts.

Figs 1A to C: Magnetic resonance imaging of the patient showing lesion: (A) Heterogenous hypointense mass on axial T1-weighted image, (B) and (C) heterogenous hyperintense mass on axial and coronal T2-weighted image

Fig. 2: Intraoperative picture showing tumor with intact capsule

Fig. 3: Gross picture showing capsulated tumor and cut section showing hemorrhagic and cystic areas

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S-100 is strongly expressed by most cells in Schwannoma in contrast to cells of neurofibromas, which variably expresses the antigen. In our case, almost all tumor cells stained strongly for the S-100 protein. Histopathological examination and immunohistochemistry confirmed our diagnosis of intraoral Schwannoma—a rare presentation.

CONCLUSION

Schwannoma represents a lesion not often encountered in clinical practice. The lesion is usually indistinguishable from other benign neoplasm. The final diagnosis should be done after histopathological examination and in some cases after immunohistochemical analysis. Schwannomas are managed by complete surgical excision, but wide excision is not recommended because it rarely shows recurrence or malignant transformation.

REFERENCES