JOURNAL OF CURRENT TRENDS IN CLINICAL MEDICINE & LABORATORY BIOCHEMISTRY

CASE REPORT

Hypoglossal Schwannoma Presenting as a Submandibular Swelling

[1]Sasikumar Pattabi*, [2]A.V.S.Sai Mahesh, [3]K.S.Ravishankar, [4]Y.Satish Reddy, [5]S.Ramesh, [6]A.Vaithialingam

ABSTRACT

Schwannomas of the hypoglossal nerve usually develop in the intracranial portion or both in the intracranial and the extra cranial components forming a dumb-bell shape. Isolated Hypoglossal Schwannomas of the peripheral segment in the submandibular space are extremely rare and there has been only a very few cases published in the world literature. We present this report due to the rarity of the presentation.

KEY WORDS: Hypoglossal, Schwannoma, Submandibular

Introduction

Schwannomas[1](neuromas,neurilemmomas) are benign tumors originating from Schwann cells or nerve fiber sheath cells of peripheral, cranial or autonomic nerves. They occur regardless of age or sex, and grow slowly and painlessly. They are a solitary, encapsulated tumor usually attached to, or surrounded by a nerve. In the head and neck, Schwannomas usually arise from the sensory divisions of cranial nerves, most commonly the vestibular nerve and the vagal nerve. Hypoglossal schwannoma is very rare because hypoglossal nerve consists of only a motor component. The purely motor hypoglossal nerve emerges from the medulla oblongata between the pyramid and the olive, passes extra cranially through the hypoglossal canal, and describes a wide ventral curve between the internal jugular vein and the internal carotid artery to the floor of the mouth. Schwannomas of the hypoglossal nerve usually develop in the intracranial portion or both in the intracranial and the extra cranial components forming a dumb-bell shape[2]. Hypoglossal schwannomas of the peripheral segment are extremely rare [3-4]. We present herein a case of hypoglossal nerve schwannoma originating in the submandibular space.

[1,3]Professor, [2]Assistant Professor,
[4,5]Postgraduate student, Department of General Surgery,
Sree Balaji Medical College and Hospital, Chrompet, Chennai
[6]Profesor of Orthopedics, Sri Lakshmi Narayana Institute of Medical Science, Pudcherry,

***Corresponding Author**
Dr.Sasikumar Pattabi,
Professor, Department of General Surgery,
Sree Balaji Medical College and Hospital,
Chrompet, Chennai-600044
Telephone number: 9282113188/9940515396
E-mail id: psk_66in@yahoo.com

Case Report

A 40 yr old female with the complaints of swelling in the left submandibular region – 6 months. It was insidious in onset, gradually increasing in size with mild dull aching pain. There was no increase in size with food intake along with associated pain and no discharge

of purulent saliva from the floor of the mouth. No other significant history pertaining to her complaints was present. Her past and personal history was not significant. On examination, there was a swelling in the left submandibular region, which was 4 X 3cm in size, globular, smooth surface, all the margins are palpable and rounded, firm in consistency, free from skin and underlying structures and the swelling was bidigitally palpable. There were no other swellings palpable in the neck. On investigating the patient X ray floor of the mouth was found to be normal. FNAC of the swelling revealed left submandibular sialadenitis. USG neck showed a cystic lesion seen arising from left submandibular gland, no nodes were visualized. So with the above findings we proceeded with surgery to excise the left submandibular gland. Per op finding showed a well encapsulated swelling seen adherent to the left hypoglossal nerve separate from the left submandibular gland. Lt submandibular excision biopsy with excision of the cystic lesion was done without sacrificing the hypoglossal nerve. HPE report: cystic schwannoma consisting mostly of Antoni A type with focal Antoni B type tissues and nuclei arranged in palisading pattern [5] with verocay body formation arising from left hypoglossal nerve. The post op period was uneventful except for transient nerve weakness as evidenced by minimal tongue deviation. The patient is on regular follow up.

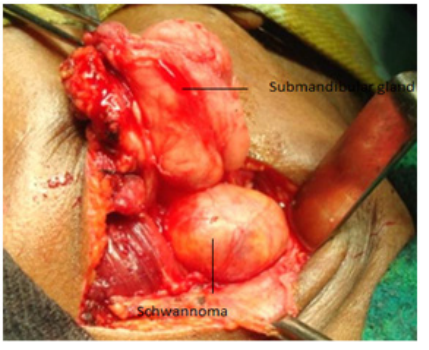

Fig.No.1: Peroprative Picture

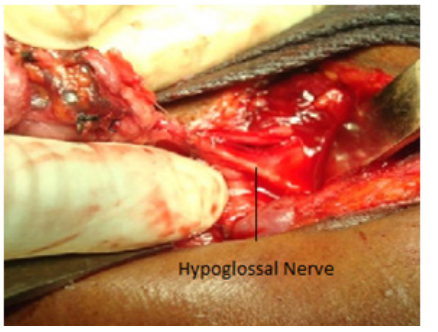

Fig.No.2: Perop Picture

Discussion

Schwannomas are benign tumors originating from Schwann cells or nerve fiber sheath cells of peripheral, cranial or autonomic nerves. Microscopically, two types of tissue co-exist, distributed randomly in schwannoma. Schwannoma contains both Antoni A type tissue with interwoven bundles of long, bipolar, spindle cells, and Antoni B type tissue with its loose texture. Nuclei are arranged in palisading pattern, verocay body formation and shows dilated blood vessels. Macroscopically, they appear as single, well-circumscribed, encapsulated masses. Schwannomas are isointense to muscle on T1-weighted images and show more hyperintense than muscle on T2-weighed images, and show intense contrast enhancement. The high T2 signal represents myxomatous degenerative of the schwannoma, as seen in the peripheral component of this tumor, whereas the central low T2 signal correspond in hypovascular fibrous and collagenous portion [6]. Total excision of the tumor via an external approach is the treatment of choice.

Conclusion

Hypoglossal schwannomas are rare benign tumors. Excision of the tumor is the treatment of choice. We present this case due the rarity of isolated extra cranial presentation of hypoglossal schwannoma.

References

1. Diaz DD, Kennedy KS, Parker GS, White VJ. 1991. Schwannoma of the submandibular gland. Head Neck. ;13:239-42.
2. Drevelengas A, Kalaitzoglou I, Lazaridis N. 1998. Sublingual hypoglossal neurilemmoma. Case report. Aust Dent J.;43:311-4.
3. Chang KC, Leu YS. 2002.Hypoglossal schwannoma in the submandibular space. J Laryngol Otol. 116:63-4.
4. Sutay S, Tekinsoy B, Ceryan K, Aksu Y. 1993. Submaxillary hypoglossal neurilemmoma. J Laryngol Otol.;107:953-4.
5. Kawakami R, Kaneko T, Kadoya M, Matsushita T, Fujinaga Y, Oguchi K, Kurashina K. 2004. Schwannoma in the sublingual space. Dentomaxillofac Radiol.;33:259-61.
6. De Foer B, Hermans R, Sciot R, Fossion E, Baert AL. 1995. Hypoglossal schwannoma. Ann Otol Rhinol Laryngol.;104:490-2.