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A RARE CASE OF NASAL CAVITY SCHWANNOMA

Abstract
Nasal mass is a common occurrence but nasal cavity schwannona is a rare condition. Schwannoma is a neurogenic tumor arising from the Schwann cells of the sheath of myelinated nerves. Mostly it is benign condition and do not recur when removed totally. It is very important to distinguish between schwannoma and primary benign neurofibroma as neurofibromas have the possibility for malignant transformation and recurrence. Sinonasal schwannomas are considered to arise more frequently from the ophthalmic and maxillary divisions of the trigeminal nerves. The sign &symptoms are very non-specific and diagnosis is mostly made by histopathology.

Key words: Schwannoma, Neurofibroma, Myelinated nerve

INTRODUCTION:

Schwannoma is a neurogenic tumor arising from the Schwann cells of the sheath of myelinated nerves. Schwannomas of the nasal cavity and paranasal sinuses are rare neoplasm comprising approximately 4%.[1,2] Most of them are benign and do not recur when removed totally. It is very important to distinguish between schwannoma and primary benign neurofibroma. Neurofibromas are lesions having the possibility for malignant transformation and recurrence. Sinonasal schwannomas are considered to arise more frequently from the ophthalmic and maxillary divisions of the trigeminal nerves.

CASE REPORT:

A 26 years gentleman from western Nepal presented with left sided nasal obstruction for duration of 1 year which was initially incomplete but progressed to complete obstruction for last 6 months. He also gave history of intermittent left sided nasal bleeding for same duration. Bleeding occurred 5-6 episodes till date, spontaneous and fresh approximately 40-50 ml in each episode and controlled by nose pinching. He also gave history of nasal surgery done in other medical centre one and half month back (documents not available) which decreased his symptoms of nasal bleeding to some extent but did not improve nasal obstruction. On examination, there was no telecanthus and nasofacial and nasolabial groove were normal on both side. On anterior rhinoscopy there was single slough covered pinkish mass arising from the left side of posterior septum. It was sensitive and bled on touch. Nasal endoscopy showed granular pinkish mass occupying left nasal cavity from level of middle turbinate to floor, inferior part of mass was necrotic and covered with slough. Septum was deviated to left and choana was free. Contrast enhanced CT scan of nose and paranasal sinus showed mildly enhancing soft tissue nasal mass with obliteration of left osteomeatal complex. With pre-operative diagnosis of hemangioma of left nasal septum and he underwent endoscopic excision under general anesthesia .

Peroperative finding was multilobulated friable mass in posterior half of left nasal cavity, left choana pushing septum towards right and medial wall of left maxillary antrum laterally with wide attachment to the septum. Left maxillary antrum was free. Tumour was removed in piece-meal. On cut section it was homogeneous and soft to firm in consistency. HPE examination showed tumor cell proliferation with hypercellur and hypoceullar areas. In hypercellular areas, tumour cells was arranged in short fasciles of spindle shaped cells which were uniform with indistinct border, eosinophilic cytoplasm with dense stroma. In hypocellular areas, tumour cells were arranged in similar fashion but stroma was oedematous. Few cells show nuclear palisading. Mitotic figures were not found. A definite capsule was not seen. Findings were consistent with Schwannoma.

In first post-operative week, there were crust in nasal cavity. In first month of follow up, nasal endoscopy showed healing cavity with areas of granulation tissue. After six month of follow up there was no growth seen in nasal cavity and patient was free of symptoms.

Fig. 1 Endoscopic picture of left nasal mass

Fig. 2 CT scan showing mildly enhancing homogeneous mass

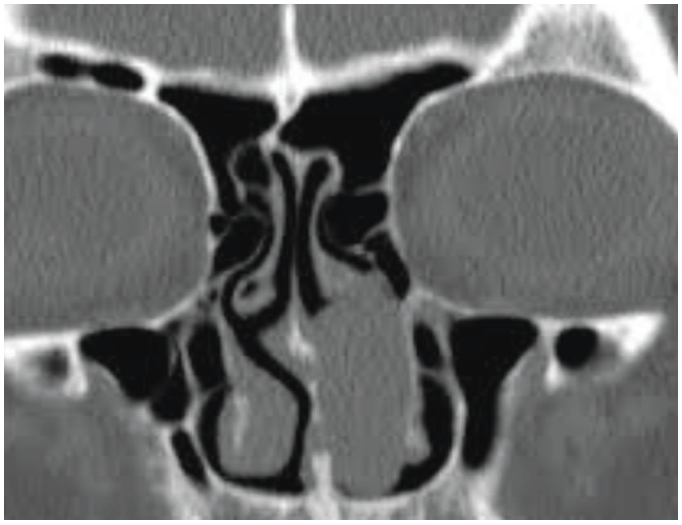
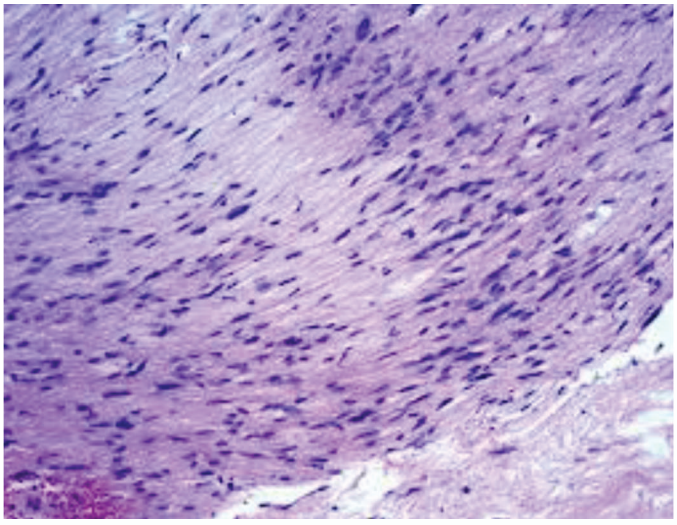


Fig. 3 Histological picture of Schwannoma



DISCUSSION:

Schwannoma is a neurogenic tumor arising from the Schwann cells of the sheath of myelinated nerves. 25% - 45% cases are seen in head & neck region. But schwannomas of the nasal cavity and paranasal sinuses are rare neoplasm comprising approximately 4%.[1,2] Ethmoid sinus, maxillary sinus, nasal cavity and sphenoid are involved in order of decreasing frequency in nose and paranasal sinuses. The age distribution ranges from 6 to 78 years, with most patients between 25 and 55 years of age, and no gender preference.[3] Most of them are benign and do not recur when totally removed by surgery. Sinonasal schwannomas are considered to arise more frequently from the ophthalmic and maxillary divisions of the trigeminal nerves, but they can also originate from sympathetic fibers of the carotid plexus or parasympathetic fibers of the pterygopalatine ganglion. The tumors cause symptoms through slow progressive growth that may distort tissues by pressure or become symptomatic by obstruction of a sinus osteum. Macroscopically, the tumor appears as a well-delineated but nonencapsulated globular, firm to rubbery yellow-tan mass. But in our case it was granular and pinkish. Histologically, schwannomas are composed of cellular Antoni A areas with verocay bodies and hypocellular myxoid Antoni B areas. This finding is same as in our case. It is very important to distinguish between schwannoma and primary benign neurofibroma. Neurofibromas are lesions having the possibility for malignant transformation and recurrence.[1] The definitive diagnosis of malignant PNST may be difficult or impossible using only routine light microscopy [4], so immunohistochemistry is required for final diagnosis. Immunohistochemistry facility was not available at the center, so it was not done. At endoscopy, the appearance of a sinonasal schwannoma is quite nonspecific; the presence of a network of capillaries on the surface may sometimes suggest a diagnosis of a hypervascular lesion. But in our case it was granular and pinkish, inferior surface was covered with slough without any dilated vessels over it. CT findings are not usually diagnostic but is usually in favour of benign disease. MRI reflects the histologic features of the lesion. With a prevalent Antoni A component, intermediate signal on both T_1- and T_2-weighted images, whereas in those with a predominant Antoni B pattern, which is related to a loose myxoid stroma, hyperintensity is observed on T_2-weighted images.[3,5] Radical surgery is the treatment of choice for sinonasal schwannoma. Before the advent of endoscopic surgery, a large variety of external approaches were employed in relation to the site and size of the lesion. After the initial report by Klossek and coworkers [6] on the endoscopic management of sinonasal schwannomas, other cases with successful outcome have appeared in the literature[7,8,9] thus supporting the idea, endoscopic surgery can be considered a viable alternative to traditional techniques for sinonasal schwannoma .

REFERENCES:

1. Dr. F. Braunschweig, M.F. Kramer, G. Assmann, S. Arbogast, A. Leunig:Schwannom der Nasenhaupthöhle.HNO2007December, Vol 55, 13, 1013-1016
2. Ling-Feng WangChih-Feng TaiKuen-Yao HoWen-Rei Kuo: Schwannoma of the Nasal Septum: A Case Report. Kaohsiung Journal of Medical Sciences, 2004 March, vol 20, 3, 142-45
3. Cakmak O, Yavuz H, Yucel T: Nasal and paranasal sinus schwannomas. Eur Arch Otorhinolaryngol 2003; 260:195-197.
4. Bruner JM: Peripheral nerve sheath tumors of the head and neck.Semin Diagn Pathol. 1987 May;4(2):136-49.
5. Quesada JL, Enrique A, Lorente J, et al: Sinonasal schwannoma treated with endonasal microsurgery. Otolaryngol Head Neck Surg 2003; 129:300-302.
6. Klossek JM, Ferrie JC, Goujon JM, et al: Les schwannomes naso-sinusiens: ? propos de deux cas. Int?r?t de l'endoscopie nasale pour le diagnostic et le traitement. Ann Otolaryngol Chir Cervicofac 1993; 110:341-345.
7. Pasquini E, Sciarretta V, Farneti G, et al: Endoscopic endonasal approach for the treatment of benign schwannoma of the sinonasal tract and pterygopalatine fossa. Am J Rhinol 2002; 16:113-118.
8. Shinohara K, Hashimoto K, Yamashita M, et al: Schwannoma of the nasal septum removed with endoscopic surgery. Otolaryngol Head Neck Surg 2005; 132:963-964.
9. Park EH, Lee SS, Byun SW: A schwannoma in the nasal septum. Eur Arch Otorhinolaryngol 2008; 265:983-985.