



Schwannoma over tongue base - Case report and review

Sankara Narayanan Gopalakrishnan, Nirmal kumar Jayaraman, Lourdes Albina S A

Madras Medical College Chennai India

ABSTRACT

Introduction: Schwannomas or neurilemmomas are benign, slow growing, encapsulated tumor of nerve sheath origin. They are the most common neurogenic neoplasm of parapharyngeal space. Although oral cavity constitutes an uncommon site of presentation, tongue is the commoner sub site among them. Anterior tongue tumors are usually asymptomatic, but posterior placed tumors are symptomatic when enlarged.

Case Report: We are presenting here a case report of lingual schwannoma in a middle aged male, who presented with foreign body sensation in throat followed by dysphagia. The clinical examination revealed a 3.0x2.0 cm smooth mucosa covered swelling involving the posterior third of tongue extending to left vallecula.

MRI of oropharynx and neck revealed a diffuse heterogeneously enhancing lesion from posterior one third of tongue. Same was excised through trans oral route using endoscopy by coablation. Specimen sent for Histopathological Examination and reported as Schwannoma.

Conclusion: Usually treated by enbloc surgical excision via transoral or submandibular approach. In our case we successfully treated with transoral endoscopic approach using coblator for excision.

Introduction:

Neurilemmomas or schwannomas are benign neurogenic tumors arising from Schwann cells of nerve sheath, which includes all cranial nerves (except 1st and 2nd cranial nerves), spinal nerves or autonomic nervous system. These are solitary, slow growing and encapsulated tumors¹. Although head and neck region contributes approximately 25% to 40% of all schwannoma, oral cavity constitutes a rare site with incidence of 1% only². Neurogenic deficits do not always correlate with the nerve from which the neoplasm arises, and many patients are asymptomatic³. Among the intraoral schwannomas, tongue constitutes a major site with two third cases shows anterior tongue involvement⁴. These tumors usually occurs 2nd to 4th decade of life and do not show any gender predilection. These patients are usually asymptomatic but they may cause dysphagia, throat pain or change in voice, while increased in dimensions⁵.

Case report

A 32 year old male presented to our outpatient department with complaints of foreign body sensation in the throat for the past two years. It was insidious in onset and gradually progressive in nature. For last two months he had difficulty in swallowing, which was insidious in onset, gradually progressive in nature. There was no history of snoring or difficulty in breathing. The clinical examination revealed a 3.0x2.0 cms smooth mucosa covered swelling involving the posterior third of tongue extending to left vallecula. Base of tongue was swollen and was soft on palpation. The tongue movement was minimally restricted and overlying mucosa was normal. There was no palpable cervical LN. The rest of the physical examination was within normal limits. On video laryngoscopy- A globular swelling 3.0x2.0 cm covered with normal mucosa on left side of posterior one third of tongue extending into left vallecula was revealed, rest of the structures of larynx and hypopharynx appears normal.

The patient underwent radiological investigations in the form of contrast enhanced MRI of oropharynx and neck which revealed a diffuse heterogeneously enhancing lesion from posterior one third of tongue. The lesion was hypo intense on T1W images and with hyper intense area. Heterogeneously hypo and hyper intense on T2W and STIR images. The lesion was causing compression of oropharyngeal airway, abutting the tip of epiglottis and displacing it inferiorly. Left vallecula was significantly compressed and effaced. No significant cervical lymphadenopathy was noted. The differential diagnosis considered were lingual tonsil hypertrophy, vallecular cyst, lymphoid cyst, lipoma and lymphangioma. After pre anaesthesia work up the patient underwent endoscopic co ablator assisted excision of the swelling.

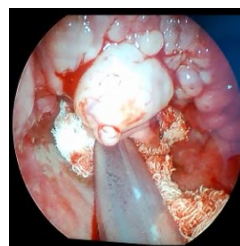


Figure 1 showing pre op picture

Under GA, patient in supine position with sand bag under shoulders, tongue pulled outside for better visualization and using 30 degree Hopkins rod telescope mass visualized. Using coablation the mass excised in toto and sent for histopathological evaluation. No significant intra-operative bleeding was encountered.



Figure 2 showing excised mass



Figure 3 showing cut section of the mass

The histopathology of the said specimen was reported as schwannoma. Microscopic picture revealing characteristic Antoni A-Densely packed elongated spindles in the form of parallelly formed thin reticulin fibres, fusiform shaped cells and curled nuclei and Antoni B-myxoid consistency., this was confirmed by immunohistochemical analysis and was positive for S-100.

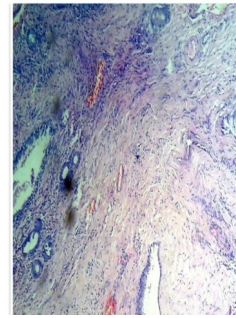


Figure 4 showing histopathology of the lesion

Patient was followed up for six months and no recurrence of tumor was noticed. Still patient is on follow up.

Discussion

Lingual schwannoma is a rare neurogenic tumor of variable size arises from nerve sheath of autonomic peripheral or central nervous system, which can present itself in any age group. Most neurogenic tumors are vagal schwannomas, less commonly arising from the sympathetic chain or one of the other local nerves¹. Even vagal nerve tumors comprise only 1% of head and neck neoplasms. It's a slow growing benign tumor which is solitary and encapsulated, being attached to or surrounded by the nerve. Paralysis of associated nerve is thus unusual. Malignant change is also very unusual and may not occur at all¹. Wright and Jackson reported 146 cases of schwannoma in oral cavity among which tongue constitutes 52%, the other site includes are gingival mucosa, buccal, lip and soft palate⁴.

Anterior two third of tongue involved commonly than posterior third. The nerve of origin is usually difficult to elicit ie whether from glossopharyngeal, hypoglossal or lingual nerve. Majority of tongue masses are asymptomatic, whereas large tumors cause sore throat, foreign body sensation, occasional breathing difficulty⁵. Histology is very typical in schwannoma with Antoni A area represented by packed schwann cells arranged in rows with palisading of nuclei, organized swirls of Antoni A tissue constituting the Verocay bodies and Antoni B area with very loosely arranged collagen with interfibrillar vacuolated nuclei. Contrast enhanced CT can be done in case of non-availability of MRI, but however MRI with contrast is the preferred investigation of choice. Trans oral excision assisted with light source or endoscope is the most common and preferred approach, with trans hyoid and sub mandibular approach can be used in large tongue base tumors if needed. CO2 laser or coblation may be used for excision intraorally.

Review of literature

-M.Panduranga Kamath et al⁶ has reported a case (published as “ Schwannoma of the base of the tongue-A rare presentation” in Egyptian journal of Ear,nose,throat and allied sciences(2014)15,61-64) with c/o foreign body sensation and frequent hawking sensation in the throat in a 50/F, Indirect laryngoscopy showed a smooth surfaced pinkish polypoidal mass attached to the tongue base, not extending to the vallecula. Excision of the lesion was done, which was reported as Schwannoma on histopathological examination.

Immunohistochemistry showed strong S100 positivity; Cytokeratin and SMA were negative in the tumour cells. Ki 67 showed low proliferative index diagnosing the benign nature. They emphasise that final diagnosis to be done after histopathological examination and in some cases after immunohistochemistry.

Aneesa.A.Mirza et al⁷ has published an article “Lingual Schwannoma-Our experience” in Otolaryngology online journal Volume 3,issue 3,2012 with c/o difficulty in mastication presented with swelling in the right lateral border of the tongue which was excised in-toto by intra oral approach. They emphasise the importance of MRI in detecting the extent of the tumour and say it correlates with intra operative findings.

- Piplani S. et al⁸ has reported a case (published as “Neurilemoma masquerading as tonsillitis: A case report” in Journal of clinical and diagnostic research 2011 Vol-5 (5):1092-1094) with right tonsil being more enlarged than the left and intra operatively a separate mass made out in right tonsillar fossa and After complete excision of the mass, histopathological examination showed schwannoma of right tonsil and was reported to stress the importance of schwannoma arising at a rare site as one of the differential diagnosis of tonsillar mass and may cause diagnostic dilemma.

- Santhosh Kumar Kuppusamy et al⁹ in his article “Intraoral neurinoma of the lingual nerve: An uncommon tumour in the floor of the mouth” in Case Reports in Dentistry Volume 2014, Article ID 385068, has reported a 31/F with c/o swelling in the floor of the mouth for two months which was gradually increasing in size, with altered sensation in the left lateral border of the tongue. Though it is difficult to predict the origin of the tumour, here the origin was made out based on the erosion of the lingual mucoperiosteum on the left side of the mandible.

Bihani A et al¹⁰ in his article "Pedunculated oropharyngeal schwannoma arising from the posterior pillar" in *Int J Med and Dent Sci* July 2015; 4(2) 879-882 has reported about a schwannoma arising from the superior part of the posterior pillar in a 52/M who presented with c/o dysphagia and change in voice. MRI with gadolinium contrast is the gold standard investigation for lesion suspicious of benign schwannoma. On T1 weighted images, they show low signal intensity and on weighted T2 images high signal intensity. On contrast administration, these tumours are homogeneously enhancing. It shows low intensity flow void giving characteristic "salt and pepper" appearance and has delayed wash out time on diffusion weighted imaging.

- Ivica Luksic et al¹¹ in his article "schwannoma of the tongue in a child" in *Journal of Cranio-Maxillofacial Surgery* ISSN 1010-5182 has reported about Schwannoma of Tongue in a 10 year-old child. Initially he had no symptoms., His mother noticed a swelling on the left lateral border of the tongue for past one month. Later, the swelling was associated with pain while swallowing. Fine needle aspiration cytology(FNAC) of the lesion was performed, which was initially diagnosed as a pleomorphic adenoma. The lesion was completely excised by intraoral approach and surgical defect was closed directly. HPE reported as Schwannoma. The schwannoma of the tongue is extremely rare, especially in children.

Flavia Baderca et al¹² in his article "Schwannoma of the lip: Case report and review of the literature" in *Romanian Journal of Morphology and Embryology* 200,49(3):391-398 has reported a 25/M, Caucasian, non-smoker who presented with swelling in the mucosal aspect of left side of lower lip.

The relative avascular nature of the tumour allows dissection within the capsule and the separation from the parental nerve. The conservative local excision made which was reported as schwannoma after histopathological examination Differential diagnosis of numerous benign and malignant tumours derived from epithelial and connective tissue should be considered. Anti S-100 protein being the main tool of diagnosis in addition with positive immunoreaction for vimentin.

-Hitesh Verma et al¹³ in his article "Schwannoma of the tonsillo-lingual sulcus: First case report and review of literature" in *Otorhinolaryngology :An International Journal*, May- August 2013;5(2)98-99. has reported about a 14/M who presented with a history of difficulty in swallowing, which was progressive, more for solids than liquids for the past eight months, change in voice, which was muffled. Examination of the oropharynx revealed a solitary, lobulated mass with smooth surface arising from the tonsillo-lingual sulcus, which was removed trans orally by means of bipolar cautery. Histopathological examination showed schwannoma.

Conclusion

Lingual Schwannoma in tongue represents a rare site of entity compared to other sites. Anterior tongue commonly involved than base of tongue. Most of the tongue base tumors are silent early and the most common symptom being a painless mass. In our case, the patient initially had foreign body sensation in the throat which was taken lightly and it progressed to dysphagia for which he approached the speciality.

After examination, mass was seen in tongue base. Usually treated by enbloc surgical excision via transoral or submandibular approach., In our case we successfully treated with transoral endoscopic approach using coblator for excision. However, the final diagnosis was based on HPE with immunohistochemical analysis. Complete surgical removal relieves patient symptoms and also prevents recurrence. Malignant transformation is rare. Schwannoma should be considered as a differential diagnosis of intra oral tumours, although rare.

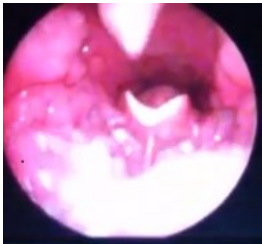


Figure 5 showing 4 weeks post op image

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