

Rare presentation of Parapharyngeal schwannoma - "Dysphagia and obstructive sleep apnoea" and a novel approach.

Ekanayake L.S.B.

ENT Department, Base Hospital Trincomalee, Sri Lanka

Abstract

Although it is rare parapharyngeal schwannomas can present with Obstructive sleep apnoea and dysphagia, and in selected cases it can be removed endoscopically, with least morbidity.

Key words

parapharyngeal schwannoma, endoscopy, access

Introduction

The tumors of the parapharyngeal region account for only 0.5% of all the head and neck tumors. Interestingly schwannomas are much common in this region though its presentation in this form is rare. Here a case of schwannoma of parapharyngeal space in a male in late forties reported with an emphasis on surgical management

Background

Obstructive sleep apnea syndrome (OSAS) is always caused by anatomic abnormalities, including nasal cavity, pharynx, and neuromuscular dysfunctions, leading to airway narrowing. OSAS associated with a mass in the aero digestive tract is rare. MEDLINE reviews up to 2005 had found only 30 articles about OSAS caused by head-and-neck tumors (2).

Schwannoma in the head and neck causing OSAS is extremely rare; only three cases have been reported up to 2008[3]. The unique treatment modality selected here to address the problem via endoscopy assisted trans oral route despite its large size, minimizing the complications specific to surgical removal of tumors in PPS), made it special.

Parapharyngeal Space tumors are very rare and account for only 0.5% of all head and neck tumors [1]. Approximately 50% of the tumors have a salivary origin, 20% are neurogenic and the remaining 30% are represented by tumors such as benign and malignant lymph reticular lesions, metastatic lesions and carotid body tumors. Schwannoma (neurilemmoma) is the most common neural tumor next to salivary gland tumor found in the PPS. Vagus nerve is reported to be the origin for 50% of parapharyngeal schwannomas and cervical sympathetic chain is the next common source.

Case Report

1. A male part time driver in late forties presented with progressive swelling in the throat and difficulty in swallowing for 4 months. He also complained of shortness of breath, hypo nasal voice for a period of 4 years. Clinical examination revealed a firm solitary mass bulging into the lumen of the pharynx crossing mid line from the left side (Fig. 1).

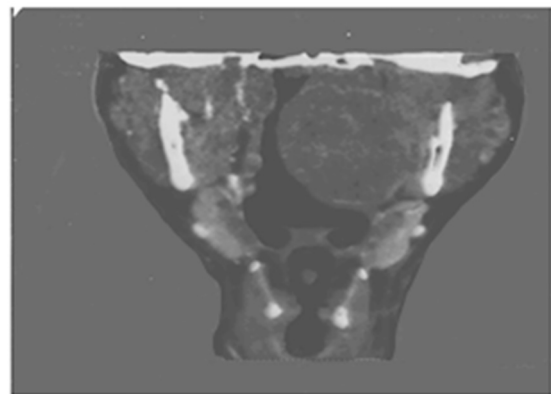


Figure 1 – CT coronal section of the lesion

Overlying mucosa was normal. A swelling was visible from postnasal space to epiglottis. The CT scan showed a mass of 6 cm × 7.5 cm in the parapharyngeal space extending from the skull base to greater horn of hyoid bone. The non-enhancing mass did not involve any vital structures.

Preoperative diagnosis of obstructive sleep apnea was made, and upper gastro-intestinal screening for dysphagia was performed. A Biopsy was not performed at this time.

The parapharyngeal space was entered via a mucosal incision along the anterior pillar to gain access to parapharyngeal space. The incision was extended as a hemi palate splitting incision up to mid line. Preemptive external carotid artery ligation of the left side was performed in this case. While keeping the patient in the 'tonsillectomy position' a 30-degree Hopkins rod telescope was used and the tumor was dissected from skull base to hyoid under direct vision. After safe and complete removal of the tumor (figure.2) a vacuum drain was inserted via left nostril in to operative field and closed with absorbable sutures in a single layer.

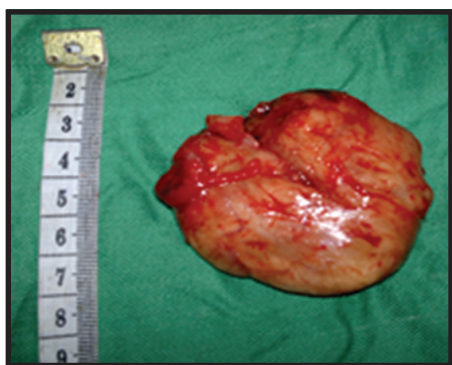


Figure 2 – Dissected specimen

The drain was removed following day; the patient was encourage eating the same day and discharged in three days. Histology confirmed the diagnosis of Schwannoma and remains disease free after two years.

Discussion

Neurilemmomas have two main regions: Antoni A and Antoni B. Antoni A regions consist of fascicles of spindle-shaped Schwann cells arranged around an eosinophilic area surrounded by a palisade of spindle cells. The cells of the verocay bodies are oval or linear in shape. Antoni B regions consist of fewer Schwann cells spread in loose, myxomatous stroma that lack the organoid Verocay bodies (4). In this case, inspection revealed that both Antoni A and Antoni B tissue was present, as well as numerous blood vessels and hyalinized vessels.

Traditional PPS surgery mainly uses the transcervical and transparotid approaches. Malone et al. and Hamza et al. (5, 6) describe the resection of PPS tumors using the transcervical approach alone in 90-100% of cases. Hughes et al. (7) published a series of 172 cases using the trans cervical and trans parotid approaches in 94%, using mandibular osteotomy in only 2% of resections. Works published by McElrothetal. (8) In 1963 describe the use of trans oral approach along with ligation of the external carotid artery to remove PPS tumors in a study on 112 patients.

Conclusion

The success of PPS surgery depends on five conditions:

- Correct identification
- Exposition of the lesion
- Complete removal
- Minimum functional morbidity
- Minimum aesthetic morbidity as a consequence of the surgery.

Endoscopy assisted transoral approach with external carotid artery ligation is a safe and effective way to PPS tumour removal in selected cases, in addition to other more popular methods of PPS tumor removal

References

- i. Batsakis JG, Sneige N. Parapharyngeal and retropharyngeal space diseases. *Ann OtolRhinolLaryngol.* 1986;21:173.
- ii. Rada R. Obstructive sleep apnea and head and neck neoplasms. *Otolaryngol Head Neck Surg.* 2005;132:794–799. [[PubMed](#)]
- iii. Ruan LX, Zhou SH, Wang SQ. Palatine tonsil schwannoma: correlation between clinicopathology and computed tomography features. *J Int Med Res.* 2008; 36:1140–1147. [[PubMed](#)]
- iv. Zachariades N, Mezitis M, Vairaktaris E, Triantafyllou D, Skoura-Kafoussia C, Konsolaki-Agouridaki E, et al. Benign neurogenic tumors of the oral cavity. *Int J Oral Maxillofac Surg.* 1987; 16:70–6. [[PubMed](#)]
- v. Malone JP, Agrawal A, Schuller DE. Safety and efficacy of transcervical resection of parapharyngeal space neoplasms. *Ann OtolRhinolLaryngol.* 2001 Dec; 110(12):1093-8.
- vi. Hamza A, Fagan JJ, Weissman JL, Myers EN. Neurilemmomas of the parapharyngeal space. *Arch Otolaryngol Head Neck Surg.* 1997 Jun;123(6):622-6.
- vii. Hughes KV 3rd, Olsen KD, McCaffrey TV. Parapharyngeal space neoplasms. *Head Neck.* 1995 Mar-Apr;17(2):124-30.
- viii. McElroth DC, Remine WH, Devine KD. Tumours of the parapharyngeal region. *Surgery Gynecology and Obstetrics*1963; 116: 88-6.

Corresponding Author:

Dr. L.S.B. Ekanayake
21/12E Riverdale Chalets,
Riverdale Rd,
Anniwatte, Kandy,
Sri Lanka.
Tel +94777663891
Email : sapumal-ekanayake@yahoo.com