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Research Paper

An Unusual Case of Nasal Septal Schwannoma : A Case Report

Medical Science

KEYWORDS : Nasal schwannoma: Septum

DR. HETAL MARFATIA	ASSOCIATE PROFESSOR, ENT DEPT
*** DR. NILAM U. SATHE**	ASSOCIATE PROFESSOR, ENT DEPARTMENT, SETH G.S. MEDICAL COLLEGE & KEM HOSPITAL, MUMBAI * CORRESPONDING AUTHOR
DR.SUBODH HOSAGADDE	SENIOR RESIDENT, ENT DEPT
DR.ANKUR PARIKH	SENIOR RESIDENT, ENT DEPT

ABSTRACT

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Introduction: 25-45% of Schwannomas arise in the head and neck region, only 4% of them present in the nose and paranasal sinus. Generally it involves the ethmoidal and maxillary sinuses. It may arise from the branches of trigeminal nerve (ophthalmic or maxillary) or from autonomic nervous system. The diagnosis by imaging is difficult due to lack of characteristic features. A variety of sino-nasal tumours share similar imaging features; hence istopathological diagnosis is a gold standard.

Case report: A 38 year old female presented with bilateral nasal blockage (Left >Right) since 2 years which gradually progressed to cause complete blockage. It was associated with mucoid nasal discharge and hyposmia. There was a single episode of epistaxis. Anterior rhinoscopy showed left nasal polyp. CT scan and MRI of the paranasal sinuses was performed. MRI of the paranasal sinuses showed a heterogenous mass lesion which is hypointense on T1WI and hyperintense on T2WI with patchy central necrotic areas and hemorrhages, intensely enhancing on contrast. Endoscopic approach helped to prevent unwanted removal of healthy nasal mucosa and the anterior and superior septum which helped to maintain the shape of the nasal dorsum. Histopathological analysis of the tumour showed spindle cells arranged in Antony A and Antony B pattern.

Conclusion: Sino-nasal schwannoma is a well-defined soft tissue mass with pressure remodelling of surrounding structures clinical or radiological diagnosis is not conclusive and hence histopathology is the gold standard for diagnosis. Complete surgical excision can be achieved by endoscopic approach successfully.

Introduction

Terplan and Rudofsky first reported a case of left nasal cavity and ethmoidal sinus neurinoma in 1926[1]. Although 25-45% of Schwannomas arise in the head and neck region, only 4% of them present in the nose and paranasal sinus. Generally it involves the ethmoidal and maxillary sinuses. It may arise from the branches of trigeminal nerve (ophthalmic or maxillary) or from autonomic nervous system[2]. The diagnosis by imaging is difficult due to lack of characteristic features[3]. A variety of sino-nasal tumours share similar imaging features, hence histopathological diagnosis is a gold standard.

Complete surgical excision is the standard of treatment for schwannomas[4], with postoperative recurrences being rare. Here we present a case of sino-nasal schwannoma which was removed completely by endoscopic approach.

Case report

A 38 year old female presented with bilateral nasal blockage (Left >Right) since 2 years which gradually progressed to cause complete blockage. It was associated with mucoid nasal discharge and hyposmia. There was a single episode of epistaxis which resolved with conservative management. On examination air blast was totally absent bilaterally. Anterior rhinoscopy showed left nasal polyp which was pale, smooth, non-tender and did not bleed on touch. The mass was pushing the septum to the right side and probe could be passed medially, superiorly and inferiorly.

CT scan and MRI of the paranasal sinuses was performed. MRI of the paranasal sinuses showed a heterogenous mass lesion which is hypointense on T1WI and hyperintense on T2WI with patchy central necrotic areas and hemorrhages, intensely enhancing on contrast. The lesion measured 54x42x54mms (APxLRxSI). It caused lateral splaying of medial walls of both maxillary sinuses (Left >Right). The lesion invaded the ethmoidal, sphenoidal sinuses and the nasopharynx. The nasal septum appears eroded and deviated to the right. The radiological differential diagnosis suggested were benign nasal polyp, inverted papilloma and schwannoma. Subsequently the patient was taken up for the endoscopic excision of the mass. Endoscopy showed the mass arising from posterior part of the septum on the left side and extending laterally into the middle meatus, protruding like a globular mass anteriorly into nasal cavity and posteriorly into the nasopharynx. The mucosal flap was elevated on the septum anterior to the mass and mass was dissected completely along with posterior septectomy and sent for histopathologic examination. Endoscopic approach helped to prevent unwanted removal of healthy nasal mucosa and the anterior and superior septum which helped to maintain the shape of the nasal dorsum. The secondary sinusitis of sphenoid, frontal and axillary sinuses were drained with widening of the ostia. Patient was followed up after 3 months with DNE and CT scan which showed complete clearance with well epithelialized cavity and symptomatic relief for the patient.

Histopathological analysis of the tumour showed spindle cells arranged in Antony A and Antony B pattern. Verrucay bodies were seen. There was a focal nuclear pleomorphism with tumour cells expressing S-100 protein but they were negative for HMB-45.

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Discussion

The symptomatology of the schwannomas is nonspecific. Patient may present with nasal blockage, nasal discharge, headache or epistaxis [5,6]. Facial swelling and eye signs may present depending on paranasal sinus and orbital involvement. Conversion to malignancy is rare[7].In many cases the nerve of origin cannot be identified and neurological symptoms are also not seen.[8]In our case patient had nasal block, mucoid nasal discharge, hyposmia and epistaxis with no orbital signs.

CT scan or MRI of the paranasal sinuses generally shows well defined soft tissue mass lesion with thinning of surrounding bones[1]. It helps to assess size, location, extent, vascularity and MRI was done to rule out any intracranial and intra-orbital extensions as well as in differentiating inflammation and retained secretions form the tumor[9,10]. In our case CT and MRI displayed a well-defined contrast enhancing soft tissue lesion with smooth erosion and scalloping of adjacent bony walls with secondary sinusitis in maxilla, frontal and sphenoid. There were no features suggestive of malignancy.

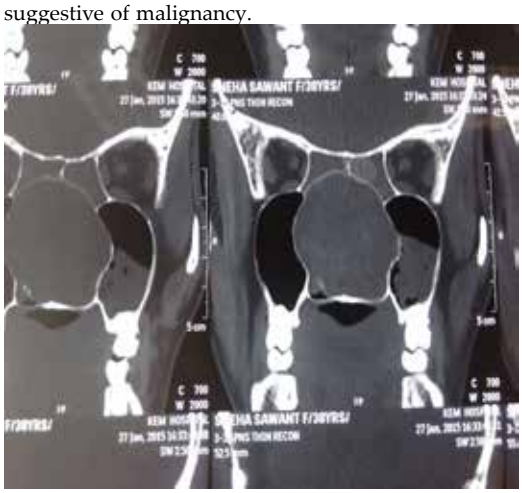

Fig.1 Coronal view of CT PNS showing well defined septal mass lesion.

Fig 2. Axial view of MRI PNS showing heterogenous enhancement of septal mass with cystic degeneration.

Microscopically typical schwannomas exhibit Antony A and Antony B pattern in varying proportions. Antony A is composed of organised stroma with spindle cells with parallel rows of palisading nuclei. Antony B areas are composed of disoraganisedmyxoid stroma with few spindle cells[7]. On immunohistochemistry S-100 protein may be exhibited especially in Antony A areas[11]. All the above mentioned features were characteristically seen in the histopathology of our case.

Fig 3. Specimen showing multiple grey white bits of soft tissue.

The only treatment for nasal schwannomas is complete local excision as they are generally radio resistant[5]. The approach is selected depending on the size of the tumor and cosmetic consideration[6,11]. Presently endoscopic surgery has both the above advantages and hence was selected in our case. As the tumour in our case was arising from the septum, complete excision was successfully performed with a posterior septectomy with no postoperative recurrence. Functionality and cosmesis were maintained.

Conclusion

Sino-nasal schwannoma is a well-defined soft tissue mass with pressure remodelling of surrounding structures clinical or radiological diagnosis is not conclusive and hence histopathology is the gold standard for diagnosis. Complete surgical excision can be achieved by endoscopic approach successfully. Hence, though rare diagnosis, the possibility should be considered in differential diagnosis of a benign looking chronic nasal mass.

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