CASE REPORT

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Tongue Schwannoma in an Adolescent Female

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ABSTRACT Schwannoma is a benign tumor originating from the Schwann cells of peripheral nerves. Although schwannomas are usually located intracranially, extracranial occurrences are most commonly found in the head and neck region (25-45%). It is rarely observed in the oral cavity (1%). The most common location in the oral cavity is the tongue. In this article, we report a rare case of tongue schwannoma in a 16-year-old female patient who presented to our center with a 2-year history of tongue swelling. After the patient was evaluated with magnetic resonance imaging, the mass was excised and sent to pathology for histopathological examination. Pathology results revealed schwannoma.

Keywords: Tongue; neurilemmomma; schwann cells; schwannomatosis; neurofibromatosis 2

Schwannoma or neurilemmoma is a benign tumor originating from the Schwann cells of peripheral nerves. Although malignant transformation is possible, it is exceedingly rare.[1] It is a slow-growing, solitary, well-circumscribed and encapsulated tumor. The exact etiology of schwannoma remains unclear.[1,2] It is usually sporadic and can rarely be detected in association with neurofibromatosis type 2 or schwannomatosis.[3] The majority of extracranial schwannomas (25-45%) are detected in the head and neck region, and 1% are seen in the oral cavity. In the oral cavity, it is most frequently seen in the tongue.[4,5] Clinical presentation varies depending on the tumor's location, but it is generally asymptomatic when present in the oral cavity.[6]

CASE REPORT

A 16-year-old female patient presented to Kastamonu Education and Research Hospital due to a painless swelling in the tongue. The patient reported being aware of the swelling for approximately 2 years, with a noticeable increase in size over the past 6 months, accompanied by difficulty in speaking (Figure 1). She reported no history of trauma, systemic illnesses, or associated genetic disorders. There was no family history of a similar head and neck mass. Head and neck examination was unremarkable, with no additional masses identified. A painless, well-circumscribed, approximately 1.5 cm diameter mass with no color change was detected on the right lateral side of the ventral part of the tongue. The patient underwent contrast-enhanced magnetic resonance imaging (MRI), which revealed a well-circumscribed 15×12 mm mass demonstrating good contrast enhancement, isointense with muscle on T1-weighted images and hyperintense on T2-weighted images (Figure 2). The patient underwent intraoral mass excision under general anesthesia and the mass was completely excised

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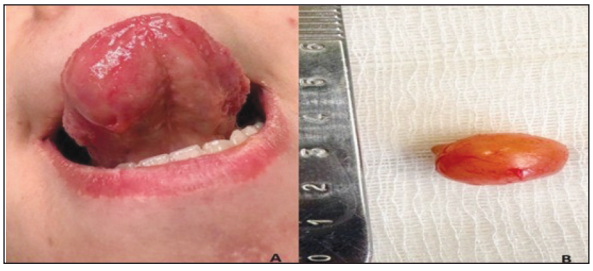

FIGURE 1: A: Well-circumscribed swelling on the ventral surface of the tongue; **B:** Excised mass

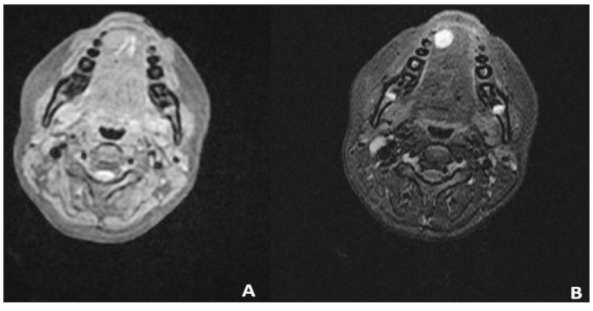

FIGURE 2: A: Aksial T1 image of lingual schwannoma; **B:** Aksial T2 image of lingual schwannoma

and sent to pathology for histopathological examination. No complications developed during or after the operation. The pathology report confirmed schwannoma. Focal degeneration and bleeding areas were noted in macroscopic examination. Immunohistochemical staining showed strong positivity with S-100 and faint positivity with CD 56. Smooth Muscle Actin, Desmin and CD 34 were negative. Written informed consent was obtained from the patient.

DISCUSSION

Schwannoma is a benign tumor originating from Schwann cells and can arise from any myelinated nerve fiber. Although rare, malignant transformation has been reported in approximately 8-10% of cases.[1,7] Schwannomas most commonly occur intracranially, typically arising from the vestibulocochlear (VIIIth) nerve. Extracranial schwannomas are predominantly found in the head and neck region (25-45%), with only 1% occurring in the oral cavity.[8] The tongue is the most common location in the oral cavity.[8-10] It is detected equally in both sexes and is seen more frequently in the 2nd-4th decades.[3,7,11]

Patients with oral cavity schwannoma may present with symptoms such as sore throat, dysphagia, dysphonia, infection or bleeding in that region, and sleep apnea, depending on the size of the mass, but the most common reason for presentation is a painless growing mass.[6,7,11] In this case, the patient's reason for presentation was a painless growing mass in the tongue and dysphonia. Multiple schwannomas can be detected in patients with neurofibromatosis type 2 or schwannomatosis, and malignant transformation is more common (15%).[3,10]

In differential diagnosis, soft tissue tumors such as hemangioma, lymphangioma, salivary gland tumors, fibroma, dermoid cyst, lipoma, squamous cell carcinoma, rhabdom and sarcoma should be considered. Regular borders, submucosal localization and slow growth are helpful in excluding malignant tumors. Computed Tomography (CT) and MRI can be preferred for diagnosis, MRI is more useful than CT due to its higher sensitivity to soft tissues. In MRI, isointense image is obtained with muscle in T1 sequence, while hyperintense image is obtained in T2.[1,10,12] Invasion of surrounding tissues is not observed. Definitive diagnosis is made histopathologically. Histologic sections reveal an encapsulated neoplasm composed of cytologically bland spindle cells arranged in short fascicles. The tumor exhibits alternating patterns, with hypercellular areas showing nuclear palisading (Antoni A) interspersed with hypocellular regions (Antoni B). Immunohistochemical staining typically reveals strong S-100 and CD56 positivity, while focal degeneration and hemorrhagic areas may be observed macroscopically.[3,13,14] These indicators were also found histopathologically in our case (Figure 3).

Treatment of tongue schwannomas is intraoral excision. Recurrence after total excision is very rare and the risk of complications is low.[3,7,15] In this case, the patient was scheduled for monthly follow-up visits after the 1st-month check-up (Figure 4). During the 6-month follow-up period, no neurodeficits were noted, and the patient did not develop any speech or diction problems.

In conclusion, schwannoma of the oral cavity and tongue is extremely rare. It should be considered in patients presenting with a slowly growing, well-

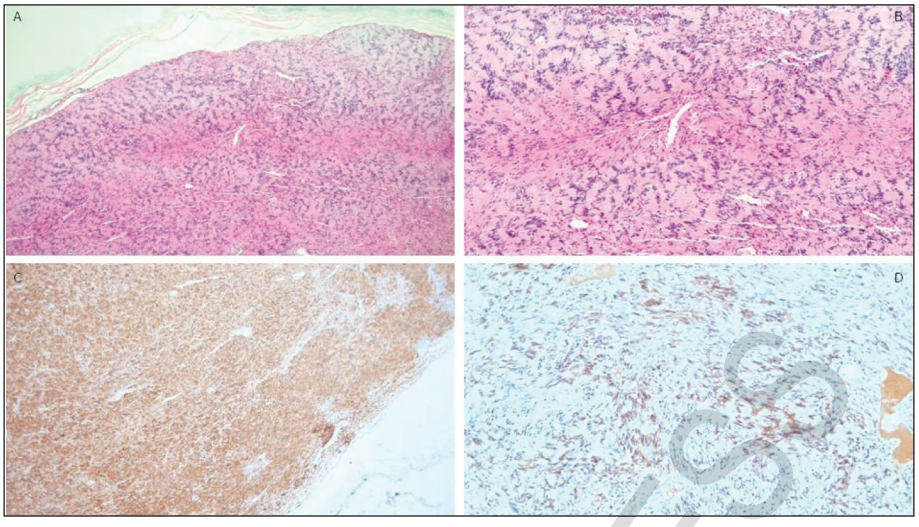

FIGURE 3: A: Hypercellular Antoni A areas (Hematoxylin-Eosin, original magnification x40); **B:** Hypocellular Antoni B areas (Hematoxylin-Eosin, original magnification x100); **C:** Strong and diffuse S 100 positivity (immunperoxidase, original magnification x40); **D:** CD 56 positivity (immunoperoxidase, original magnification x100).

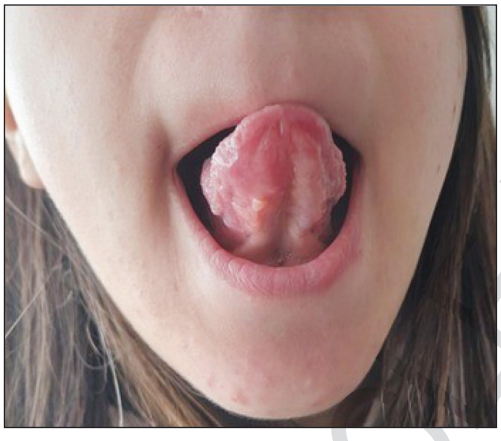

FIGURE 4: Postoperative 1st month image

circumscribed mass on the tongue. Preoperative imaging is essential to assess the lesion and its relationship with adjacent anatomical structures prior to biopsy. The definitive diagnosis is established through histopathological examination. No recurrence has been reported after intraoral total excision and the possibility of complications is minimal.

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Conflict of Interest

No conflicts of interest between the authors and / or family members of the scientific and medical committee members or members of the potential conflicts of interest, counseling, expertise, working conditions, share holding and similar situations in any firm.

Authorship Contributions

Idea/Concept: *Yusuf Aydın;* ***Design:*** *Yusuf Aydın;* ***Control/Supervision:*** *Fatma Atalay;* ***Data Collection and/or Processing:*** *Nurtaç Sarıkaş, Fatma Akyürek Taşçı;* ***Analysis and/or Interpretation:*** *Yusuf Aydın, Fatma Atalay;* ***Literature Review:*** *Fatma Akyürek Taşçı;* ***Writing the Article:*** *Yusuf Aydın;* ***Critical Review:*** *Fatma Atalay;* ***References and Fundings:*** *Fatma Akyürek Taşçı;* ***Materials:*** *Yusuf Aydın.*

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