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NEURILEMMOMA (SCHWANNOMA) PRESENTING AS BASE OF TONGUE MASS: A CASE REPORT

Case Report

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ABSTRACT

Background: Schwannomas are benign peripheral nerve sheath tumors arising from Schwann cells. While they commonly occur in the head and neck region, their presence at the base of the tongue is extremely rare. These tumors typically present as slow-growing, painless masses that may lead to airway obstruction, dysphagia, and speech difficulties in advanced cases. Early diagnosis and management are crucial to prevent complications.

Objective: To present a rare case of tongue base schwannoma, emphasizing the diagnostic challenges, imaging findings, surgical management, and histopathological confirmation.

Methods: A 51-year-old male with diabetes mellitus and ischemic heart disease presented with a progressively enlarging, painless mass at the base of the tongue for six years, leading to airway compromise and dysphagia. Clinical examination, fiberoptic nasolaryngoscopy, and imaging (CT and MRI) revealed a well-circumscribed, hypodense lesion (6.0 × 5.7 × 6.0 cm) involving tongue muscles with bilateral level I and II lymphadenopathy. The patient initially refused surgical intervention but returned four years later with worsening symptoms, necessitating emergency tracheostomy followed by transoral excision under general anesthesia. Histopathological and immunohistochemical analysis confirmed the diagnosis.

Results: Histopathology showed spindle-shaped Schwann cells with Antoni A and B areas, degenerative changes, and no malignancy. Immunohistochemistry was positive for S-100 and SOX-10, confirming schwannoma. The patient had an uneventful recovery, with immediate symptomatic relief. Two weeks postoperatively, the tracheostomy tube was removed. At a six-month follow-up, the patient remained asymptomatic, with no recurrence.

Conclusion: Schwannomas of the tongue base are rare and may cause airway compromise in advanced stages. MRI is the imaging modality of choice, while histopathology with immunohistochemistry confirms the diagnosis. Surgical excision remains the definitive treatment with a low recurrence rate. Early intervention is essential for optimal patient outcomes.

Keywords: Benign tumor, immunohistochemistry, peripheral nerve sheath tumor, schwannoma, tongue base, transoral excision, tumor excision.

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INTRODUCTION

Benign peripheral nerve sheath tumors (PNSTs) are a rare group of tumors that arise from the cells forming a layer around the peripheral nerves, mainly Schwann cells. They are well encapsulated and grow slowly (1). While these tumors are typically non-cancerous, they can still cause significant clinical challenges, their symptoms can vary hence delaying diagnosis. Clinical presentvary,,n can be asymptomatic lump, painful lump, sensory / motor neurological deficit, hypoesthesia or neuropathic pain (2, 3, 4)

Benign PNSTs are broadly categorized into two types: Schwannomas (also known as neurilemmomas) and neurofibromas (NFs) (5). Schwannomas are primarily composed of Schwann cells, forming a mass that may compress the nerve. In contrast, neurofibromas consist of a variety of cell types, including Schwann cells.

Diagnosis of a PNST typically begins with clinical evaluation and is followed by imaging studies, especially MRI, which provides a detailed view of the tumor's size and its relationship with surrounding tissues. Definitive diagnosis often requires histopathological examination following biopsy or surgical excision. Treatment generally involves surgical removal, particularly when the tumor is symptomatic or has the potential to cause harm. Early detection and appropriate management are critical to prevent long-term neurological complications.

This case report focuses on a rare presentation of benign PNST. Through this report, we highlight the diagnostic journey and therapeutic interventions that culminated in the identification and management of this unique case, providing insights that may assist clinicians in handling similar rare instances.

Case Presentation

51 years old male with no addictions, known diabetic, ischemic heart disease presented with a feeling of painless lump at the base of his tongue for 5-6 years. He also had associated breathing difficulty, snoring, disturbed sleep, dysphagia, difficulty moving his tongue out and voice change. No associated discharge, slowly growing in size however the patient did report a pea sized mass under his chin. He also had a family history of brain tumors

Physical examination via fiberoptic nasolaryngoscopy revealed large cystic swelling on the tongue base in the vallecula and partially obstructing the view of the larynx. Radiology showed benign looking hypodense, well circumscribed lesion at the tongue base measuring 6.0 x 5.7 x 6.0 cm with involvement of tongue muscles and prominent bilateral level I, II lymph nodes (Figure I). Solitary, smooth, nodular submucosal lesions of the tongue can be clinically categorized as schwannomas, neurofibromas, rhabdomyomas, lymphangiomas, fibromas, lipomas, leiomyomas, inflammatory conditions like fibro-epithelial polyps, or other benign growths such as salivary gland tumors and mucoceles (6). He was planned for excision under general anesthesia which he refused and lost to follow up. He then presented four years later with worsening symptoms and progressive shortness of breath. He was planned for immediate tracheostomy under local anesthesia followed by transoral resection of tongue base lesion under general anesthesia (Figure II). The tissue specimen (Figure III) was sent for histopathology report. After the procedure he had an uneventful hospital stay. His symptoms markedly improved post procedure.

Histopathology results indicated a peripheral nerve sheath tumor exhibiting spindle cell morphology and marked degenerative changes. The tumor tested negative for malignancy. Immunohistochemistry results were positive for S-100 and SOX-10, and negative for CKAE1/AE3, P63, and ASMA. Based upon these findings final histopathological diagnosis of schwannoma was made.

The case was discussed in a multi disciplinary team meeting and tracheostomy tube was removed 2 weeks after completion of treatment.

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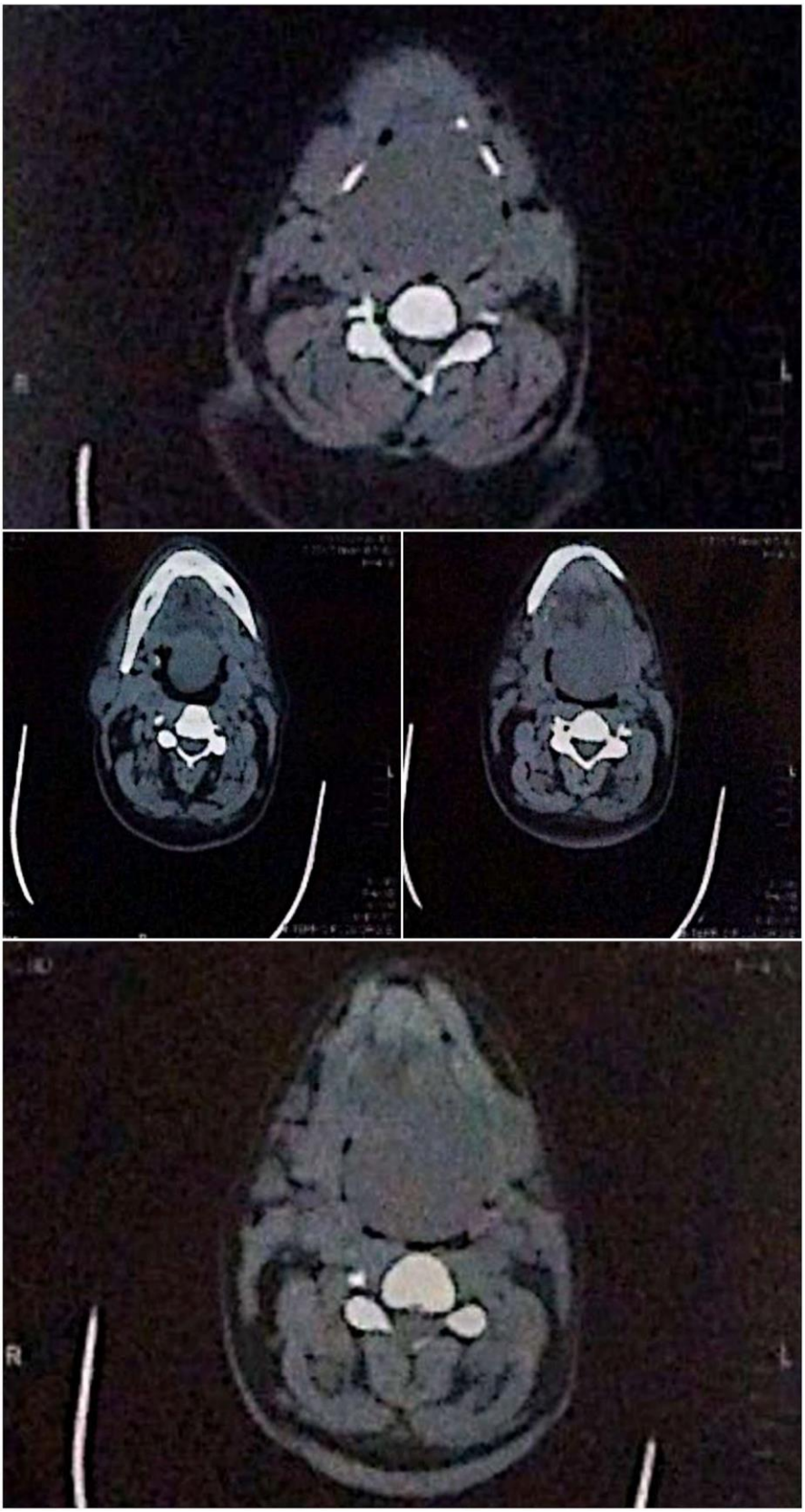

Figure 1 Radiology showing base of tongue lesion

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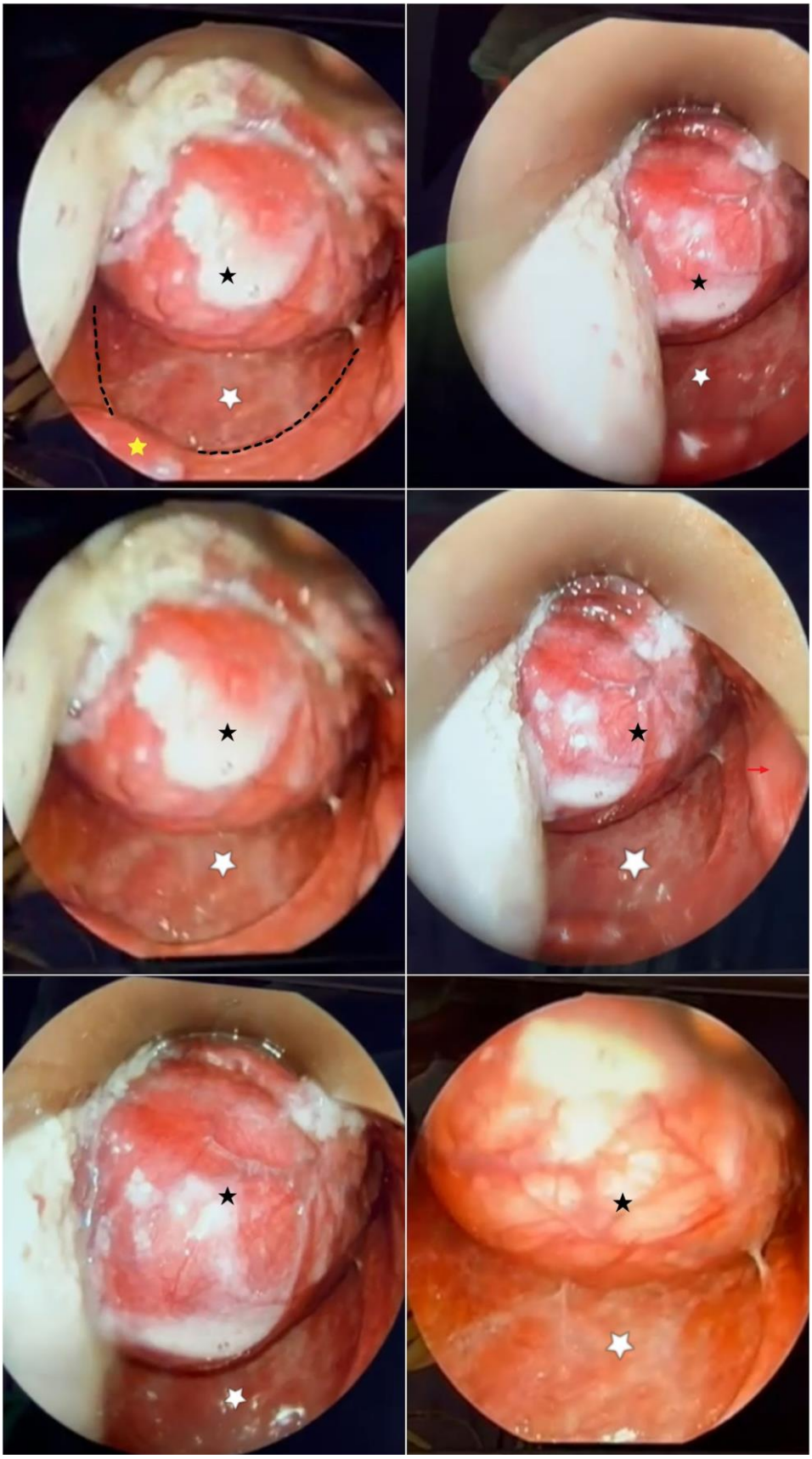

Figure 2 Description: Laryngoscopic view of tongue base with lesion approaching posterior pharangeal wall. (Black star tongue base lesion. White star posterior pharangeal wall. Yellow star tip of uvula. Dotted line posterior pillar. Red arrow right pharangeal tonsil.)

Figure 2 Laryngoscopic view of tongue

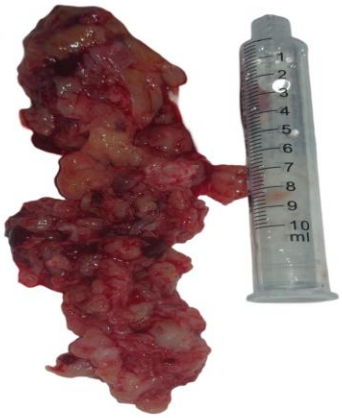

Figure 3 Surgical specimen along with 10 cc syringe

DISCUSSION

Head and neck schwannomas make up 25–40% of all schwannomas in the body, with over 90% occurring on the vestibulocochlear nerve (7, 8). Intraoral schwannomas account for just 1% of all head and neck tumors. In a review conducted by Leu and Chang involving 52 cases of head and neck schwannomas, seven were found in the oral cavities, these included one case each in the hard palate, soft palate, tongue, and lower lip, as well as two cases in the sub masseteric region (9). The symptoms differ based on the tumor's location. Determining the nerve of origin can be challenging. For over 50% of intraoral lesions, distinguishing between tumors arising from the lingual, hypoglossal, and glossopharyngeal nerves is not feasible (10). Schwannomas typically present as isolated tumors, but the presence of multiple tumors may indicate a link to neurofibromatosis. Unlike schwannomas, neurofibromas carry a risk of malignant transformation, making it crucial to accurately distinguish between an isolated neurofibroma and a schwannoma (11). MRI is the preferred method for evaluating tongue schwannomas over CT (12, 13). The preferred treatment for a schwannoma is complete surgical excision, typically through a trans-oral approach (13) and use of CO2 laser in the management of tongue base schwannoma have been reported (14). Recurrence after complete resection is rare, and the risk of malignant transformation in head and neck schwannomas is only 8–10% (8, 13, 15).

CONCLUSION

Schwannomas of the tongue are uncommon but should be considered in the differential diagnosis of tongue masses, as they typically have a favorable prognosis. With correct patient identification and timely management, benefits can be provided to the patient.

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Author Contributions

Author	Contribution
Fesih Muhammad Waseem*	Substantial Contribution to study design, analysis, acquisition of Data Manuscript Writing Has given Final Approval of the version to be published
Muhammad Saqib	Substantial Contribution to study design, acquisition and interpretation of Data Critical Review and Manuscript Writing Has given Final Approval of the version to be published
Shayan Shahid Ansari	Substantial Contribution to acquisition and interpretation of Data Has given Final Approval of the version to be published
Hadia Wali	Contributed to Data Collection and Analysis Has given Final Approval of the version to be published

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