

Schwannoma of Nasal Septum: Case Report with Review

Goyal S*

Department of Medicine, India

***Corresponding author:**

Snigdha Goyal,
Department of Medicine, India

Received: 12 Aug 2024

Accepted: 19 Sep 2024

Published: 26 Sep 2024

J Short Name: COO

Copyright:

©2024 Goyal S, This is an open access article distributed under the terms of the Creative Commons Attribution License, which permits unrestricted use, distribution, and build upon your work non-commercially.

Citation:

Goyal S, Schwannoma of Nasal Septum: Case Report with Review. Clin Onco. 2024; 8(1): 1-3

Keywords:

Schwannoma; Nasal septum; Endoscopic excision; Sinonasal schwannoma

1. Abstract

Schwannoma is an uncommon benign neurogenic tumour arising from the Schwann cells of peripheral nerves. Sinonasal schwannomas constitute 4% of head and neck nerve sheath tumours; however, schwannomas involving the nasal septum are quite rare. So far, about 38 cases of septal schwannoma have been reported in the English literature. This report discusses certain peculiar features exhibited by schwannomas of the nasal septum. They tend to involve the posterior part of the septum and are presumed to arise from the nasopalatine branch of the trigeminal nerve. Radiological findings of the sinonasal schwannoma are non-specific, the histopathological findings are diagnostic. Endoscopic excision is the safe and effective treatment option for septal schwannoma of any size and location. Recurrence has not been reported in the literature following endoscopic excision.

2. Introduction

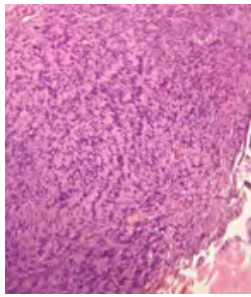
Schwannomas are benign tumours that arise from the Schwann cells of peripheral nerves [1]. 25% are seen in the head and neck region; of these, only 4% arise from the nose and paranasal sinuses [2,3]. They develop from maxillary or ophthalmic branches of the trigeminal nerve or from the autonomic nervous system [4]. Schwannomas consist of spindle cells with two histologically distinct patterns that can be mixed: Antoni type A and Antoni type B. A neural crest marker antigen, S-100 protein, is useful to verify / disease. Two groups of authors have reviewed the cases of nasal septal schwannoma reported in English language literature. First, Berlucchi et al. reviewed the literature in 2000 and published a total of 12 cases including own case [5]. Subsequently, Min et al.

reviewed literature from the year 2000 to 2017 and reported 19 cases [6]. A finding of a schwannoma in the nasal septum is exceedingly rare, as only about 34 such cases have been reported in English literature [7,8]. The tumour size can be considerable, causing nasal obstruction, pain or focal numbness [9]. Due to the lack of radiological characteristic features, the diagnosis of such tumours is only histopathological [4]. We report the 39th case of septal schwannoma of the nose, together with a review of the literature focusing on the clinical presentation, differential diagnosis, histology and treatment of this unusual finding.

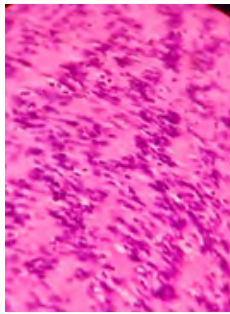
3. Case Report

A 40-year female was referred to our outpatient department with a progressive left nasal obstruction for the last 12 months. He had no history of epistaxis, anosmia, facial pain or allergies. Family history was otherwise unremarkable. A rigid endoscopy revealed a smooth, firm, white-yellow, polypoid mass occupying the left nasal cavity and extending through the left choana into the nasopharynx, with a pedicle in the posterior septum region. The rest of the physical examination was normal. She was diagnosed clinically as a case of nasal polyp.

The patient was poor and could not afford CT of the paranasal sinuses. The patient was submitted to endoscopic endonasal surgery for diagnostic and therapeutic purposes. The tumour was removed with margins from the posterior septum periosteum. The procedure was uneventful. Histopathological examination [Figure 1] confirmed the diagnosis of schwannoma. The patient was disease-free in postoperative follow-up after six months.



Ciliated stratified epithelium with underlying tumour composed of organized stroma with spindle-shaped cells



Spindle cells with parallel rows of palisading nuclei surrounding an acellular central material, known as Verrocay bodies

Figure 1

4. Discussion

Schwannomas arise from the Schwann cell of the neural sheath and are benign in nature [10]. About 70 cases of schwannoma of the nose and paranasal sinus are reported in literature. It has no preference for age and sex. The age distribution ranges from three-month-old babies to 80s. There is no racial fondness [8,11,12]

The most commonly involved site is the ethmoid sinus, followed by the maxillary sinus, the nasal cavity, and the sphenoid sinus [4]. Those arising from the nasal septum are uncommon. In 1943, Bogdasarian and Stout reported the first case of septal schwannoma [13] and about 38 cases have been reported in the literature so far [our is the 39th case] Schwannomas of the sinonasal tract may develop from branches of the trigeminal nerve [ophthalmic or maxillary], parasympathetic nerve [originating from the sphenopalatine ganglion] and sympathetic nerve [which originates from the carotid nerve plexus] [1]. Common clinical features are nasal obstruction, anosmia, epistaxis, and deformity of the nasal pyramid [11]. Intracranial and orbital extension of the disease can lead to orbital and cranial symptoms [10]. Schwannomas arising from the nasal septum are more symptomatic than schwannomas of the paranasal sinuses due to the confined area of the nasal cavity [14]. Always think of nasal septal schwannoma in the differential diagnosis of patients presenting with unilateral nasal polypoidal mass with obstruction, especially the posterior third of the nasal septum [as in our case] [15]. Apart from the appearance of the tumour, the site of the nasal septum involved can be suggestive of schwannoma. The commonest site is the posterior third of the sep-

tum with almost 60%, followed by the middle and anterior parts [12]. The patient we are presenting had a tumour originating from the posterior part of the nasal septum. The differential diagnosis includes a variety of lesions ranging from polyps and angiomas to malignant tumours such as olfactory neuroblastomas and melanomas [2]. Even CT scan findings can provide information regarding the tumour's origin and extent but are not helpful in diagnosis [4]. MRI is also not confirmatory as it only differentiates mass from inflammatory disorders and describes the intracranial extension [8]. The histopathology is diagnostic as radiological investigations are not confirmatory [16]. Histopathologically, schwannomas consist of spindle cells with a biphasic histologic pattern that is characterized by organized hypercellular areas that often display nuclear palisading [Antoni A area] and hypocellular areas without a distinct pattern [Antoni B area] [17]. Due to the presence of the S-100 protein in central and peripheral nerve cells, its staining may help with the diagnosis [1,18].

Endoscopy is the gold standard treatment for nasal septal schwannomas [8]. The advantages are minimum morbidity with short hospital stays [11]. For surgically unfit patients, radiotherapy is the treatment of choice [2]. Postoperative recurrence is uncommon [6,19]. The malignant transformation is rare and no case has been reported in the literature. Still, long-term follow-up is essential to determine this tumour's behaviour and natural history [20].

References

1. Eun Hee Park, Seung-Sin Lee, Sung Wan Byun. A schwannoma in the nasal septum. *Eur Arch Otorhinolaryngol.* 2008; 265:983–985.
2. Shruti Dhingra, MS, DNB; Jaimanti Bakshi, MS, DNB; Satyawati Mohindra, MS, DNB. Schwannoma of the nasal septum: An unusual finding. *ENT-Ear, Nose & Throat Journal* March 2014 Volume 93, Number 3.
3. Gulia JS, Yadav SS, Basur SK, Hooda A. Schwannoma of the membranous nasal septum. *Braz J Otorhinolaryngol.* 2013; 79:789.
4. Manish Gupta, Naiya Rao, Chandpreet Kour, Ivreet Kaur. Septal Schwannoma of the Nose: A Rare Case. *Turk Arch Otorhinolaryngol.* 2017; 55: 41-3.
5. Schwannoma of the nasal septum: a case report with review of the literature. *Berlucchi M, Piazza C, Blanzuoli L, Battaglia G, Nicolai P. Eur Arch Otorhinolaryngol.* 2000; 257: 402–405.
6. Nasal septal schwannoma: advances in diagnosis and treatment. *Min HJ, Hong SC, Kim KS. J Craniofac Surg.* 2017; 28: 0.
7. Devaraja K, Nayak DR, Ramaswamy B, Rao P. Nasal septal schwannoma: A rare sinonasal tumour with certain peculiarities. *BMJ Case Reports.* 2018.
8. Alrasheed W, Almomen A, Al Khatib A, A Rare Case of Nasal Septal Schwannoma: Case Report and Literature Review, *International Journal of Surgery Case Reports.* 2019.
9. Yong-Ha Kim, MD, PhD, Jin Ho Lee, MD, PhD, Youngsoo Park, MD, PhD, and Kyu Jin Chung, MD, PhD. Schwannoma of the Mem-

- branous Nasal Septum: a Clinical Report With Aesthetic Approach. *The Journal of Craniofacial Surgery*. 2018.
10. Nurdogan Ata, MD, Ersen Koc , MD,y Yusuf Can, MD, and Hilal Balta, M. Schwannoma Originating From the Nasal Septum. *The Journal of Craniofacial Surgery*. 2016; 27(2).
 11. Pauna HF, Carvalho GM, Guimaraes AC, Maunsell RC, Sakano, E. Schwannoma of the nasal septum: evaluation of unilateral nasal mass. *Braz J Otorhinolaryngol*. 2013; 79: 403.
 12. Min HJ, Hong SC, Kim KS. Nasal septal schwannoma: advances in diagnosis and treatment. *J Craniofac Surg*. 2017; 28:0.
 13. Bogdasarian RM, Stout AP (1943) Neurilemmoma of the nasal septum. *Arch Otolaryngol*.1943; 38: 62–64.
 14. Hitesh Verma, Anup Singh, Kapil Sikka, David Victor Kumar Iru-gu. Nasal septal schwannoma – Report of a rare case with review of literature. *Journal of Oral and Maxillofacial Surgery, Medicine, and Pathology*. 2021; 33(3): 292-296.
 15. Rathakrishnan Venkatasamy, 1 Avatar Singh Mohan Singh,2 Kanivannen Arasu,3 Salina Husain,4 and Chew Mianxin⁵ Nasal Septal Ancient Schwannoma: Ancient and Rare. *Cureus*. 2023; 15(8): e44294.
 16. Amine En-nouali, Abdelfattah Aljalil, Oussama Al Maghraoui, Amine Azami, Haddou Ammar and Youssef Darouassi. SCHWAN-NOMA OF THE NASAL SEPTUM: A RARE CASE. *Int. J. Adv. Res*. 2019; 7(12): 257-260.
 17. Hyun Jin Min, MD, PhD and Kyung Soo Kim, MD, PhD. Differential Diagnosis Between Nasal Septal Schwannoma and Nasal Septal Neurofibroma. *The Journal of Craniofacial Surgery*. 2017.
 18. Kragh LV, Soule EH, Masson JK. Benign and malignant neurilemmomas of the head and neck. *Surg Gynecol Obstet*. 1960; 111:211–218.
 19. Batra PS, Luong A, Kanowitz SJ, et al: Outcomes of minimally invasive endoscopic resection of anterior skull base neoplasms. *Laryngoscope*. 2010; 120: 9–16.
 20. K Devaraja, Dipak Ranjan Nayak, Balakrishnan Ramaswamy, Pre-rit Rao. Nasal septal schwannoma: a rare sinonasal tumour with certain peculiarities. *BMJ Case Rep*. 2018.