

Unmasking a Rare Sublingual Ancient Schwannoma: A Peripheral Pakistan Case Report

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ABSTRACT

Ancient schwannoma is a rare benign peripheral nerve sheath tumor characterized by long-standing growth and degenerative histological changes that may mimic malignancy. Occurrence in the sublingual region is exceedingly uncommon. We report a rare case of a 17-year-old male presenting with a painless sublingual mass of six years' duration, initially misdiagnosed as a sublingual adenoma on ultrasonography. Complete surgical excision and histopathological examination, supported by immunohistochemistry, confirmed the diagnosis of ancient schwannoma. This case highlights the diagnostic challenges of sublingual masses in peripheral healthcare settings and emphasizes the role of histopathological evaluation for accurate diagnosis and management.

Keywords: Ancient Schwannoma, Sublingual Mass, Peripheral Nerve Sheath Tumor, Oral Cavity, Case Report

Authors' Contribution:

All authors contributed equally to the conception, literature search, manuscript drafting, editing and review

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Introduction

Schwannomas, also known as neurilemmomas, are benign, slow-growing tumors of peripheral nerve sheath origin. They most commonly arise in the head and neck region, particularly involving cranial nerves and major peripheral nerves. However, occurrence in the sublingual region is extremely rare.^{1,2} These tumors are typically solitary, well-encapsulated, and present as painless masses. The ancient variant exhibits long-standing growth with degenerative histological changes such as cystic degeneration, hyalinization, hemorrhage, and nuclear atypia features that may mimic malignancy on histopathological examination.^{3,4,5} Sublingual schwannomas often remain asymptomatic for years, delaying presentation. Their clinical course and imaging features frequently

overlap with other benign oral lesions, such as salivary gland tumors (e.g., pleomorphic adenoma), posing diagnostic challenges, especially in peripheral healthcare settings with limited imaging and histopathological resources.^{5,6}

We report a rare case of a 17-year-old male with a long-standing sublingual mass, ultimately diagnosed as an ancient schwannoma after excision and histopathological evaluation.⁷

Case Presentation

A 17-year-old male presented to the ENT outpatient department (OPD) of DHQ Teaching Hospital with a six-year history of a sublingual mass. The mass had been slowly increasing in size and was painless. The patient denied difficulty in swallowing, speaking, or breathing, and reported no numbness or rapid

changes in the mass. There was no history of trauma, infection, chronic illness, or prior surgery, and no family history of similar conditions or tumors.

On ENT examination, a well-circumscribed, firm, non-tender mass was palpable in the sublingual region. The overlying mucosa was intact and normal, and no regional lymphadenopathy was noted. The oral floor appeared normal, and there were no functional deficits.

Due to the uncertain preoperative diagnosis, Excision was performed under general anesthesia with nasotracheal intubation. Adequate intraoral exposure was achieved using a self-retaining mouth retractor. Local infiltration with 2% lignocaine and adrenaline was administered in the sublingual region. A horizontal mucosal incision (~5 cm) was made in the right sublingual area. The mucosa was elevated, and careful blunt and sharp dissection was carried out circumferentially to skeletonize the encapsulated mass, with preservation of the lingual nerve and Wharton's duct. Bimanual digital dissection facilitated mobilization and delivery of the tumor. The vascular pedicle was identified, clamped, ligated, and divided. The lesion was excised en bloc. Hemostasis was secured, and the tumor bed was ligated as required. A simple intraoral drain was placed, and the wound was closed in layers using absorbable sutures. The patient was extubated uneventfully with no intraoperative complications

Investigations included:

Ultrasound imaging, which initially suggested a sublingual adenoma. Gross examination of the excised specimen revealed a single, oval soft tissue fragment measuring $5.5 \times 3 \times 2.5$ cm. Histopathology showed a benign, encapsulated, biphasic spindle cell tumor with hypercellular Antoni A areas forming Verocay bodies, and hypocellular Antoni B areas with loosely arranged spindle cells. Degenerative changes, including cystic formation, hyalinization, and dilated blood vessels with hemorrhage, were also noted. Despite some nuclear atypia, no features of malignancy were observed.



Figure 1 excised specimen revealed a single, oval soft tissue fragment measuring $5.5 \times 3 \times 2.5$ cm.

Immunohistochemistry demonstrated S-100 positivity, Desmin negativity, and a Ki-67 proliferation index of $<1\%$, confirming the diagnosis of ancient schwannoma.

The postoperative period was uneventful, and the patient remained asymptomatic during follow-up with no evidence of recurrence.



Figure 2 postoperative period, and follow-ups with no evidence of recurrence

Discussion

Schwannomas are benign, slow-growing tumors arising from Schwann cells and account for less

than 1% of head and neck neoplasms.¹² Ancient schwannoma, a rare histological variant, displays degenerative changes that may be misleading on histopathology, often raising suspicion for malignancy if clinical history and immunohistochemistry are not integrated.^{3 4 5} Sublingual schwannomas are particularly rare due to the limited presence of peripheral nerves in the oral floor. Clinically, they present as painless, slowly enlarging masses without functional deficits, similar to the findings in our patient.^{5 6} Imaging modalities often lack specificity, and preoperative diagnosis may be confounded with benign salivary gland tumors or cystic lesions.^{7 8} Histopathology with immunohistochemistry remains the gold standard, with S-100 positivity and low proliferative index distinguishing schwannoma from malignancy and other spindle cell tumors.^{8 9} Ancient schwannomas, although showing nuclear atypia, exhibit low mitotic activity and minimal Ki-67 expression, differentiating them from malignant peripheral nerve sheath tumors.^{8 9 10 11}

Complete surgical excision with preservation of adjacent structures is the treatment of choice, with recurrence being exceedingly rare.^{10 11} Our patient underwent complete excision with an uneventful postoperative course and no recurrence during follow-up, consistent with outcomes reported in the literature.^{11 13}

Informed Consent

Written informed consent was obtained from the patient and his legal guardian for surgical intervention, publication of this case report, and use of clinical data and images for academic and scientific purposes. Patient confidentiality was strictly maintained.

Ethical Review Board Approval

Ethical approval for publication of this case report was obtained from the Ethics Review Board of the GJMS Journal Club, Medical Teaching Institution (MTI), Gomal Medical College. The study was conducted in accordance with institutional ethical

standards and the principles of the Declaration of Helsinki.

Conclusion

Ancient schwannoma of the sublingual region is an exceptionally rare benign entity that should be considered in the differential diagnosis of painless, long-standing oral floor masses. Awareness of its clinical and histopathological features is essential to avoid misdiagnosis and ensure appropriate surgical management, particularly in peripheral healthcare settings.

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