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Schwannoma of the nasal septum-a case report

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Abstract:

Schwannomas of the nasal cavity and paranasal sinuses are very rare. We report the case of a 50-year-old woman with a schwannoma arising from the nasal septum. We discuss the clinical presentation, differential diagnosis, imaging characteristics and treatment of this rarely encountered lesion.

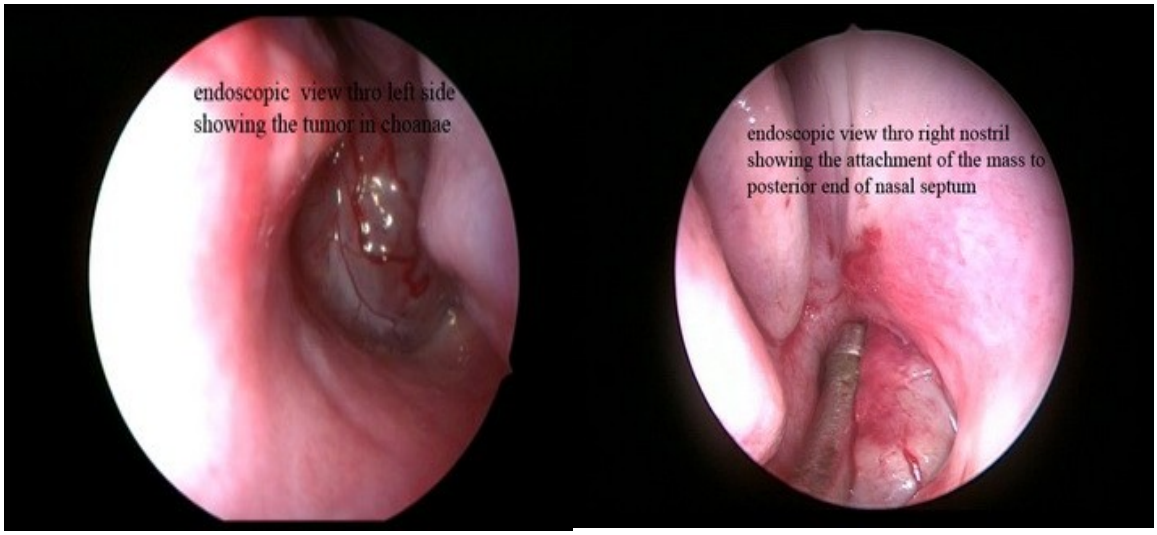
Schwannoma (neurilemmoma) is a benign neoplasm arising from Schwann cells in the peripheral nerve sheath. It can arise throughout the body, but is most commonly observed in the head and neck. This region accounts for 25–45% of all schwannoma [1]. Tumors arising from nasal septum are extremely rare with only less than 20 cases been reported in the English literature [1–8].

Case Report:

A 50-year-old woman was referred to our department with complaints of progressive nasal obstruction for 3 years. She denied rhinorrhea, epistaxis, anosmia, facial pain, headache and recent nasal trauma. Her medical and family histories were unremarkable.

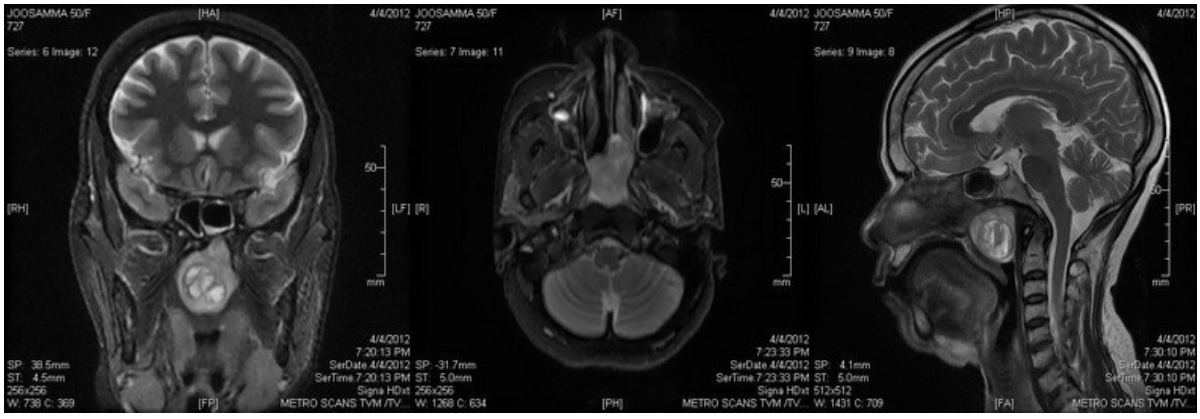
Nasal endoscopy revealed a smooth pinkish red lesion occupying the entire nasopharynx, attached to posterior aspect of nasal septum . Needle aspiration was done during endoscopy to rule out a meningocele. The lesion did not bleed on touch.

Nasal Endoscopy:



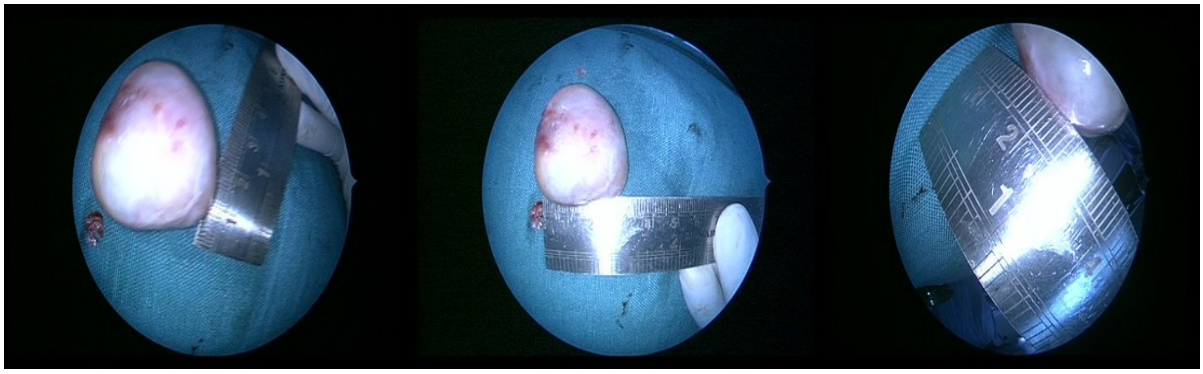
CT scan and MRI scans were done to evaluate the extent of the lesion. MRI scan showed a moderately large roughly spherical lesion totally filling the nasopharyngeal lumen having heterogeneous hyper intense signals on FSE T2WI, hyper intense on FSE T1W1. The lesion was compressing the pharyngeal walls laterally and posteriorly. The soft palate was minimally displaced inferiorly. No bone erosion was noticed in CT scan.

MRI Scan:

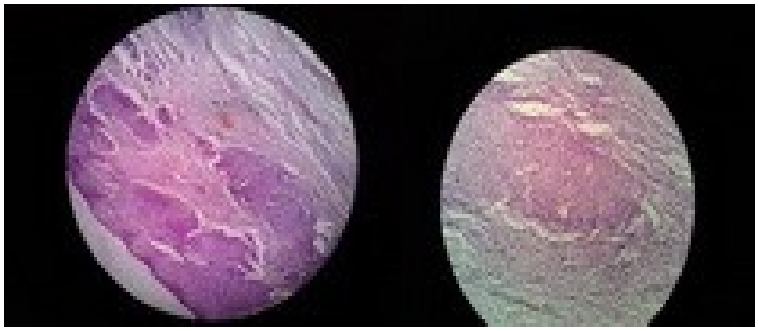


The patient was operated under General anesthesia. Endoscopic Trans nasal route was employed for the surgery. After adequate decongestion of the nasal cavity with adrenaline soaked cottonoids, the lesion was infiltrated with a solution of 2% xylocaine with 1: 100000 adrenaline. The pedicle of the lesion was identified and it was infiltrated with 2% xylocaine with 1:100000 adrenaline. The pedicle and its attachment to posterior aspect of nasal septum was cauterized using bipolar cautery and the entire lesion was excised in toto with a small portion of posterior aspect of septum. Since the lesion was bigger than the opening of posterior nasal cavity it was pushed into oral cavity and was removed trans orally. Complete hemostasis was ensured. The excised mass was sent for histopathology.

Excised specimen:



Histopathology:



The histopathology was reported as Schwannoma. The patient is under follow-up& endoscopic surveillance and remains symptom free so far.

Discussion:

Schwannoma is a benign tumor of nerve sheath origin that can arise on any myelinated nerve. The most frequent site affected in the head and neck is the eighth cranial nerve (vestibular nerve). Other observed locations include the scalp, face, oral cavity, pharynx, larynx, trachea, parotid gland, middle ear and external auditory meatus. Whilst schwannomas almost always occur as solitary lesions with no associated genetic syndromes, in some instances they are multiple and occur in association with neurofibromatosis type 2 [8]. Malignant transformation in schwannoma is very rare.

Schwannomas of the Sino nasal tract are very infrequent, representing less than 4% of the schwannomas of the head and neck [6]. In this location they have been reported in patients between the ages of 6 years and 78 years. There is no sex or racial predilection [6]. The ethmoidal sinus is most commonly involved, followed by the maxillary sinus, nasal fossa and sphenoid sinus [6,9, 10]. Localization to the nasal septum is exceedingly rare. Septal schwannomas arise from the autonomic or sensory nerves within the nasal septum. There is no apparent site predilection on the septum.

The clinical presentation of Sino nasal schwannoma is often varied and non-specific. Patients may complain of nasal obstruction, epistaxis, rhinorrhea, anosmia, or facial swelling and pain [3]. There are no distinctive features to be noted on examination. Consequently, the diagnosis is only likely to be made once histology results are available.

The differential diagnosis of a nasal tumor includes a wide variety of pathology including inflammatory polyps, juvenile angiofibroma, inverted papilloma, meningioma, neurofibroma, melanoma and olfactory neuroblastoma (esthesioneuroblastoma) [1, 11].

Macroscopically, schwannomas appear as gelatinous or cystic, well encapsulated masses. Cystic degeneration, necrosis, lipidization and formation of angiomatous clusters of blood vessels with focal thrombi are degenerative processes that can occur. Microscopically, schwannomas are traditionally classified into two major histological types. Antoni A is characterized by a compact arrangement of spindle cells. Antoni B is typified by loose myxoid stroma with spindle cells running in a haphazard manner. The distinction is considered to have only academic interest [6].

Securing the diagnosis on the basis of high-resolution imaging is difficult. In general, the appearances on CT are not specific enough to enable it to be distinguished confidently from other tumors in this region. On CT, paranasal schwannoma usually have mottled central hypodense foci with peripheral enhancement after injection of contrast medium [12]. The heterogeneous appearance is related to areas of increased vascularity with adjacent non-enhancing cystic or necrotic regions. This is important in distinguishing it from inflammatory polyps [13].

Unlike schwannomas originating from the paranasal sinuses, the small confines of the nasal cavity mean that septal schwannomas tend to become symptomatic at an earlier stage and are comparatively smaller in size at presentation. As a result, they are usually excised without the need for radiographic imaging. In cases where CT was performed [4–8] the septal schwannoma appeared as a homogeneous soft tissue mass, with mottled enhancement, occupying the nasal cavity and sometimes extending into the nasopharynx. The origin from the nasal septum was not always apparent radiologically, and in some cases was only determined at the time of surgery. Trans-septal extension into the opposite nasal cavity was noted on one scan [5]. Large septal schwannomas have caused septal deviation and bowing of both the medial walls of the maxillary sinus and orbit. In many cases CT showed retention of secretions within adjacent sinuses [4–8]. Erosion of the ipsilateral middle and inferior turbinate was seen in one case [6]. To date, there are no reported cases of septal schwannomas extending to the skull base.

The imaging characteristics of sinonasal schwannoma on MRI are similar to those of schwannoma observed elsewhere in the body. An intermediate signal is observed on T_1 weighted images, whereas on T_2 weighted images the signal varies from intermediate to high. A more uniform enhancement pattern after gadolinium administration has been observed [12–14]. MRI has been performed in two of the reported cases of septal schwannoma [5, 7], but the imaging characteristics were not described in detail.

Treatment is complete surgical excision, which can range from simple excision under local anesthesia to a more extensive facial degloving approach [6]. Endoscopic approach may be used in properly selected cases. To date, there are no reported cases of recurrence.

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