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Schwannoma of the Tongue

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ABSTRACT

Schwannomas are benign encapsulated nerve sheath neoplasm arising from differentiated Schwann cells. Herewith we present a case in a 32 years-old male patient presented with complaint of swelling on right lateral margin of tongue, since. The swelling was gradually increasing in size. On clinical examination lesion was 3.0 x 2.5x 1.5 cm. It was firm in consistency, smooth, mobile and non-tender on palpation. The overlying mucosa was normal. The excision of the mass was done with adequate surgical margins of resection. On histopathological examination reported as Schwannoma of tongue. We are presenting this case for its rarity, clinical, radioimaging, and histopathological findings.

Keywords- Nerve tumors, Schwannomas, Tumors of oral cavity.

INTRODUCTION

Schwannomas are benign encapsulated nerve sheath neoplasm arising from differentiated Schwann cells that can arise from any cranial, peripheral, or autonomic nerve. Extracranially 25% of all Schwannomas are located in the head and neck region, but only 1% shows an intraoral origin. (1) Approximately 150 cases of schwannoma of the tongue have been documented in the literature, predominantly as single case reports or small series. (2) Schwannomas are infrequent benign neoplasms. The intraoral lesions show a predilection for the tongue, followed by palate, buccal mucosa, lip and gingiva. Schwannomas can arise from all cranial nerves, VIII being the most common. The exceptions of nerves lacking Schwann cell are the optic and olfactory nerve. (3) We are presenting a case in a 32year-old male patient presented with swelling on right lateral margin of tongue.

CASE REPORT

A 32 year-old male patient presented with complaint of gradually increasing swelling on right lateral margin of tongue, since 8 months. The swelling was gradually increasing in size. He notices slight numbness in tongue. Clinical examination, on palpation lesion was 3.0 × 2.5 ×1.5 cm. It was firm in consistency, smooth, mobile and non-tender. The overlying mucosa was normal. Rest of the oral cavity was normal. There was no history of tobacco use, smoking, any trauma to local site. There was no any significant contributory history. The systemic examination and routine laboratory investigations were within normal limit. Clinically the lesion appeared to be benign soft tissue neoplasm. The excision of the mass was done with adequate surgical margins of resection and sent for histopathological examination. Grossly the mass was well encapsulated, measuring 2.8 × 2.0 × 1.5 cm. It was firm,

gray white, glistening on cut surface (Figure: 1, 2).

Microscopically the tumor was arranged in short bundles and interlacing fascicles. Neoplastic cells were composed of spindle cells having long twisted and wavy nuclei, abundant pale eosinophilic cytoplasm and indistinct cytoplasmic borders. Biphasic tumor with highly ordered cellular component (Antoni A) with Verocay bodies, along with myxoid hypocellular component (Antoni B) was noted. (Figure: 3, 4). The necrosis and mitosis were absent. The histopathological diagnosis was given as schwannoma of the tongue. The complete surgical excision of lesion was done. Patient responded well to treatment. On follow up no recurrence was noted.

Figure:1-the mass at right lateral margin of tongue- well encapsulated, measuring 2.8 × 2.0 × 1.5 cm . It was firm, gray white, glistening on cut surface.

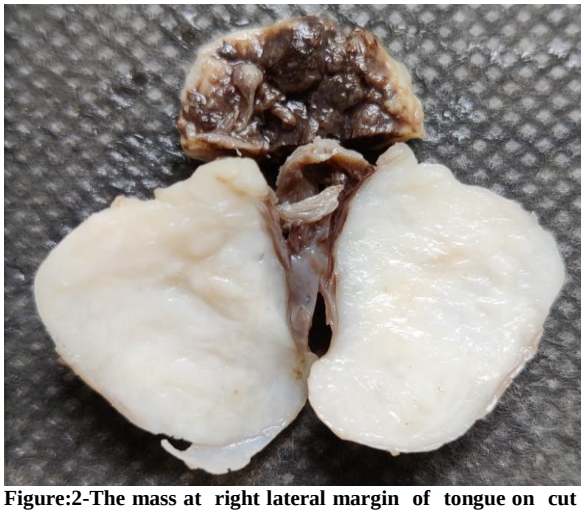

Figure:2-The mass at right lateral margin of tongue on cut surface -firm ,gray white, glistening .

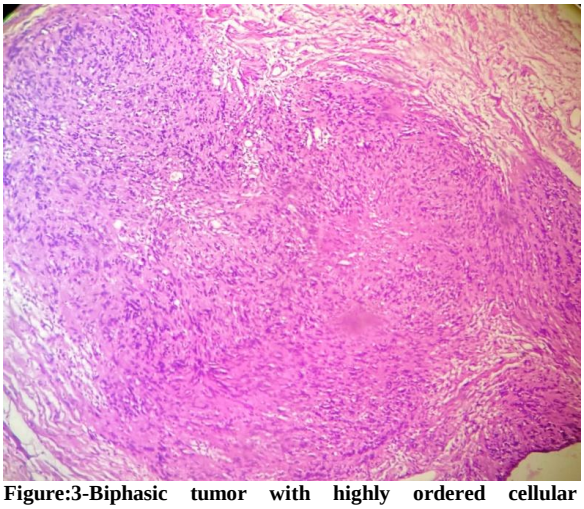

Figure:3-Biphasic tumor with highly ordered cellular component (Antoni A) with Verocay bodies ,along with myxoid hypocellular component (Antoni B). (H & E Stain, 40x)

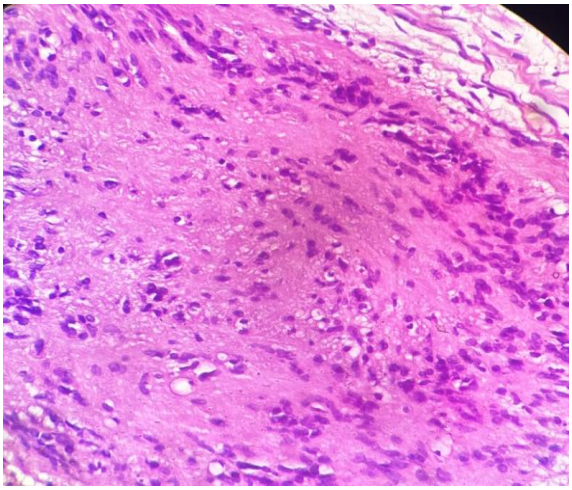

Figure:4-Biphasic tumor with highly ordered cellular component (Antoni A) with Verocay bodies. (H & E Stain,100x)

DISCUSSION

Peripheral nerve tumors of the oral cavity are rare. They include schwannoma, neurofibroma, traumatic neuroma, neurothecoma, malignant peripheral nerve sheath tumors etc.

Schwannomas also referred to as *neurilemomas or neurinomas.* Only 1% of all extracranial schwannomas show intraoral occurrence. The intraoral lesions show a predilection for the tongue, followed by the palate, buccal mucosa, lip and gingiva. In tongue schwannomas are most frequently localized to the anterior two-thirds portion of the tongue. [4]

The schwannomas may occur at any age, but peak incidence is usually seen

between 20 and 50 years of age. The 90% schwannomas are sporadic, and about 3% are associated with neurofibromatosis type 2. Schwannomas are usually solitary lesions but rarely may be multiple. [5] The etiology is unknown; some causative factors such as chronic irritation, external injury, or exposure to radiation have been hypothesized.

The tongue schwannomas arise from the hypoglossal nerve. Clinically they remain asymptomatic, slow growing neoplasm present several years

Other present as pain, loss of taste sensation, swelling, dysphagia, discomfort, snoring dysarthria, impaired tongue mobility , motor and sensory loss.[4]

On examination showed smooth, non-ulcerated, round well-defined or encapsulated tumors. The majority of schwannomas arising from the tongue occur in the anterior two thirds, whereas those arising from the base of tongue are exceedingly rare. [6] On radiological imaging-MRI usually demonstrates a well-delineated, encapsulated lesion with enhancement patterns characteristic of schwannomas such as hypointensity on T1WI, hyperintensity on T2WI, and intense postcontrast enhancement.

On gross morphology usually lesions are solitary, capsulated which is derived from the epineurium. One has to look carefully for the nerve of origin which may be present at the periphery. On cut section tumor is light tan and glistening surface. The areas of hemorrhage, cyst formation may be seen. [7] In our case well encapsulated mass measuring 2.8 × 2.0 × 1.5 cm was noted. It was firm, gray white, glistening on cut surface.

On histopathology shows a biphasic tumor with highly ordered cellular component (Antoni A) that palisades to form Verocay bodies). A long with it a myxoid hypocellular component (Antoni B) is seen. Tumor shows large, irregularly spaced vessels which are mostly in Antoni B areas. In our case above features were noted with no atypia or necrosis.

The various differential diagnosis on histopathological findings are fibroma, lipoma, leiyomyoma, plexiform neurofibromas, palisaded myofibroblastoma and pleomorphic hyalinizing angiectatic tumor of soft tissue.[8,9]

The neurofibroma are diffuse, usually lacks capsule. The cells are in sheath and composed of spindle cells. These are separated by collagen giving shredded carrot appearance. The myxoid areas may be seen. Tumors are uniform without hypercellular areas.

In cases of solitary circumscribed or palisaded neuroma shows tumor extension in the subcutaneous tissue. While pleomorphic hyalinizing angiectatic tumor shows large ectatic vascular spaces with perivascular fibrin and hyalinization. These tumor have infiltrative borders.

In a rare cases of plexiform schwannomas that arise in deep anatomic locations, in soft tissue or major peripheral nerves may demonstrate increased cellularity and mitotic activity and thus, may be difficult to distinguish from MPNST. [10,11]

Immunohistostaining to supports the Schwann cell origin of these tumors reveals positivity for S-100, glial fibrillary acidic protein and Leu-7 antigen.

The malignant transformation is rare and incidence is noted in 8% to 13.9% of cases.[1] The management of schwannoma is complete surgical excision and considered as the gold standard treatment for it .These tumors have very low rates of recurrence. [12] Clinically it is important to preserve nerve function as a primary concern during complete surgical resection. In our case patient responded well to treatment of surgical excision and on follow up no recurrence was noted.

CONCLUSION

The schwannoma of the tongue is extremely rare. The definitive diagnosis requires a histopathological evaluation. We are presenting this case for its rarity, clinical, radioimaging, and histopathological

findings. Complete surgical excision is considered as the standard treatment.

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