Case Report

DOI: 10.7860/JCDR/2017/21532.9851

Pathology Section

Sinonasal Schwannoma – A Case Report

MANJUSHA SHRIPAD DHAWLE[1], SANTOSH GOVIND RATHOD[2], MILIND A BHATKULE[3], RAJAN S BINDU[4]

ABSTRACT

Schwannomas are benign peripheral nerve sheath tumours that may occur throughout the body. They rarely occur in the nasal cavity. Paranasal schawannomas are uncommon lesions, representing less than 4% of all head and neck schawannomas. Here we report a case of sinonasal schwannoma in a 35-year-old man who presented with a history of nasal blockage since two years. The mass was removed successfully without any postoperative complication and there was no recurrence within a year of follow up.

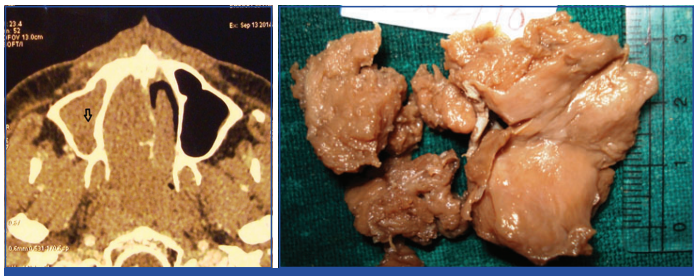
Keywords: Nasal blockage, Nerve sheath, Paranasal

CASE REPORT

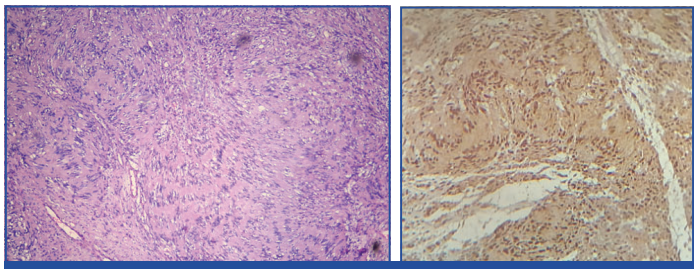
A 35-year-old man presented with a history of nasal blockage more on the right side since two years. Other symptoms included rhinorrhoea, headache, recurrent epistaxis, mouth breathing and disturbed sleep since six months.

Local examination revealed right and left nostril showing pale polypoid mass, insensitive to touch and it did not bleed on touching. Probe could be passed all around it. CT revealed mildly enhancing soft tissue density lesion arising from right maxillary sinus and extending into right nasal cavity causing its widening with extension anteriorly upto right anterior nares and into ethmoidal air cells and posteriorly into choana resulting into slit like nasopharynx, thereby causing deviation of nasal septum to left side with frontal, sphenoidal and ethemoidal sinusitis. No bone destruction or intracranial extension was seen [Table/Fig-1]. Excision of nasal mass was done by Weber ferguson approach. After osteotomy, a grayish white mass was seen in the maxillary antrum extending into the nasal cavity. Bone destruction was not seen. The mass was removed completely and sent for histopathological examination. Gross examination showed tissue fragments collectively of size 5x4 cm, gelatinous with circumscribed margins [Table/Fig-2].

Microscopic examination showed cellular areas comprised of spindle shaped cells arranged in short bundles and forming interlacing fascicles with nuclear palisading in verocay bodies. These were Antony A areas. While in some areas the spindle cells were seen irregularly arranged in loose myxoid matrix, these hypocellular areas were Antony B areas [Table/Fig-3]. There were no mitotic figures or areas of necrosis. It showed positivity for S-100 protein thus confirming the diagnosis [Table/Fig-4]. The above findings were consistent with a diagnosis of sinonasal schwanoma. After surgery there were no postoperative complications, patient was relieved of his symptoms and in one year follow up there was no recurrence.



[Table/Fig-1]: CT revealed mildly enhancing soft tissue density lesion arising from right maxillary sinus and extending into right nasal cavity (black arrow). **[Table/Fig-2]:** Gross examination showed tissue fragments of size 5x4 cm collectively, gelatinous with circumscribed margins.



[Table/Fig-3]: Microscopic examination showed spindle shaped cells arranged in short bundles and forming interlacing fascicles with nuclear palisading. Antony A and Antony B areas with verocay bodies (H and E; 10X). **[Table/Fig-4]:** Positivity for S-100 thus confirming the diagnosis (10X).

DISCUSSION

Schwannoma also called neurilemmoma is a slow growing benign neoplasm arising from schwann cells in the peripheral nerve sheath. Approximately 45% of schwannomas arise from head and neck region [1]. Less common sites for schwannomas are scalp, face, oral cavity, and respiratory track. Sinonasal schwannomas are very rare, and represent less than 4% of the schwannomas of head and neck region [2-4]. The ethmoidal sinus is most commonly involved followed by maxillary sinus, nasal fossa and sphenoidal sinus [4,5]. The involvement of nasal cavity and paranasal sinuses is rare with very few cases reported [6,7]. The most common age group involved is between 0-78 years with no sex or racial predilection [4]. Patient may complain of nasal obstruction, epistaxis, rhinorrhoea, anosmia, facial swelling or pain [8]. Macroscopically schwannomas appear as gelatinous or cystic well encapsulated masses. Microscopically schwannomas are classified into three major histological types [9]. Hypercellular or Antony A areas comprised of spindle shaped cells arranged in interlacing fascicles and hypocellular or Antony B areas where the cells are present in a loose myxoid stroma. Parallel rows of palisading nuclei (verocay body) can be seen in highly differentiated tissue. The differential diagnosis includes inflammatory polyps, angiofibroma, inverted papilloma, meningiomas, neurofibroma, melanoma and neuroblastoma [9,10]. Histopathology remains gold standard for the diagnosis. Schwannomas usually show intense immunostaining for S-100 which helps to distinguish peripheral nerve sheath tumour from others. The treatment is complete surgical excision which is determined according to the location and extent of lesion. Though recurrence is rare after removal, there are reports of malignant changes in long standing benign schwannoma [11]. Hence, long term and intimate follow up is required. The patient in present case did not have recurrence in one year follow up.

CONCLUSION

In conclusion, schwannoma arising from the nasal cavity are very rare and the correct diagnosis is usually made only when histological sections are studied. The possibility of schwannomas should be kept in mind when facing soft tissue mass in nasal cavity.

REFERENCES

[1] Suh JD, Ramkrishnan VR, Zhang PJ. Daignosis and endoscopic management of sinonasal schwannomas. ORL J Otorhino-Laryngol Relat Spec. 2011;73:308-12.
[2] Buob D, Wacrenier A, Chevalier D, Aubert S, Quinchon JF, Gosselin B, et al. Schwannoma of the sinonasal tract: A clinicopathologic and immunohistochemical study of 5 cases. Archives of Pathology & Laboratory Medicine. 2003;127:1196-99.
[3] Cakmak O, Yavuz H, Yuce T. Nasal and paranasal sinus schwannommas. Eur Arch Otorhino Laryngol. 2003;260:195-257.
[4] Berlucchi M, Piazza C, Blanzuoli L, Nicolai P. Schwannoma of the nasal septum: a case report with review of literature. Eur Arch Otorhinolaryngol. 2000;257:402-05.
[5] Minhas RS, Thakur JS, Sharma DR. Primary schwannoma of maxillary sinus masquerading as malignant tumour. BMJ Case Rep. 2013;2013. pii: bcr201300926.
[6] Yu E, Mikulis D, Nag S. CT and MRI imaging findings in sinonasal schwannoma. AJNR Am J Neuroradiol. 2006;27:929-30.
[7] Mey KH, Buchwald C, Daugaard S, Prause JU. Sinonasal schwannoma – a clinicopathological analysis of rare cases. Rhinology. 2006;44:46-52.
[8] Hegazy HM, Snydermann CH, Fan CY, Kassam AB. Neurilemmomas of the paranasal sinuses. Am J Otolaryngol. 2001;22:215–18.
[9] Rodriguez FJ, Folpe AL, Giannini C, Perry A. Pathology of peripheral nerve sheath tumours: diagnostic overview and update on selected diagnostic problems. Acta Neuropathol. 2012;123:295–319.
[10] Buttler RT, Patel RM, McHugh JB. Head and Neck Schwannomas: 20 year experience of single institution Excluding cutaneous and acoustic sites. Head Neck Pathol. 2016;10:286-81.
[11] Kurtkaya-Yapcer Ö, Scheithauer B, Woodruff JM. The pathobiologic spectrum of Schwannomas. Histol Histopathol. 2003;18:925-34.

PARTICULARS OF CONTRIBUTORS:
1. Associate Professor, Department of Pathology, Government Medical College and Cancer Hospital, Aurangabad, Maharastra, India.
2. Senior Resident, Department of Pathology, Government Medical College and Cancer Hospital, Aurangabad, Maharastra, India.
3. Assistant Professor, Department of Pathology, Government Medical College and Cancer Hospital, Aurangabad, Maharastra, India.
4. Professor and Head, Department of Pathology, Government Medical College and Cancer Hospital, Aurangabad, Maharastra, India.

NAME, ADDRESS, E-MAIL ID OF THE CORRESPONDING AUTHOR:
Dr. Santosh Govind Rathod,
Department of Pathology, Government Medical College and Cancer Hospital,
Aurangabad-431001, Maharastra, India.
E-mail: drsgrathod2007@gmail.com

FINANCIAL OR OTHER COMPETING INTERESTS: None.

Date of Submission: **May 20, 2016**
Date of Peer Review: **Jun 10, 2016**
Date of Acceptance: **Sep 20, 2016**
Date of Publishing: **May 01, 2017**