

Slow Growing Nasal Mass - A Rare Finding of Pleomorphic Adenoma in the Nasal Cavity and Review of Surgical Methods

Sanchitha Chandar¹, Sreeram MP^{2*}, Prabhat Yaji³ and BS Srinath⁴

¹Junior Resident, Department of Community Oncology, Sri Shankara Cancer Hospital and Research Centre, Shankarapuram, Basavangudi, Bangalore, India

²Surgical Registrar, Department of Surgical Oncology, Sri Shankara Cancer Hospital and Research Centre, Shankarapuram, Basavanagudi, Bangalore, India

³Consultant, Department of Surgical Oncology, Sri Shankara Cancer Hospital and Research Centre, Shankarapuram, Basavanagudi, Bangalore, India

⁴Head of the Department, Department of Surgical Oncology, Sri Shankara Cancer Hospital and Research Centre, Shankarapuram, Basavanagudi, Bangalore, India

***Corresponding Author:** Sreeram MP, Surgical Registrar, Department of Surgical Oncology, Sri Shankara Cancer Hospital and Research Centre, Shankarapuram, Basavanagudi, Bangalore, India.

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Abstract

We present a case of a 38-year-old male presented to our cancer screening camp with a slow growing mass in his left nasal cavity for past one year with complaints of difficulty in breathing through the left nostril. After clinical, radiological and haematological evaluation, the mass was surgically removed, and normal breathing was restored.

Keywords: Nasal Mass; Pleomorphic Adenoma; Nasal Cavity

Introduction

Pleomorphic Adenoma is a common benign tumour arising from myoepithelial and ductal components of salivary glands. This tumour of mixed origin is most commonly observed as a painless, slow growing mass involving the parotid, submandibular or minor salivary glands with a slight predilection to females between the 4th and 7th decade of life [1]. The presence of these mixed tumours in the nasal cavity is a rare finding.

Case Report

A 38-year-old male presented to our Out Patient Department with a complaint of a slow growing swelling on the left side of the nose for more than a year, slight difficulty in breathing and occasional pain over the mass. Patient had a previous history of smoking and alcohol consumption but had quit the habit since a few years. He was previously evaluated at another hospital six months ago where a fine needle aspiration cytology (FNAC) was performed with the histopathological diagnosis as Pleomorphic Adenoma. This diagnosis was followed by an attempt of removal through Fundus Endoscopic Sinus Surgery (FESS) but was abandoned for unknown reasons.

On clinical examination, a firm swelling on the left nasal region involving the dorsum and lateral nasal walls with obstruction of the ala was observed. The inferior concha was also involved and nasal speech was observed. There were no signs of diplopia, intra-oral or maxillary lesions.

Magnetic Resonance Imaging (MRI) evaluation revealed a lobulated heterogeneously hyper intense mass lesion seen in the left side of the nasal cavity, measuring 3.3 x 1.2 x 5.2 cm in size, seen to efface/infiltrate middle and the inferior nasal turbinates. Lobulated soft tissue was seen in the lateral recess of the nasopharynx on the left side. It measured approximately 10.0 x 10.0 mm in size (Figure 1).

Figure 1: Lobulated heterogeneously hyper intense mass lesion seen in the left side of the nasal cavity.

Following investigations, surgical wide excision of the lesion under general anaesthesia was advised to which the patient complied. A lateral rhinotomy was performed through a Weber-Ferguson incision and a well - capsulated, 4 x 5 cm mass which was soft, pinkish-grey and adherent to the mucosa of the nasal cavity involving the

inferior, middle and superior turbinates was excised en bloc along with a portion of the left lateral nasal wall.

The adjacent mucosa was clear of lesion upon removal of the mass. Patient was treated with antibiotics, antacids, analgesics, physiotherapy, IV fluids and other supportive care. Alternate sutures were removed on Day 4 and patient was discharged following uneventful healing postoperatively. Patient is currently on follow up and is doing well.

The histopathological findings of the excised mass revealed multiple tissue fragments displaying a lining of pseudostratified ciliated columnar epithelium with sub epithelium displaying a neoplasm composed of mixed epithelial and stromal elements. Epithelial cells were arranged in clusters, sheets, cords and glandular pattern. Cells showed hyperchromatic nucleus with mild pleomorphism and moderate amount of cytoplasm. Areas of squamous metaplasia were noted with a chondromyxoid stroma and oval to spindle shaped cells with bland nuclei (Figure 2).

Figure 2: Areas of squamous metaplasia were noted with a chondromyxoid stroma and oval to spindle shaped cells with bland nuclei.

Discussion

Intranasal masses can generally be classified into benign tumour, malignant tumours and inflammatory reactions. The most common benign lesions seen in the nasal cavity are Osteomas, Inverted Papilloma followed by Pleomorphic Adenoma. Soft tissue masses are best visualised through an MRI and lobulated masses on the images may give a hint to a diagnosis of pleomorphic adenoma [2]. Although, pleomorphic adenoma is a rare differential for intranasal masses, several literatures can be found of it arising from minor glands of the nasal cavity (Table 1).

Pleomorphic adenoma is historically observed mainly as a major salivary gland pathology arising largely in the parotid and submandibular glands as well as intraoral minor salivary glands. The lesion shows a slight predilection to occur in females between the ages of 30 and 50 years [3].

Compagno, *et al.* presented the largest case series of pleomorphic adenoma of the nasal cavity of 40 cases followed by Suzuki, *et al.* with 41 cases and Vento, *et al.* with 10 cases to provide an insight into nasal origin mixed tumours. While the recurrence rate is low, a potential for malignant transformation has been observed up to 6% [4-6].

Clinical features include slow growing mass generally asymptomatic unless involving the facial nerve in case of parotid gland tumour. Nasal masses may be asymptomatic with unilateral mass and occasional complaints or epistaxis and facial pain [7]. Histopathological findings of pleomorphic adenoma include the characteristic mixed appearance of both epithelial and myoepithelial components [8]. Our case represented a unilateral, obstructing mass with cells arranged in sheets, cords and glands in a chondromyxoid stroma which is characteristic to PA.

A review conducted by Weirzchowska, *et al.* differentiated nasal PA to intraoral PA by noting the former to have a lower stromal matter and an increased cellular component while also lacking an external capsule [8]. Antibodies of cytokeratins, S100 protein, vimentin, and the Ki67 proliferation could confirm the final diagnosis via immunohistochemical staining [9].

A PubMed search for "Pleomorphic adenoma of the nasal cavity" revealed 54 articles of a total 169 cases; after elimination of articles which did not provide sufficient information, we reviewed 34 cases for their mode of management of this lesion (Table 1).

The most accepted mode of treatment is complete surgical excision through lateral rhinotomy, midfacial degloving, transpalatal surgery and endoscopic surgery. It is essential to ensure complete excision of the region to prevent recurrence, which, may be difficult through an endoscopic approach [10].

The main criteria for selection of a surgical approach should be the feasibility of an en bloc resection to avoid any spillage of tumour cells as pleomorphic adenoma is known for its potential for recurrence. The advantage of endoscopic approach would be the absence of facial incision which would be cosmetically acceptable. However, the chances of en bloc removal remain pretty low. Open methods on the other hand allow for complete resection - Lateral rhinotomy is the preferred approach for anteriorly located nasal lesions.

We approached this mass through a classical Weber - Ferguson incision for lateral rhinotomy which allowed for the excision of mass in toto and ensured complete closure of the region with minimal aesthetic defect.

A long term follow-up has been deemed mandatory for clinical evidence to show early signs of recurrence in the region which can then be confirmed by CT and MRI imaging [5].

Authors	No. of cases	Treatment	Recurrence/malignant transformation
Vento, <i>et al.</i>	10	Wide excision	None
Hirai S, <i>et al.</i>	3	Tumor enucleation	None
Baglam T, <i>et al.</i>	1	Wide excision lateral rhinotomy	None
Baron S, <i>et al.</i>	1	Endonasal approach	None
Ceylan A, <i>et al.</i>	1 (recurrent)	Surgical wide excision	None
Anand, <i>et al.</i>	1	Surgical wide excision	None
Yazbenea Y, <i>et al.</i>	1 (carcinomatous)	Wide excision paralateronasal rhinotomy	None
Kandiah R, <i>et al.</i>	1	Endoscopic excision	None
Hague F, <i>et al.</i>	1	Wide excision lateral rhinotomy	None
Narozny, <i>et al.</i>	8	Wide excision lateral rhinotomy	None
Mansell NJ, <i>et al.</i>	1	Wide excision lateral rhinotomy	None
Mohamad I, <i>et al.</i>	1	Wide excision	None
WierzchoNwka M, <i>et al.</i>	3	Endoscopic surgery	None
Saxena, <i>et al.</i>	1	Wide excision lateral rhinotomy	None
D Sciandra, <i>et al.</i>	1	Endoscopic surgery	None
Stephen B, <i>et al.</i>	1	Wide excision lateral rhinotomy	Metastizing PA from Submandibular gland
Giuseppe M, <i>et al.</i>	1	Endoscopic surgery	None
Kumagai M, <i>et al.</i>	1	Endoscopic surgery	None
Jassar P, <i>et al.</i>	1	Intranasal excision	Not mentioned
Acevedo, <i>et al.</i>	1	Endoscopic surgery	None
Thankur, <i>et al.</i>	1	Transpalatal surgical wide excision	None
Li 3, <i>et al.</i>	1	Endoscopic endonasal wide excision	None
Cho Y, <i>et al.</i>	1	Transnasal endoscopic wide excision	None
Karakus MF, <i>et al.</i>	1	Endoscopic	None
Rodrigues N R, <i>et al.</i>	1	Facial degloving - surgical excision	None
Castello, <i>et al.</i>	1	Facial degloving - surgical excision -median maxillectomy	None
Olajide, <i>et al.</i>	1	Intranasal excision	None
Wakami S, <i>et al.</i>	1	Intranasal excision	None
Ekhar VR, <i>et al.</i>	1	Lateral Rhinotomy	None
Kansara A, <i>et al.</i>	1	Endoscopic wide excision	None
Reddy VR, <i>et al.</i>	1	Wide excision	None
Wu F, <i>et al.</i>	5	Endoscopic endonasal surgery	None
Sciarretta V, <i>et al.</i>	Does not mention how many PA	Endoscopic	Does not mention how many PA
Majed MA	1	Lateral Rhinotomy	None

Table 1: Details of the review of articles for surgical methods of treatment.

Conclusion

Extra-oral incidence of pleomorphic adenoma albeit a rare finding, should be considered as an important differential for any slowly growing, unilateral obstructive mass in the nasal cavity. While imaging can help with diagnosis and treatment planning, the gold standard for confirmation remains histopathological examination and surgical wide excision is the treatment of choice. The surgical approach can be decided by taking into consideration the location and size of the mass. Regular, long term follow up is essential to identify and detect loco-regional recurrences, if any.

Disclosure

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