International Journal of Science and Healthcare Research
[Indexed, Peer-Reviewed Journal]
Vol. 10; Issue: 1; January-March 2025
Website: ijshr.com
Case Report *ISSN: 2455-7587*

Mammoth Parapharyngeal Space Tumor - A Case Report

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DOI: https://doi.org/10.52403/ijshr.20250106

ABSTRACT

Parapharyngeal space (PPS) tumors are uncommon and represent 0.5% of all head and neck tumors. About 50% of PPS tumors have a salivary cause, 20% have a neurogenic, and the last 30% display as benign and malignant lymphoreticular lesions, metastatic lesions and carotid body tumors. We present a 23-year man, with large PPS tumor, which emphasis on the preoperative workup with imaging and cytology/biopsy as paramount for the diagnosis and planning of the surgery of PPS tumor.

Key words: Parapharyngeal space (PPS) tumors, neural tumor, schwannomas, S-100

INTRODUCTION

Parapharyngeal space (PPS) tumors are uncommon and represent 0.5% of all head and neck tumors. [1] About 50% of PPS tumors have a salivary cause, 20% have a neurogenic, and the last 30% display as benign and malignant lymphoreticular lesions, metastatic lesions and carotid body tumors. [1,2] Among the neurogenic tumors, schwannomas are the most common, with the majority originating from the vagus nerve in the post-styloid compartment and the cervical sympathetic chain is the next common source. [1-3]

CASE DETAILS

A 23-year man, vendor by occupation presented to Otorhinolaryngology department with history of hoarseness of voice and dry cough, since one year of duration. Intraoral examination revealed a congested mass extending laterally from left tonsillar fossa pushing tonsil and uvula (Fig 1a). Magnetic resonance imaging (MRI) showed well defined heterogenous lesion measuring 7.2x5.5x3.4cm in the left PPS occupying the post-styloid compartment and differential diagnosis of paraganglioma and nerve sheath tumor probably of vagus nerve origin was reported (Fig 1b). Ultrasound guided fine needle aspiration cytology was suggestive of benign spindle cell tumor (Fig 1c).

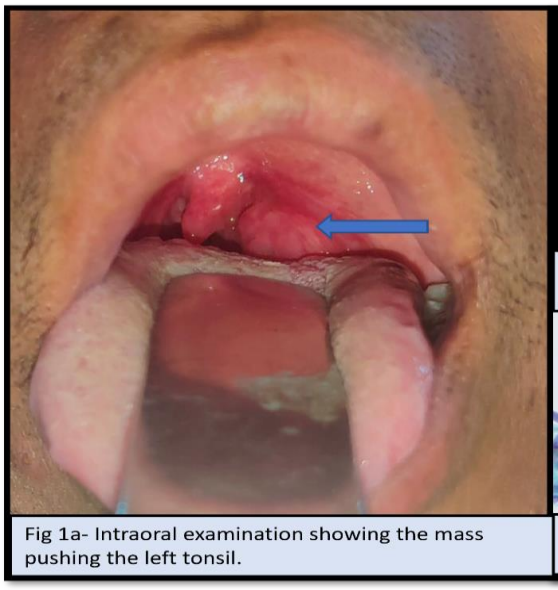

Fig 1a- Intraoral examination showing the mass pushing the left tonsil.

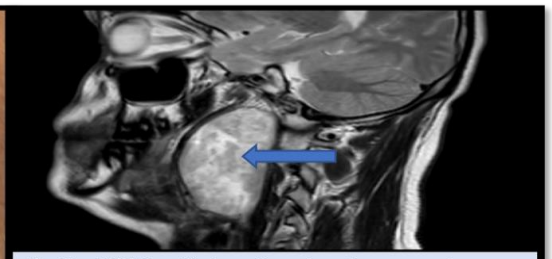

Fig 1b- MRI-Sagittal section showing an oval mass in PPS either paraganglioma or vagal schwannoma.

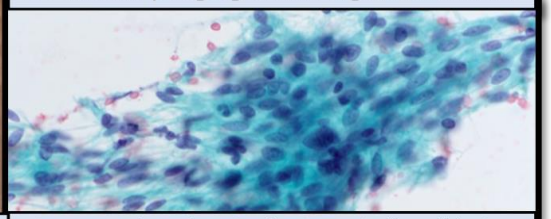

Fig 1c- Cytology showing benign spindle cell lesion (Pap 40x).

The patient underwent surgical excision of the lesion via the transoral and transcervical approach and doing well till date. The tumor excised was sent for histopathological examination. The tumor received in Pathology department was encapsulated measuring 7x5x3cms, cut surface showed homogenous solid grey-white with gelatinous appearance(Fig 2a & b).

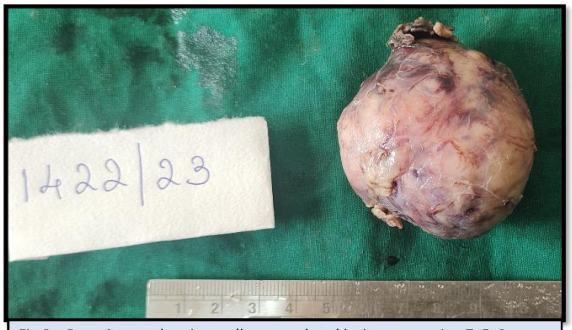

Fig 2a-Gross image showing well encapsulated lesion measuring 7x5x3cm.

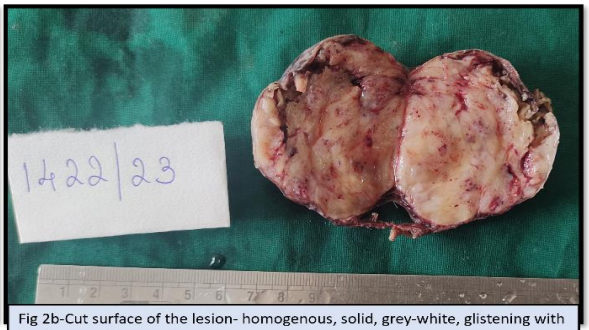

Fig 2b-Cut surface of the lesion- homogenous, solid, grey-white, glistening with focal areas of hemorrhage.

Microscopy revealed characteristic features of schwannoma composed of encapsulated lesion with benign spindle cells arranged in Antoni A, B areas and Verocay bodies (Fig 3a, b, c, d).

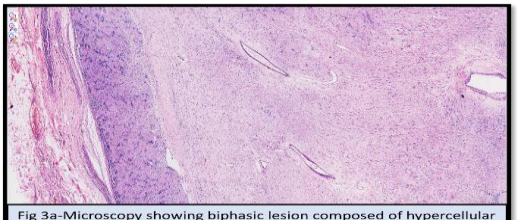

Fig 3a-Microscopy showing biphasic lesion composed of hypercellular Antoni A and hypocellular Antoni B areas (H&E 10X).

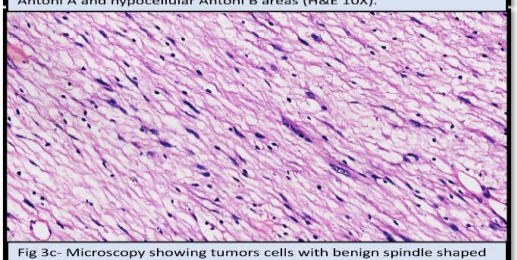

Fig 3c- Microscopy showing tumors cells with benign spindle shaped cells having wavy nuclei(H&E 40X).

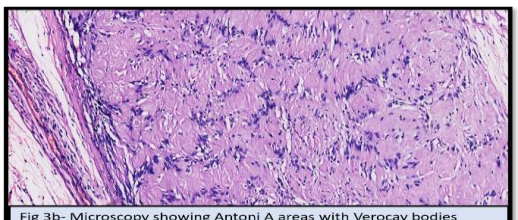

Fig 3b- Microscopy showing Antoni A areas with Verocay bodies (H&E 40X).

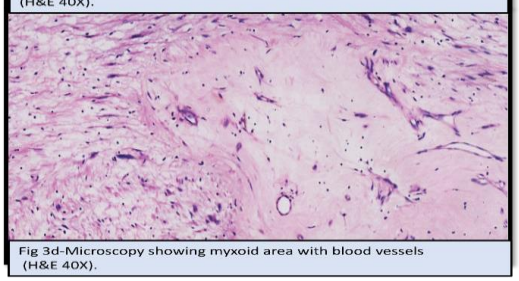

Fig 3d-Microscopy showing myxoid area with blood vessels (H&E 40X).

Immunohistochemistry (IHC)showed strong and diffuse cytoplasmic and nuclear positivity for S-100 (Fig 4a &b).

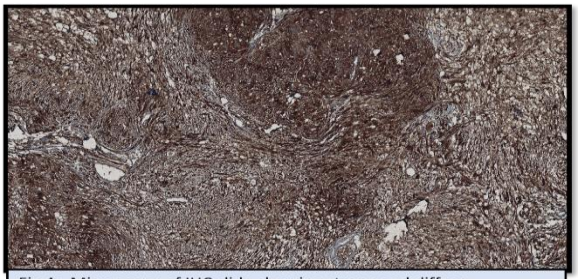

Fig 4a-Microscopy of IHC slide showing strong and diffuse cytoplasmic and nuclear immunoreactivity for S-100 (IHC 10X).

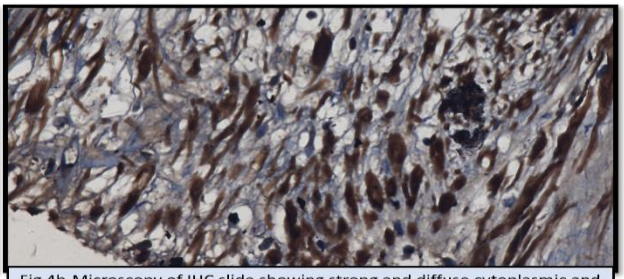

Fig 4b-Microscopy of IHC slide showing strong and diffuse cytoplasmic and nuclear immunoreactivity for S-100 (IHC 40X).

DISCUSSION

PPS is potential site reported to house a spectrum of tumor most of them are benign. Parapharyngeal schwannoma was first reported in 1933 by Figi. [4,5] Schwannomas originating from vagus nerve is rare in neck, usually asymptomatic or manifest with non-specific symptoms. Vagal schwannomas are seen in 3rd and 5th decade of life with no sex or race predilection. [1-3] Our case presented at much younger age. Literature search showed PPS vagal schwannomas, the largest tumor reported till date was 6.2cms, our index case measured 7cms being the mammoth of all reported cases. [1] Diagnosis is made on cytology, imaging and confirmed by histopathological examination. Treatment of parapharyngeal tumors is not a straight forward mission due to its complex anatomy, important structures around and precarious approachability. Surgical excision is best method of treatment with rare chance of recurrence. Relapse and malignant transformation of tumor is very rare. Prognosis is excellent as schwannomas are usually encapsulated. [1-5].

CONCLUSION

Our case is the mammoth parapharyngeal space schwannoma of vagus nerve to be reported and emphasizes on the preoperative workup with imaging and cytology as paramount for the diagnosis and planning the surgery.

Declaration by Authors

Acknowledgement: None

Source of Funding: None

Conflict of Interest: The authors declare no conflict of interest.

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How to cite this article: K Geetha Mala, Anshu Kumar, Rashmi K Patil, Rekha M Haravi. Mammoth parapharyngeal space tumor - a case report. *International Journal of Science & Healthcare Research.* 2025; 10(1): 54-56. DOI: *https://doi.org/10.52403/ijshr.20250106*

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