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Base of Tongue Schwannoma: A Case Report

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Abstract: ***Base of tongue schwannomas are uncommon benign tumours originating from Schwann cells. We report a case of a 22 - year - old female presenting with difficulty in speaking. Imaging revealed a well - defined mass at the base of the tongue, leading to surgical excision. Histopathological analysis confirmed the diagnosis. This case underscores the significance of recognizing schwannomas in the differential diagnosis of base of tongue masses and highlights successful surgical management.***

Keywords: Base of tongue schwannoma, benign tumour, difficulty speaking, surgical excision, histopathological diagnosis

1. Introduction

- Base of tongue schwannomas are exceedingly rare and therefore often difficult to diagnose from other common masses, however the entity should be included in the differential diagnosis of oropharyngeal tumors.
- To study the imaging characteristics of lingual Schwannoma.

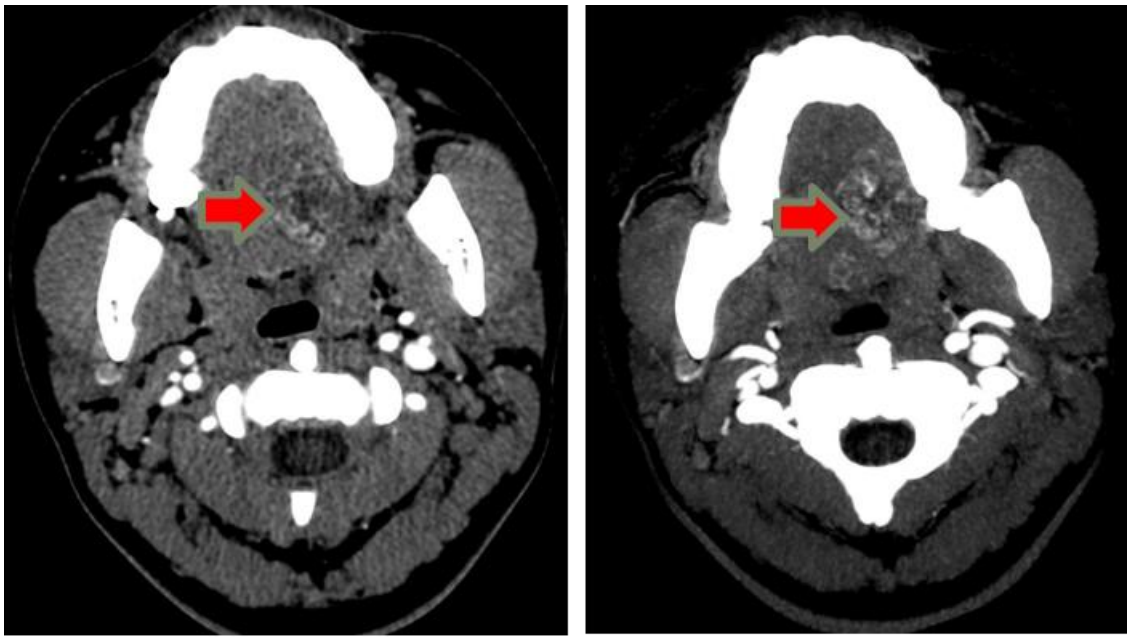
2. Background

- A 22yr old girl presented with h/o swelling in the base of the tongue since 6yrs which is gradually increasing in size presented to the hospital with difficulty in speaking. No h/o pain.
- She was referred for CECT of head and neck for the evaluation of the mass lesion.

Findings and procedure details

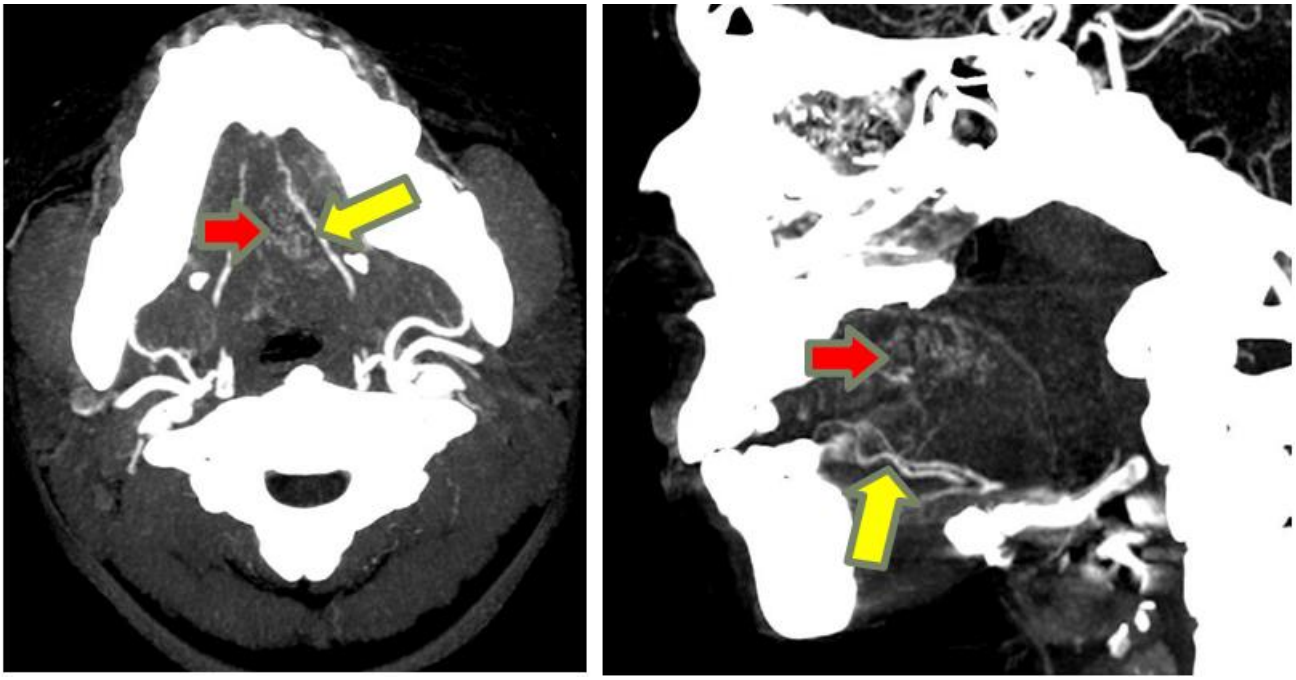
- Heterogeneously enhancing lesion measuring 29x20x22mm is seen in the posterior part of the left tongue predominantly involving posterior third.
- On CT angiography (GE Bright Speed MDCT), the lesion is supplied by branches of left lingual artery.
- Prominent bilateral level II and submandibular lymph nodes seen, largest measuring 13x11mm.
- On MRI screening the lesion was well circumscribed, hyperintense on T2 and STIR, shows T2 hypointense peripheral rim.
- Based on **imaging feature** possibility of **Haemangioma** was given.
- Patient underwent **complete excision of mass**, by intra - oral approach

CECT Of Head and Neck

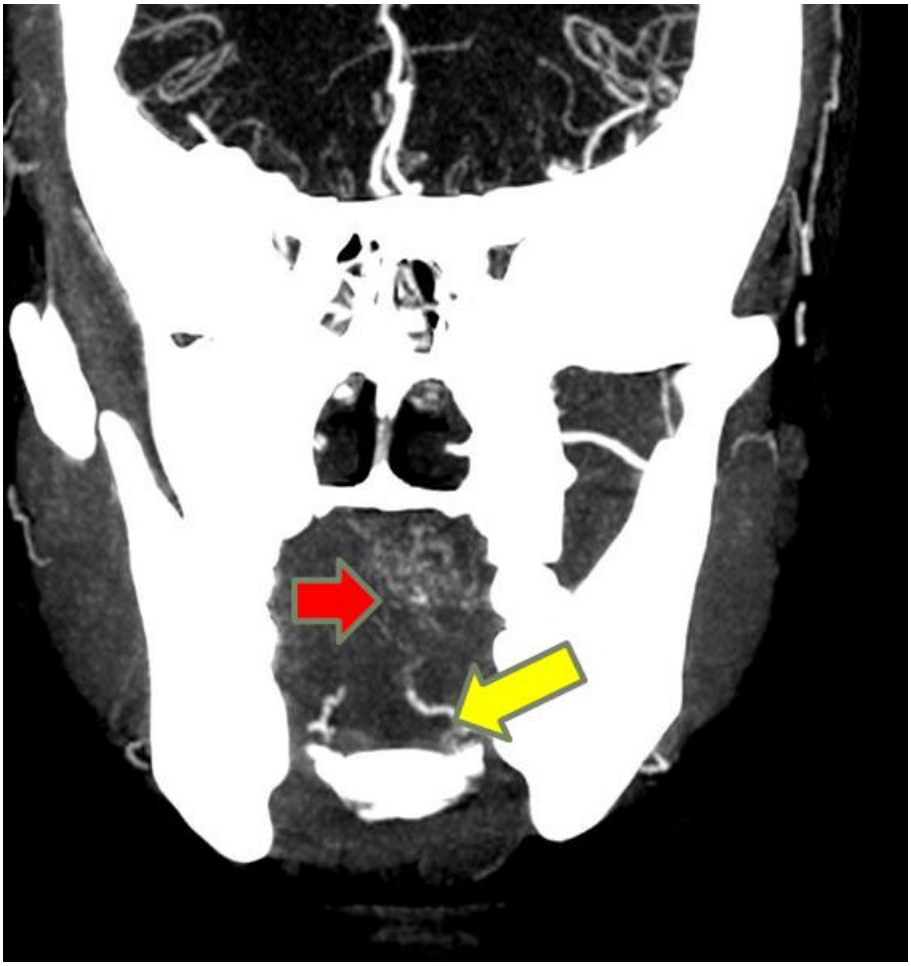


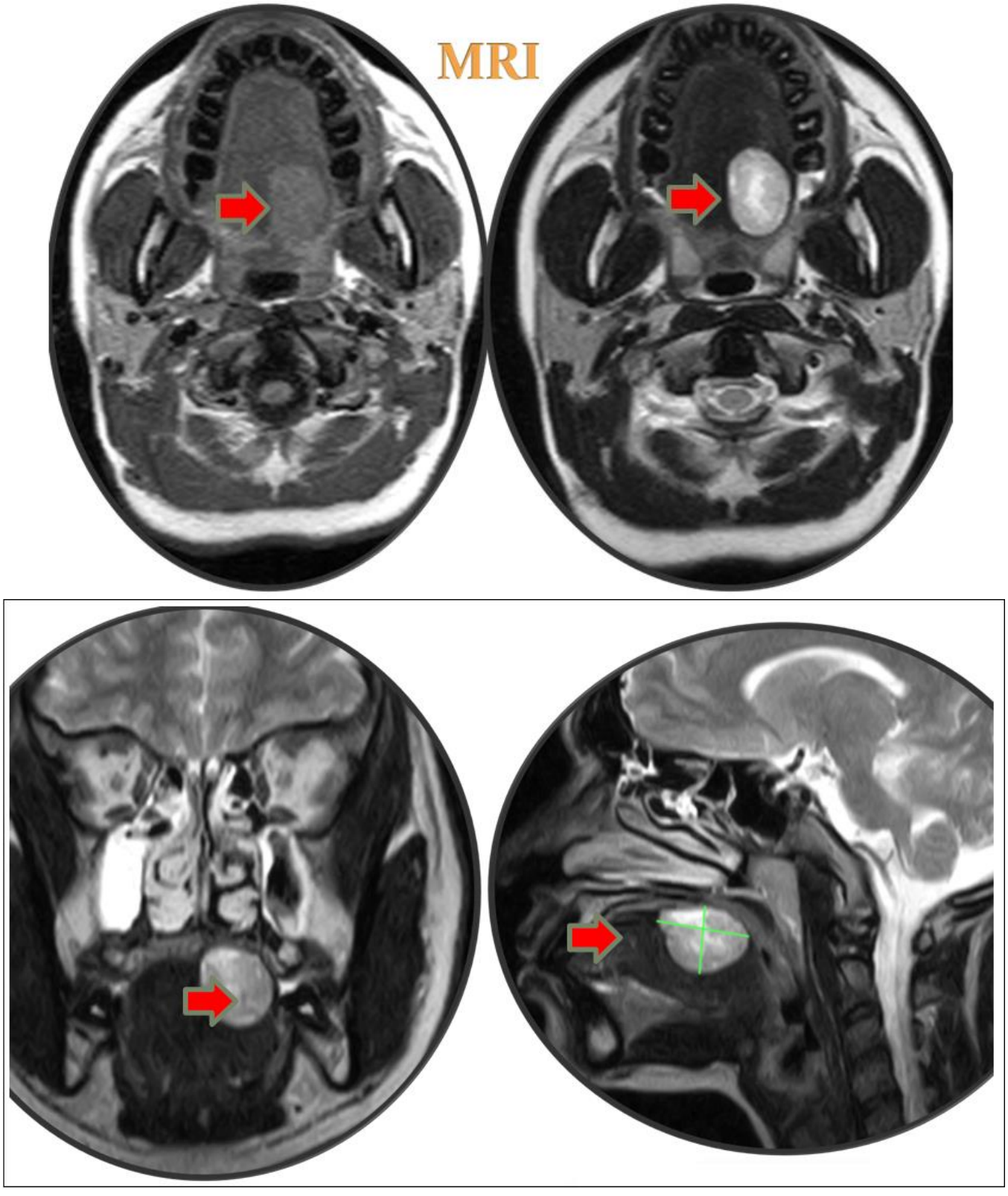
Heterogeneously enhancing lesion (red arrow) is seen in the posterior part of the left tongue predominantly involving posterior third.

CT angiography MIP images, Axial and Sagittal showing the feeding branches from left lingual artery (yellow arrow) to the lesion (red arrow)



CT angiography MIP images, coronal reformat showing the feeding branches from left lingual artery (yellow arrow) to the lesion (red arrow).



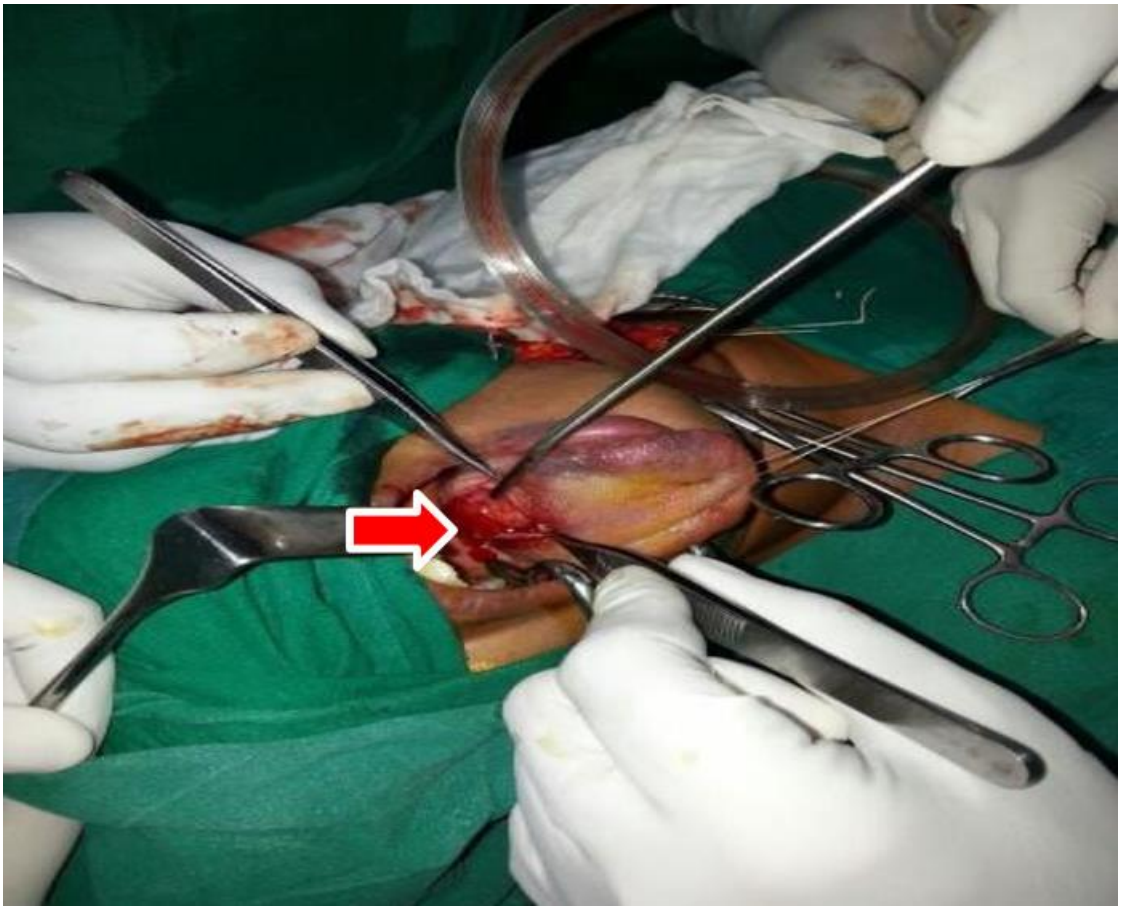


MRI axial section: the lesion is well circumscribed, T1 intermediate signal intensity and hyperintense on T2, shows T2 hypointense peripheral rim.

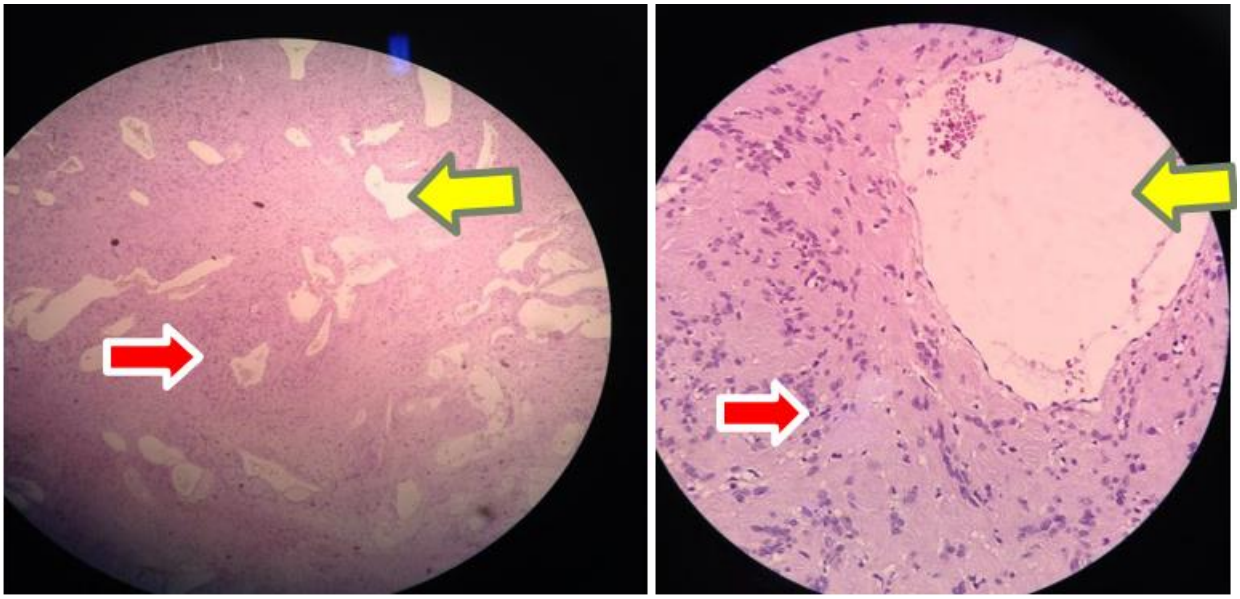
MRI coronal and sagittal T2: the lesion is well circumscribed, hyperintense on T2, shows T2 hypointense peripheral rim.

Intra Operative Findings

Patient underwent complete excision.



Histopathology



Capsulated neoplasm composed of Schwann cells in fibroblastic stroma. Antoni A, Antoni B area and verrucae bodies are seen - suggestive of **Schwannoma.**

HPE (H & E stain): Low power & High power view showing Antoni A (cell rich - red arrow) & B (cell poor - yellow arrow) areas.

3. Discussion

- Approximately 25–45% of all schwannomas occur in the head and neck. Of these, approximately 1– 12% occur intraorally. The tongue is the most common location for intraoral schwannoma, followed by the palate and the oral mucosa.
- Tongue schwannoma shows no gender predilection and may present at any age (especially in the third decade of life). Often appearing as a painless and slowly enlarging

mass of the tongue, when schwannomas reach a certain size they may cause dysphagia, voice changes, and breathing difficulties. (1 - 7)

- Diagnostic investigations include ultrasound scanning, computed tomography, MRI, and fine - needle aspiration cytology. MRI is superior to other imaging modalities for the examination of the base of the tongue.
- On MR, tongue schwannomas appear isointense to muscle on T1 - weighted images and homogenously hyperintense on T2 - weighted images. Moreover, these tumors usually appear smooth, well demarcated, and do not invade the surrounding musculature. (1 - 7).
- The definitive diagnosis is based on histopathology. The histopathologic features are classified into two patterns: densely packed spindle cells with palisading arrangement (Verruca bodies) as Antoni A type, and loose hypocellular arrangement with hyalinized blood vessels and no definite architecture as Antoni B type.
- Positive reactivity to S - 100 protein and Leu - 7 antigen supports the Schwann - cell nature of this tumor on immune - histochemistry.

To support a diagnosis of **malignant transformation** in benign schwannoma, the following features should be confirmed (2):

1) The tumor demonstrates, to some extent, benign schwannoma;
2) The tumor contains unequivocal malignant foci as manifested by the presence of increased cellularity, numerous mitoses, anaplastic cells, and invasiveness;
3) Transitional features between malignant and benign areas can be seen; and
4) The patient has no evidence of von Recklinghausen's disease.

- Lingual thyroid, epidermoid and dermoid were excluded by the identification of normally located thyroid gland and no fatty signal intensity on MR images.
- Rhabdomyomas extremely rare in the tongue and are most commonly encountered at the base of the tongue as ill - defined masses. (1 - 7)
- Because recurrence of schwannomas usually occur only with incomplete excision, treatment is aimed at total surgical removal of the tumor. (1 - 7)

Differential Diagnosis

- Hemangiomas,
- Neurofibromas,
- Granular cell tumors,
- Irritation fibromas,
- Leiomyomas,
- Rhabdomyomas,
- Pyogenic granulomas, and
- Benign salivary gland tumors.

4. Conclusion

- In evaluating a patient with a slow - growing tongue mass that has been present for a long period of time, benign soft tissue neoplasms and reactive lesions need to be considered, including Schwannoma.
- The imaging modality of choice for schwannomas of the tongue is MRI.
- They are usually benign and have excellent prognosis as compared to the usual malignant lesions which occur in the tongue base.

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