



IJCRR

Vol 06 issue 04

Section: Healthcare

Category: Case Report

Received on: 18/12/13

Revised on: 11/01/14

Accepted on: 09/02/14

SUBMANDIBULAR SCHWANNOMA ARISING FROM LINGUAL NERVE - A CASE REPORT

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ABSTRACT

Our aim was to study a case of Schwannoma which is a benign peripheral nerve tumour of Schwann cell origin. Schwannomas arising from lingual nerve are rare. We report a rare case of Submandibular Schwannoma arising from lingual nerve with extension to floor of the mouth which was successfully treated by complete intraoral excision. The definitive diagnosis relies on clinical suspicion and histopathological confirmation.

Keywords: Submandibular, Schwannoma, intraoral, lingual nerve

INTRODUCTION

Schwannoma is a benign neural tumour of ectodermal origin derived from spindle shaped Schwann cells or neural sheath¹. It is usually slow growing, solitary, well demarcated and encapsulated^{2,3}. Schwannoma is usually a solitary lesion, but can be multiple lesions when associated with neurofibromatosis⁴. Approximately 25-40% of all cases involve head and neck region and rarely extracranial region and extremely rare in the floor of mouth. Only 1% of Schwannoma are seen intraorally. Majority is painless, insidious in onset & slow growing. Only a few cases of Schwannoma arising from lingual nerve are reported. We report a rare case of Submandibular Schwannoma arising from lingual nerve extending to the floor of mouth.

CASE REPORT

A 21 year old male presented with a painless swelling in the right Submandibular region and on the right side of mouth since 5 years. It was increasing in size gradually without causing

difficulty in swallowing and speech with normal sensory and taste sensations. Personal and family history was noncontributory. There was no cervical lymphadenopathy and general condition of patient was normal. The swelling was firm, non-tender, bi-manually palpable, measuring about 5x4 cms in size. Swelling was mobile from side to side (Fig.01,02).

Per oral examination revealed a pinkish, smooth, swelling in the floor of right side of mouth opposite 1st, 2nd, & 3rd molar tooth. The swelling was firm & non tender. Other relevant examination was normal. Mandibular occlusal X-Ray ruled out sialolith in the space. USG Neck showed mixed echoic lesion with areas of necrosis noted in deep part of right submandibular region. CT Neck showed well defined hypodense minimally enhancing mass lesion in right side of mouth and right submandibular region (Fig.03,04). Haematological & biochemical parameters were normal. FNAC of right submandibular region suggested inflammatory lesion in right submandibular region.

Under general anaesthesia the swelling was excised in toto via transoral route. The swelling was seen to arise from the right lingual nerve. Meticulous dissection was carried out to preserve right lingual nerve & the swelling was dissected out completely (Fig.05,06) obviating the need of a right submandibular incision. The excised mass in toto was sent for histopathological examination. Intraoperative and postoperative period were uneventful, with good functional results. Histopathological examination of surgical specimen revealed a schwannoma, mainly composed of Antoni A pattern with Verocay bodies (Fig.07). Patient received a liquid diet and was discharged on third postoperative day.

DISCUSSION

A Schwannoma is a slow growing solitary encapsulated tumour attached to a nerve. Schwannoma may arise from any cranial or spinal nerve that has a sheath that is from any motor or sensory nerve other than the optic and the olfactory nerves which do not have the Schwann cell sheath.

Approximately 25-45% of all the reported Schwannoma occur in the head & neck & most of them are in the eighth nerve⁵. Schwannoma can affect all age groups, being most commonly found between 10 & 40 years of age without gender & race predilection. However Putney et al⁶ in their study quoted a sex difference of approximately 6:4 female male ratio. Ahad⁷ has reported a case of lingual nerve Schwannoma in the submandibular region.

Schwannoma is usually a solitary soft tissue lesion which is slow growing encapsulated & often associated with nerve attached peripherally. Intraorally, the favoured site of occurrence is tongue followed by palate, buccal mucosa, jaws, gingival, vestibular mucosa & floor of mouth⁸. The present case reports a solitary asymptomatic, slow growing, non-tender Schwannoma in right submandibular region with extension to floor of mouth.

The preoperative diagnosis of Schwannomas in the head & neck region is difficult to establish. Cytology may help in differentiating benign & malignant tumours of soft tissue but is rarely accurate in the diagnosis of neural tumours⁹ as supported in our study also. CT with contrast enhancement can be recommended to demonstrate the degree of vascularity as some of the Schwannoma are very vascular¹⁰. High resolution CT also helps to determine the size & extent of the tumours & to differentiate between benign & malignant lesions.

Complete surgical excision of the benign tumours is the recommended treatment. Local recurrence after complete excision of the schwannoma is extremely rare¹¹. Two microscopic pattern of Schwannoma are known to exist, Antoni type A and Antoni type B. Antoni type A is densely composed of elongated Schwann cells forming palisades (Verocay bodies). Type B has a myxoid, looser and disorganized arrangements. Immunohistochemical makers, S-100 & Len 7 used in most cases, confirm Schwann cell origin of these tumours & confirm diagnosis¹². The tumour is radio resistant & the risk of malignant transformation is rare.

Different authors have given divergent views regarding the approaches adopted for obtaining complete excision. We have adopted oral approach for complete excision of the tumours avoiding any nerve & great vessel injury. Vaid et al¹³ has also suggested transoral approach in his study for floor of mouth tumours. However the possibility of nerve injury should be kept in mind.

CONCLUSION

The significance of this case is unusual site of presentation in submandibular space with extension to floor of the mouth and complete removal of tumour arising from lingual nerve by oral approach. The preoperative diagnosis may be difficult. The diagnosis is often made after the surgery. The definitive diagnosis relies on clinical suspicion & histopathological confirmation.

Malignant degeneration of Schwannoma is extremely rare. The tumour is radio-resistive; hence radiotherapy has no role in the treatment. Tumour recurrence is very rare when the tumour is completely excised.

ACKNOWLEDGEMENT

Authors acknowledge the immense help received from the scholars whose articles are cited and included in references of this manuscript. The authors are also grateful to authors / editors / publishers of all those articles, journals and books from where the literature for this article has been reviewed and discussed.

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Figure 01 and 02: Preoperative pictures



Figure 1 shows swelling in the right submandibular region

Figure 2 shows swelling extending into the floor of mouth

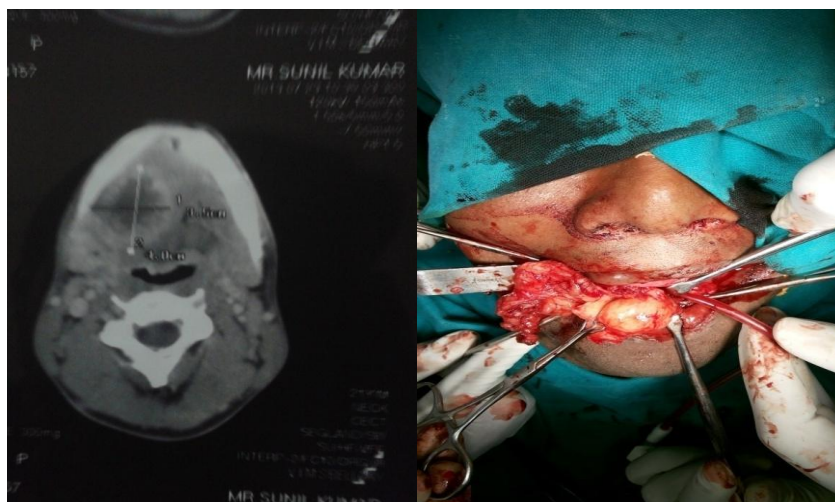


Figure 3 and 4: CT scan image showing well defined hypodense minimally enhancing lesion in the floor of mouth and complete excision of introral tumour

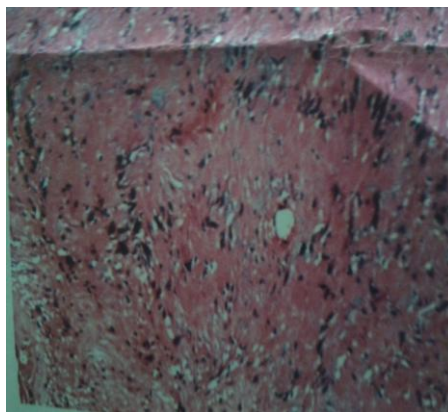


Figure 5: Histopathological examination showing Antoni A pattern with Verocay bodies