

Lingual Schwannoma Involving The Posterior Lateral Border Of The Tongue In A Young Individual: Case Report

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A schwannoma, also called neurilemmoma, is a benign, encapsulated, slow growing tumor, arising from the neural sheath's Schwann cells of the peripheral, cranial or autonomic nerves. The etiology is unknown, there is no gender preference and the tumors occur most commonly between the ages of 20 and 50 years. Approximately 25–48 % of these tumors occur in the head and neck region, with only 1% occurring in the mouth. The current case reports a schwannoma of the tongue, found in a 12 year-old boy. The lesion was present for 6 months. The clinical examination revealed a 1.5x1.0 cm, sessile, rubbery, non-tender, non-ulcerated mass on the right posterior lateral border of the tongue. An excisional biopsy was performed under local anesthesia. The histological sections showed a circumscribed submucosal nodule composed of spindle cells with thin wavy nuclei arranged as typical Antoni A (with Verocay bodies) and Antoni B areas. Nuclear palisading distribution (typical of a schwannoma) was readily identifiable. The patient was recurrence free after one year.

Keywords: schwannoma, neurilemmoma, mouth, tongue

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INTRODUCTION

A Schwannoma is a solitary, encapsulated, benign tumor arising from the neural sheath's Schwann cells of the peripheral, cranial or autonomic nerves.^{1,3} It has been named neurinoma, neurilemmoma and perineural fibroblastoma.³ These tumors arise when proliferating

Schwann cells form a tumor mass that encompasses peripheral nerves.² The cause of the tumor is unknown. However, some etiological factors are hypothesized, such as spontaneous growth, external injury, chronic irritation, or exposure to radiation.⁴

Schwannomas of the head and neck occur intracranially, most commonly at the cerebellar pontine angle. Approximately 25–48% occur in the head and neck regions.⁵ It is the most commonly encountered nerve sheath tumor in the oral cavity,⁶ corresponding to 1% of all schwannomas.³ Peripherally, the commonest location is the tongue,² followed by the palate, floor of mouth, buccal mucosa, and mandible.⁷

The Schwannoma of the tongue presents as a painless mass on the lingual surface and exhibits no gender preference.⁸ The tumor occurs most commonly between the ages of 20 and 50 years. However, the majority appears in the fourth decade of life,³ making this report interesting, since it was found in a 12 year-old boy. As this slow-growing tumor is insidious, symptoms are not reported until the mass becomes significantly large,⁴ when it may cause difficulty in swallowing or talking, but seldom obstruct respiration.³

The diagnosis is confirmed by microscopic examination. Two microscopic patterns of Schwannoma are known to coexist: Antoni A and Antoni B. In the Antoni A pattern, elongated cells with cytoplasmic processes are arranged in fascicles in areas of moderate to high cellularity, with little stromal matrix and a typical palisading arrangement (Verocay bodies). In the Antoni B pattern, there is a loose hypocellular arrangement.⁹ Additionally, the presence of an acid

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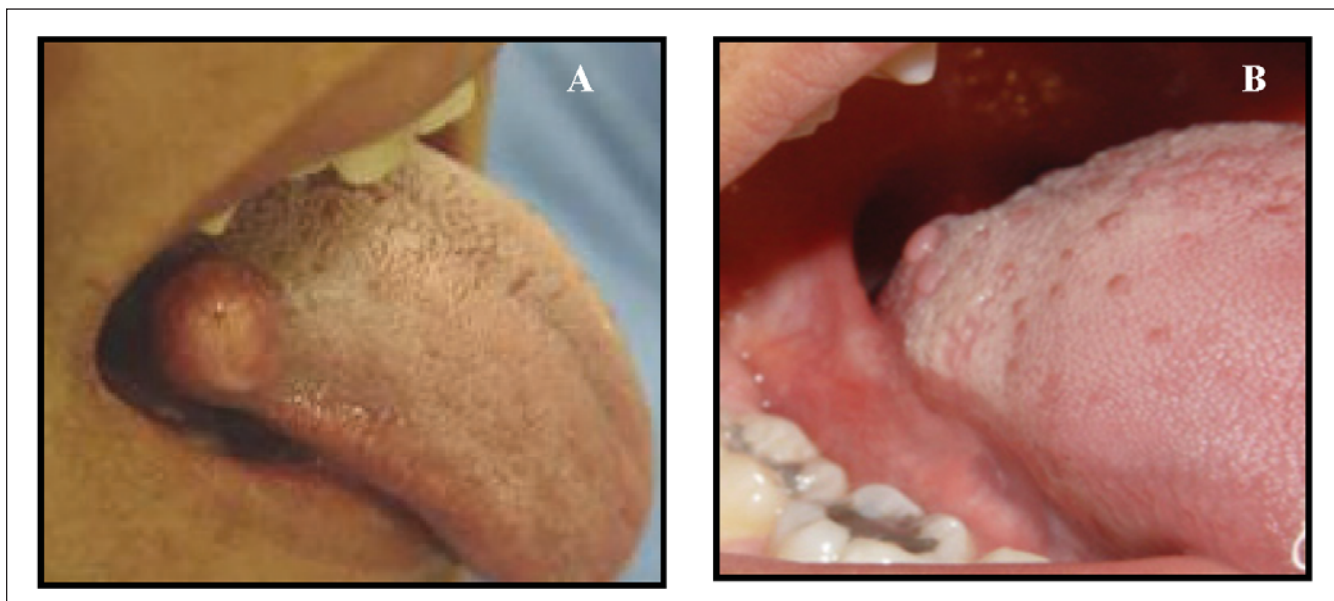


Figure 1. (A) Clinical aspect of the lesion in the right posterior band of the tongue base. (B) Clinical aspect of the lesion area after 12 months follow-up.

S-100 protein in the supporting cells of the central and peripheral nerve can be shown in the neurilemma, particularly in the Antoni A areas.¹⁰

Treatment is always surgical, and complete excision results in no recurrence. The following case is a report of a lesion occurring in the tongue of a 12 year-old boy.

CASE REPORT

A 12-year-old boy presented at the Oral Pathology Clinic at the Vale do Rio Verde University – Três Corações, MG, Brazil, for evaluation of a lesion in the posterior region on the right side of the tongue, first noted 6 months earlier. The patient reported with a history of difficulty in swallowing for the same length of time. He was referred from a Public Dental Office in the country region where he used to live. Past family medical history was unremarkable and all laboratory tests were normal.

The clinical examination revealed a 1.5x1.0 cm, sessile, rubbery, non tender, non-ulcerated mass on the right posterior side of the tongue (Figure 1A). The surface was smooth, with features of a benign mass. There were no masses in other parts of the body. No cervical lymphadenopathy was evident. The neurological examination was normal. The differential diagnosis included schwannoma, traumatic fibroma and neurofibroma.

The fine needle aspiration was inconclusive. Thus, an excisional biopsy was performed under local anesthesia. The specimen section had a tan-gray nodular surface. Histological sections showed a circumscribed submucosal nodule composed of spindle cells with thin wavy nuclei. Nuclear palisading and Verocay bodies typical of an Schwannoma were readily identifiable (Fig 2A and 2B).

After the lesion removal, the patient was completely relieved of all symptoms. There were no neurological deficits or recurrence for 12 months (Figure 1B).

DISCUSSION

The preoperative diagnosis of a Schwannoma is difficult, and complementary exams are needed.¹¹ In this case, the fine needle aspiration, recommended as an initial procedure, failed to reveal the diagnosis. Despite its efficiency in 25 percent of cases,¹² it has not gained widespread acceptance.

The use of Magnetic Resonance Image (MRI) or Computed Tomography (CT) increases the possibility of a correct diagnosis.¹³ The lesion generally shows a hypo dense image when compared with the adjacent muscular structure.¹¹ In the present report, MRI and CT were not performed because the lesion was small and superficial, making it easy to plan and perform surgery without any additional risk or cost to the patient.

The differential diagnosis of a lesion in the posterior border of the tongue is complex. Malignant lesions include squamous cell carcinoma, cancer of salivary gland origin, and soft tissue sarcoma. Benign lesions include granular cell tumors, tumors of salivary gland origin, leiomyoma, rhabdomyoma, lymphangioma, hemangioma, epidermoid cyst, lipoma, inflammatory lesions,¹⁴ traumatic fibroma, and granular cell tumor and neuroma.¹⁵ The present clinical diagnosis was difficult, since the patient was young and Schwannomas are rare in the oral cavity. The diagnosis of Schwannoma is usually made post-operatively through histological identification, although modern imaging techniques can provide useful indications.¹⁶⁻¹⁷ Malignant transformation is uncommon. Rare complications are cystic degeneration and sarcomatous changes.³

The most common nerve involved is the VIII cranial nerve. Other cranial nerves involved, in order of frequency, are the V, VII and the XII. Schwannomas arising from the IX, X and XI nerves are uncommon;³ only 50% of these tumors have a direct relationship with a nerve. Schwannomas of the tonsils are extremely rare.²

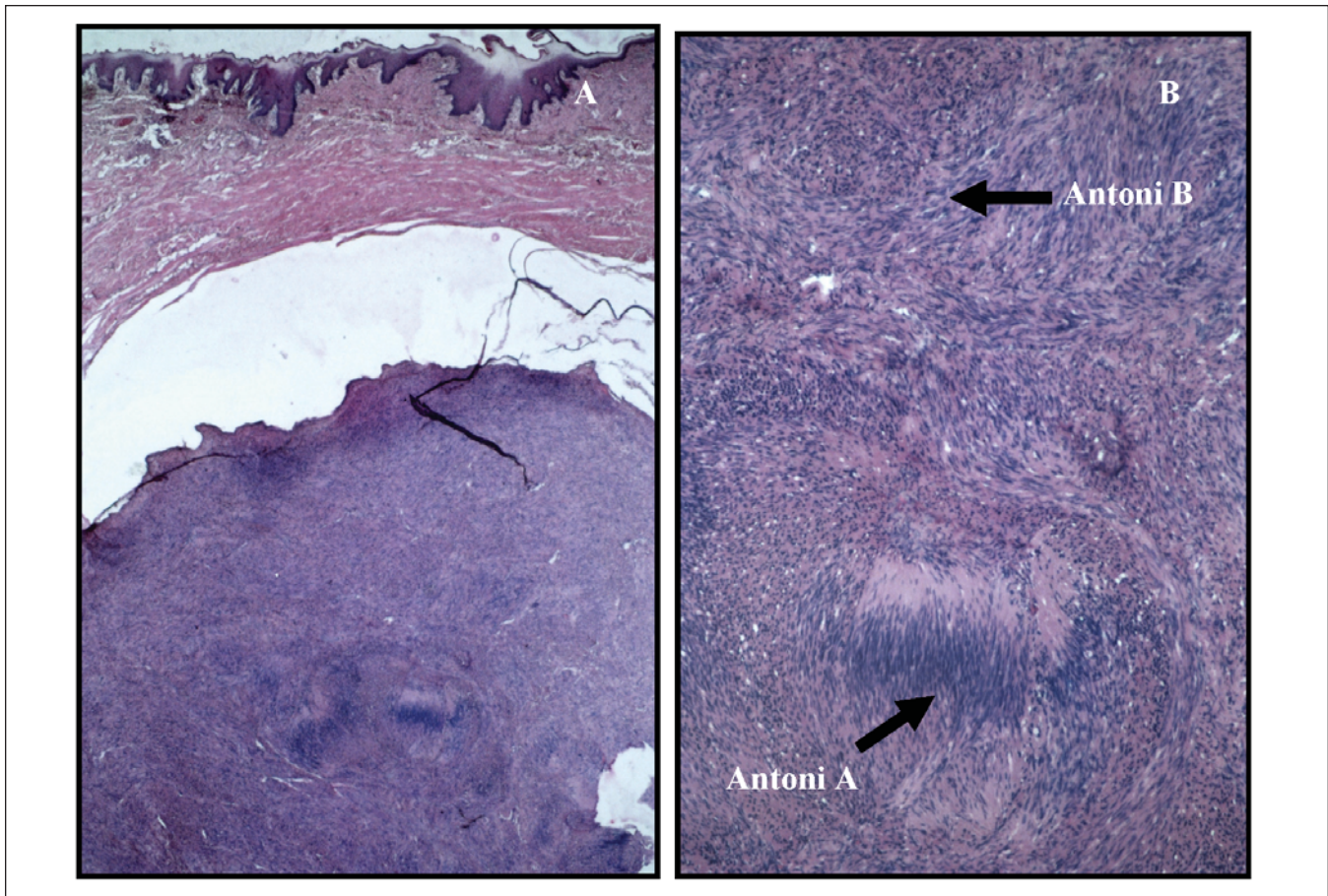


Figure 2. (A) Histological finding of schwannoma of the tongue (2.5x – HE). (B) Two main patterns: Antoni type A nuclei in palisaded clusters (hypercellular area) and Antoni type B (loosely arranged cells) (40x – HE). There is also a Verocay body showing parallel strands of schwann cells and eosinophilic cytoplasm

The present report showed a 1.5x1.0 cm lesion. An Schwannoma in the base of tongue usually appears larger than that of the tongue itself, as a result of being initially asymptomatic.⁸ An excisional biopsy was performed in this patient, since treatment is exclusively surgical and usually enucleation of the mass is uncomplicated. However, there have been reports of incomplete Schwannoma resection, especially in the face and neck, to overcome the problem of nerve damage.¹⁸ In the present case, the patient did not present nerve injury after surgery, since the lesion was small and well defined. The option of complete resection was chosen on the basis of lesion form and size and to avoid recurrence.

The histological aspect of the lesion reported here was typical, ranging from densely packed spindle cells (Antoni A areas) with a typical palisading arrangement, around an eosinophilic mass (Verocay bodies) to loose hypocellular arrangements (Antoni B areas) with no definite architecture.¹⁹ The acid S-100 protein¹⁰ test was not performed, as the hematoxylin-eosin stained sections conclusively confirmed the diagnosis.

CONCLUSION

This study showed an Schwannoma of the tongue in a 12

year-old boy, which is rare, since it is more commonly found between the ages of 20 and 50 years. The clinical examination revealed a 1.5x1.0 cm, sessile, rubbery, non tender, and non-ulcerated mass on the right posterior side of the tongue. The fine needle aspiration was inconclusive. Thus, an excisional biopsy was performed under local anesthesia. Complete surgical excision was the treatment of choice. The option of complete resection was chosen based on lesion's form and size. Treatment is always surgical, and complete excision results in no recurrence. There was no sign of recurrence after 12 months of follow-up.

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