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A RARE CASE REPORT OF SINONASAL SCHWANNOMA

AMIRTHAGANI
Department of ENT,THANJAVUR MEDICAL COLLEGE

Abstract : Half of the Schwannoma cases occur in the head and neck areas and only less than 4 occur in the sinonasal tract. In this case, a 50-year-old male patient, presented with complaint of progressive left side nasal obstruction past one year. The CT-paranasal sinuses revealed a mass filling the left nasal cavity. During surgical intervention, the mass is found to originate from the inferior and lateral part of vestibule left side. The pathological examination revealed encapsulated tumor with palisading cellular arrangement and high cellular density. So far only 70 cases have been reported in the international journal1 and this case is presented for its rarity.

Keyword : Schwannoma, Polypoidal mass, Lateral Rhinotomy, Antony A and B cells, Verocay body

INTRODUCTION

Schwannoma is derived from the Schwann cell, which can be found in many kinds of nerves, including cranial nerves (except olfactory and optic nerves), peripheral nerves, sympathetic and parasympathetic nerves. Clinically, these patients present with unilateral nasal obstruction, frequent epistaxis, anosmia, and painful sensation in and around the nose. Sinonasal Schwannoma may also occur in nasal septum, paranasal sinus, tip of the nose, turbinate, and nasopharynx [6]. The presenting symptoms of the tumour are always non-specific and depend on the site of the mass[7].The characteristic features of the tumor are polypoidal, slow-growing, and encapsulated. With nasal schwannoma, however, some special pathological findings are specific, which are not found in tumors from other sites.

Sinonasal schwannomas are supposed to originate primarily from the ophthalmic and maxillary branches of trigeminal nerve, but can also arise from sympathetic or parasympathetic fibres from the carotid plexus or sphenopalatine ganglion. [2, 3] Schwannomas are usually described as being encapsulated, in contrast to the non-encapsulated neurofibromas [14]; the capsule is supposed to be derived from the perineurium of the nerve of origin. In our case it is encapsulated.

CASE REPORT

The patient presented here is a 50-year-old male with progressive left sided nasal obstruction and on and off mucopurulent nasal discharge for the past one year. No history suggestive of bleeding through nose, loss of smell or any other systemic diseases or surgery. He is a coolie by occupation, smoker, occasional alcoholic and betel nut chewer for 20years.

Figures 1 shows pre-operative picture of patient having mass in the left nasal cavity.

On anterior rhinoscopic examination, a large polypoid mass was found in left nostril occupying

whole of the left nasal cavity and protruding out. Yellowish mucopurulent discharge was also seen in the left nasal cavity. The mass was firm in consistency. It does not bleed on touch and sensitive. On probe test, probe can be passed all around the mass except inferior and lateral part of vestibule left side. Posterior rhinoscopy was normal. Diagnostic nasal endoscopy showed, right nasal cavity and nasopharynx are normal and no other abnormality was found. CT scan of the paranasal sinuses showed soft tissue mass occupying most of the left nasal cavity.

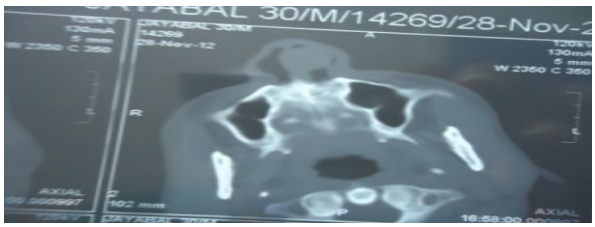
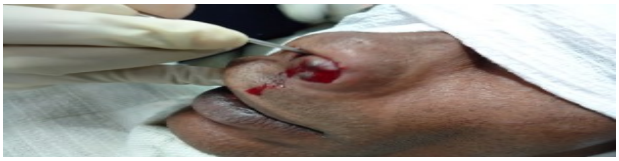
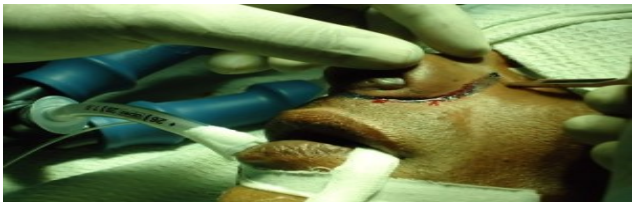


Figure 2. Shows CT-paranasal sinus reveals a large soft tissue mass in the left nasal cavity. Nasal septum deviated to right side due to mass effect of tumour. For further evaluation biopsy was taken from the mass considering the following as differential diagnosis 1.Neurofibroma 2.papilloma 3.Angiofibroma 4.Solitary Fibrous Tumours 5.Hemangiopericytoma 6.Fibroma 7.Malignant Tumours and 8. Meningioma.



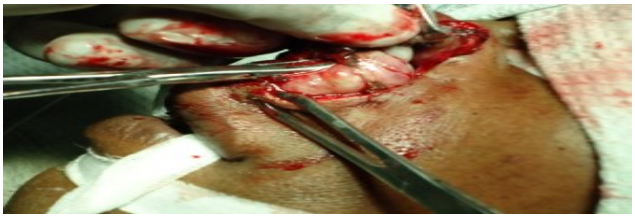
Figures 3 shows bleeding from the biopsy site, Patient underwent biopsy under local anaesthesia and HPE revealed cellular Schwannoma. As the mass occupied entire left nasal cavity and could not be removed intoto via naturalise an also for preventing future recurrence, Lateral Rhinotomy was performed favouring local wide excision. Nasal septum was found deviated to opposite side and middle turbinate and inferior turbinate also seen displaced laterally in left nasal cavity. These are the pressure effects of the mass.



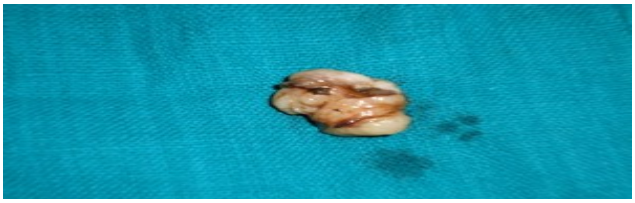
Figures 4 show Lateral Rhinotomy incision.

Lateral Rhinotomy approach:

It was described by Moure in 1902 The incision was made between medial canthus and dorsum of nose, extended along the deep nasal -cheek groove adjacent to nasal ala.To achieves en bloc resection, anterior nasal cavity was entered. Extirpation of the mass with wide excision was done. The posterior aspect of the mass could be made out in the nasal cavity, and it was dissected totally from inferior and lateral part of vestibule left side. The procedure was smooth and the post operative period was uneventful.



Large polypoidal mass in the nasal cavity being removed through the Lateral Rhinotomy



Figures 6 The gross appearance of the specimen- yellowish white and polypoidal

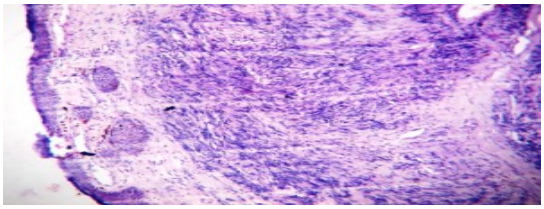


figure 7

Section shows an encapsulated benign hypercellular neoplasm composed of cellular (Antony A) and acellular (Antony B) area.

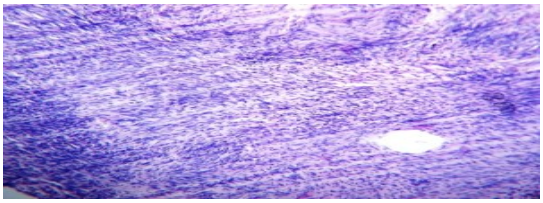


figure 8

Section shows cellular (Antony A) and acellular (Antony B) with Verocay body.

Figure 9

Post operative picture of the patient

DISCUSSION

Schwannoma is a relatively uncommon tumour in the sinonasal tract. Only about 70 cases have been recorded in the literature[5]. Generally, unilateral nasal obstruction is the most common symptom, where patients usually present with a progressive unilateral nasal obstruction. Verocay described the histological aspects of the schwannoma already in the early 1900s, with the characteristic feature of the palisading cell arrangement, also called "Verocay bodies" [8,10]. Macroscopically the tumour is usually well demarcated, greyish to yellowish in colour, fleshy and shiny on the surface. Microscopically, it typically consists of cellular areas (Antoni type A) with spindle-shaped cells often arranged in palisades, together with more loosely structured areas with a myxoid stroma (Antoni type B) [8,9,11]. Considering neurofibroma as a major differential diagnosis in this area, the typical pathological finding of proliferating spindle cells within wide-spreading keloid collagen bundles with branching vessels is not found in our case. According to one report (Hasegawa et al., 1997), the pathological findings of schwannoma of the sinonasal tract are different from schwannomas in other regions. The differences include loss of fibrous encapsulation and dominating hypercellularity. On account of the hypercellular pattern of nasal schwannoma, it is always important to consider the possibility of malignancy. However, a scanty mitotic change in the average high power view may support the diagnosis of benign schwannoma. Cellular schwannoma also has a benign clinical course [12]. There was no malig-nant cell infiltration, which further confirmed the diagnosis of its benign nature.

Although a recurrence rate of 23% has been reported, nasal schwannoma usually has a benign clinical course (Casadei et al., 1995)[12]. Local wide excision of the tumor may be the first choice of management. Hasegawa et al. [13] and Buob et al. [14] speculated that the tumours derived from sinonasal mucosal autonomic nerve fibres, which are devoid of perineural cells and therefore lack encapsulation, similar to the case of gastric schwannomas.[13] Encapsulation of schwannomas in this region appears to be the exception rather than the rule, and probably explain the rather aggressive growth pattern compared to schwannomas in other locations. The lack of encapsulation thus does not imply malignancy, but for the clinician the lack of encapsulation might make the tumour more difficult to define and extract in toto. Immunohistochemical stains are important in making differential diagnosis. 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. The tumor cells are strongly and diffusely positive for vimentin and S-100 stainings Neuron specific enolase and smooth muscle actin stainings are focally positive, which revealed the possibility of a tumor of nerve or epithelial origin.

CONCLUSION

Sinonasal schwannomas are polypoidal, slow-growing, encapsulated tumours. It originates primarily from the ophthalmic and maxillary branches of trigeminal nerve and also from sympathetic and parasympathetic nerves. This case shows even though there is a low index of suspicion for malignancy for a polypoidal nasal cavity mass it should be subjected to histopathological examination

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