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RESEARCH ARTICLE

NASOPHARYNGEAL SCHWANNOMA: A CASE REPORT AND CLINICOPATHOLOGICAL ANALYSIS

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ABSTRACT

According to literature 50% Schwannoma cases are seen in Head & Neck region and only <4% occur in sinonasal tract. In our case a female patient presented with 10 months history bilateral nasal obstruction and snoring. CT scan revealed a well defined moderate enhancing homogenous soft tissue density lesion noted in midline and prevertebral space extending into nasophrynx abuting skull base displacing left great vessels of neck inferiorly extending to orophrynx. The mass was excised by transorally transpalatal approach. Histopathological study revealed features of schwannoma.

INTRODUCTION

Fifty percent cases of schwannoma occurs in head & neck region (3), but < 4% occur in sinonasal area. This tumor is derived from the Schwann cell which can be found in many types of nerves including cranial nerves (except olfactory and optic nerve) (3), peripheral nerves, sympathetic and parasympathetic nerves and only a handful of cases occur in nasopharyngeal area. Clinically these patients are indicated to have unilateral or bilateral nasal obstruction, epistaxis, anosmia and painful sensation. The characteristic of the tumor is polypoid, slow growing and encapsulated.

Case Report

A Hindu female patient of age 59 years, presented in E.N.T. OPD complaining of progressive swelling in the throat and gradual bilateral nasal obstruction since 10 months. No history of epistaxis, anosmia, rhinorrhea or any other symptoms was reported. On anterior rhinoscopy, no mass was found. Posterior rhinoscopy and oropharynx examination revealed a large smooth mass seen occupying nasophrynx and orophrynx. On palpation it was found to be firm, nontender, less mobile. A CT scan of nose and paranasal sinuses (axial, coronal and parasagital section) revealed a well defined moderate enhancing homogenous soft tissue density lesion of size 4cmx3cmx5cm noted in midline and prevertebral space extending into nasopharynx abutting skull base displacing left great vessels of neck inferiorly extending to orophrynx (Fig. 2, Fig. 3). The mass was excised in toto transorally via transpalatal approach and sent for histopathological study. The gross appearance was found to be yellowish white, smooth, firm, unencapsulated 4.5cm x 4 cm (Fig. 1). On nasal endoscopy the septum, all the paranasal sinuses, turbinates appeared normal. Postoperative period was uneventful. However the patient was kept on Ryle's tube feeding for three weeks for better healing. Histopathological section showed majority Antony A, Antony B areas, Verocay bodies. (Fig. 4, Fig. 5). There was no capsule in the H.P. section, no mitotic changes in highpower view support diagnosis of benign schwannoma. Tumor cells were strongly positive for S100 staining. No recurrence of tumor was found in follow up and the patient was uneventful till three months.

DISCUSSION

Schwannoma is not a common tumor in sinonasal tract. Only about 70 cases has been reported in the (3). A sinonasal schwannoma can be found in many sides including nasal septum, paranasal sinuses, tip of nose, turbinate, nasopharynx (1, 5, 7). The presenting feature of tumor are always nonspecific depending on site of tumor.

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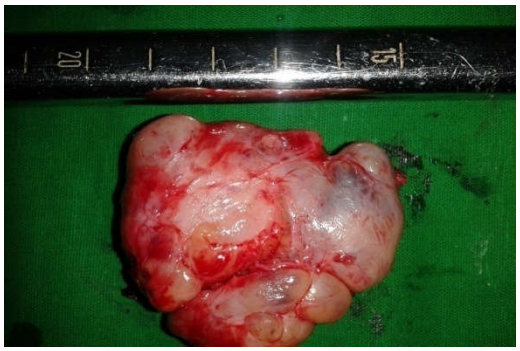

Fig. 1. The excised nasopharyngeal mass

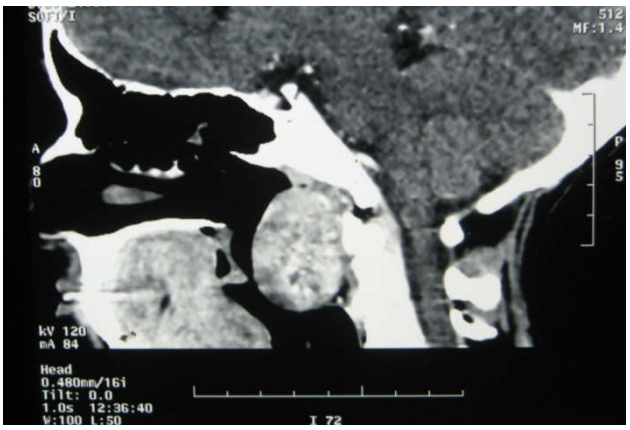

Fig.2. CT, well defined moderate enhancing homogenous soft tissue density lesion in the midline and prevertebral space

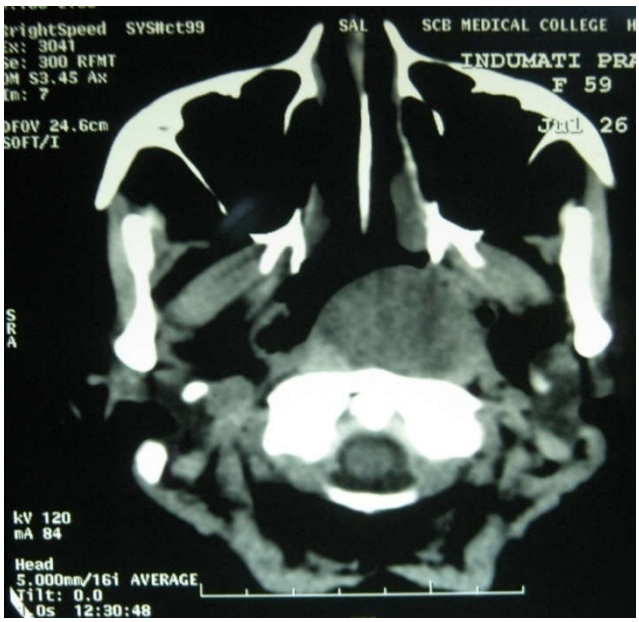

Fig. 3. Mass Ocuppying Nasopharynx

Generally unilateral nasal obstruction is most common symptom, where patient usually feel unilateral nasal obstruction for prolonged period of time. Unilateral epistaxis is also frequently encountered. Anosmia, painful sensation and headache because of mass effect of tumor. Grossly the schwannoma is usually reported an encapsulated mass with a smooth surface. Microscopically Antony A and Antony B arrangement are diagnostic of tumor. Considering the Neurofibroma as a major differential diagnosis in this area the typical pathological finding of proliferating spindle cells with wide spreading keloid collagen bundles with branching vessels is not found in this case.

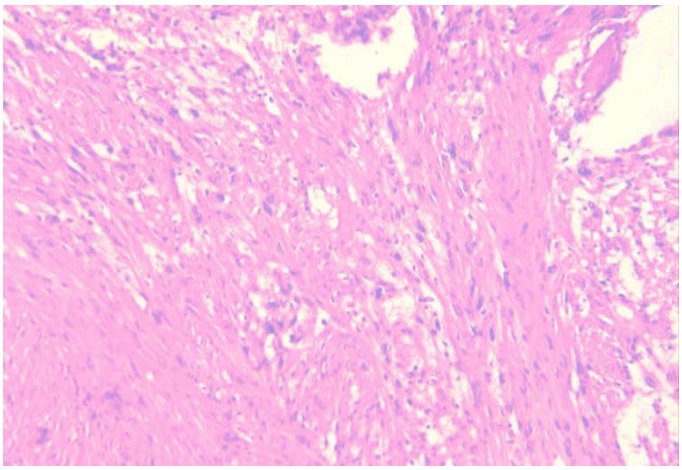

Fig. 4. Showing both Antony A, Antony B area

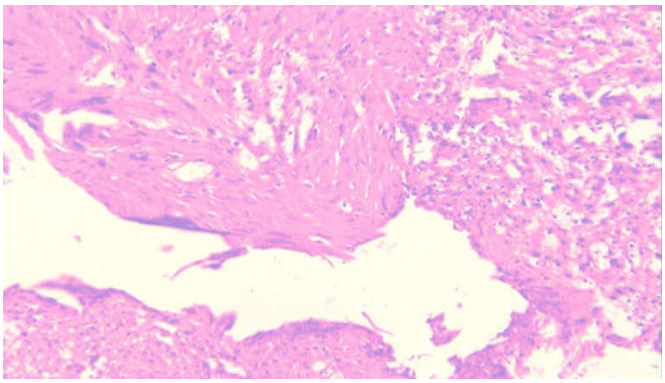

Fig. 5. Verocay Body like structure in Antony A area

According to one report, the pathological finding of schwannoma of sinonasal tract are different from schwannoma of other regions (3). The difference includes loss of fibrous encapsulation and dominating hypercellularity. In this report, the pathological findings for our patient are compatible. No capsules was noted on the tumors surface. A scanty mitotic change in the average high power view may support the diagnosis of benign schwannoma. Immunohistochemical stains are important in making these differential diagnoses. Weary spindle cells are suggestive of nerve or muscle origin. Antibodies against vimentin, S-100, neuron specific enolase, smooth muscle actin, cytokeratin, epithelial membrane antigen and desmin were used (2). The tumor cells are strongly and diffusely positive for vimentin and S-100 stainings (2).

These are compatible with the diagnosis of either the typical or a variety of schwannoma, but are not congruous with the differential diagnosis of juvenile angiofibroma, solitary fibrous tumor, hemangiopericytoma, fibroma, malignant peripheral nerve sheath tumor, or meningioma (2, 3, 4). Neuron specific enolase and smooth muscle actin staining are focally positive, which revealed the possibility of a tumor of nerve or epithelial origin. However, antibodies against cytokeratin, epithelial membrane antigen, and desmin showed a negative result. Muscle origin is excluded after these staining. These special staining patterns give a further confirmation of our diagnosis.

According to one report (3), schwannoma without a fibrous capsule has also been noted in gastric schwannoma. It is considered to be from the autonomic myenteric plexus because of the absence of a fibrous epineural sheath. Therefore, it is possible that the nasopharyngeal schwannoma in our case is from autonomic nerve origin. In an overview of this case, we are reminded to include schwannoma in the clinical diagnosis when a patient presents with bilateral nasal obstruction and snoring. The extraordinary location the lack of a fibrous capsule, and the presence of the Verocay body noted in this case are different from other reports (2). Although a recurrence rate of 23% has been reported, nasal schwannoma usually has a benign clinical course (2, 8). Local wide excision of the tumor may be the first choice of management. In our transoral transpalatal approach was enough for removal of the tumor because of its peculiar site of origin. No recurrence has been noted during follow up of 6 months. Nevertheless, considering the versatile entities of mass, it is worthwhile to take a biopsy specimen before the operation for determining an appropriation surgical procedure. These routine examinations like nasal endoscopy and CT scan promote better comprehension of the nature and the extent of the tumor. After knowing the extent of the mass the surgical approach if endoscopic or external may be decided.

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