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A clinical study of endoscopic management of benign tumors of nasopharynx

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ABSTRACT

Background: Benign tumors of nasopharynx are extremely rare; seen predominantly in children and young adults. Patients usually present with seemingly innocuous symptoms and an error in judgment can be catastrophic. Aim of our study is to analyse the incidence of these lesions, common presenting features and outcomes of endoscopic management.
Methods: This is a retrospective analysis of patients diagnosed to have benign tumours of nasopharynx by histopathological examination in our ENT department of civil hospital, B. J. Medical College, Ahmedabad. The period of study is from January 2016 to January 2018. Forty patients with complete clinical data were identified and included in the study. 33 patients out of 40 (83%) were males and 7 were females (17%). Following surgical excision patients were followed up for a mean period of 2 years. The Clinical profile, investigation modalities, treatment options are being analysed here.
Results: Forty patients had undergone surgical excision for tumours arising from the nasopharynx. The mean age was 21.37 years (range 10–43). Thirty three patients were males and seven were females. Indications for resection were juvenile nasopharyngeal angiofibroma in thirty cases, lobular capillary hemangioma in four cases, paraganglioma in two cases, hemangiopericytoma in two cases, and neurofibroma in two cases. There were no significant post-operative complications. Recurrence due to residual lesion was seen in three cases. The mean follow up period was 2 years (range 1-3 years).
Conclusions: It is important to note that patients with similar symptoms have varied pathology and thus need for radiological evaluation, JNA is commonest benign nasopharyngeal tumor and surgical approach depends on size and extent of tumor.

Keywords: Benign tumours, Nasopharynx, Endoscopic

INTRODUCTION

Nasopharyngeal masses presents with a wide range of clinical features, attributable to several benign conditions and a high index of suspicion is needed for timely management.[1] Patients usually present late and hence accurate diagnosis and early intervention is indicated to prevent complications.[1] Here we describe our experience with management of these rare lesions with an aim to analyze the incidence and common presenting features of these lesions and the outcome of endoscopic management.

Nasopharynx is the uppermost part of pharynx and is a posterior extension of nasal cavity. Anterior aspect of roof has body of sphenoid and curved posterior aspect by base of occipital bone. Lateral wall has opening of Eustachian tube. The ostium of the eustachian tube is

anterior to a pharyngeal recess known as the fossa of Rosenmuller. Floor is formed by soft palate anteriorly and is deficient posteriorly. Anteriorly posterior nares and posteriorly first and second cervical vertebrae.[2]

Epithelial lining of nasopharynx is stratified squamous epithelium and pseudo stratified columnar respiratory epithelium.[3]

WHO classification of tumors of nasopharynx [4]

Epithelial tumors

Benign: Papilloma, pleomorphic adenoma, oncocytoma, basal cell adenoma, ectopic pituitary adenoma.

Soft tissue tumors

Benign: Angiofibroma**,** emangioma, hemangiopericytoma, neurilemmoma, neuro-fibroma, paraganglioma.

Aims and objectives

Aim of our study is to analyze the incidence of these lesions, common presenting features and outcomes of endoscopic management.

METHODS

Retrospective study was performed for 40 patients who underwent surgical treatment for nasopharyngeal lesions from January 2016 to January 2018 in our ENT department of civil hospital, B. J. Medical College, Ahmedabad. All malignant lesions were excluded from the study. Patient demographics, symptomatology, radiological investigations, surgical approach, tumor histology and patient outcome were assessed. Microsoft excel software was used to analyze the data.

Inclusion criteria

- Benign nasopharyngeal tumours.
- Lesion involving the nose, para nasal sinus, nasopharynx, pterygopalatine fossa and infra temporal fossa which could be managed endoscopically.

Exclusion criteria

- All malignant lesions.
- Lesion involving brain parenchyma which cannot be managed endoscopically.

Physical characteristics of the mass on post nasal examination and diagnostic nasal endoscopy were similar and non-specific; attributable to any benign lesion. All patients underwent CECT of nose and paranasal sinuses. MRI of nose and paranasal sinus with orbital and brain cuts were done in case of orbital involvement, intracranial extension and parapharyngeal involvement.

Endonasal endoscopic approach was used which was based on:

- Complete excision of the tumour.
- Enlarging the usual drainage pathways.
- Leaving the periosteum and mucosal lining in place to allow osteogenesis and bone remodeling.

For the procedure a Zyee 0 degree 4 mm 18 cm rigid endoscope was used. This was connected to a Karl Storz monitor. Surgical instruments were used same as in routine surgeries

Informed and written consent was taken and every patient underwent pre anesthetic checkup. All the patients were operated under general anaesthesia with nasal decongestion and local infiltration with 1 in 2 lakhs dilution of xylocaine with adrenaline. In most cases, we firstly dissected and separated the mass in its most anterior attachment. As tumour insertion was subperiosteal the entire tumour was usually subperiosteal and submucosal and an incision was made through the nasal mucosa at a site close to the mass and force applied to dissect it from this point. The tumour was then progressively detached by posteromedially pushing and pulling downward, so that the tumour was pushed to the nasopharynx. For better visualization uncinectomy, wide antrostomy, ethmoidectomy, sphenoidotomy, and partial middle turbinectomy were performed according to the extension of the mass. However, in many cases the tumour mass and its extension gave us enough options to follow without the need to remove any specific anatomical area. Tumour removal at its boundaries in the sphenoid and maxillary sinus was usually completed by progressive traction and detachment.

Following this step the region of the sphenopalatine foramen was exposed by resecting the posterior half of the middle turbinate, as well as performing an antrostomy and possibly a posterior ethmoidectomy, which led to exposure of the orbital surface. Kerrison's punch was then used to remove the posterior wall of the maxillary sinus. This was often an easy procedure due to thinning of the bone caused by the tumour. Thus, virtual removal of the entire posterior wall of the sinus was possible. After releasing the tumour from its boundaries and pushing it down into the nasopharynx and oropharynx, en bloc resection of the tumour was possible by transoral extraction. The operative field was then carefully inspected to detect any possible remnants. Additional homeostasis was carried out as necessary.

Nasal pack was kept in situ for 24 hours post operatively. Patients were discharged with nasal douching. Nasal endoscopy was done at 1 week, 1 month, 3 months and 6 months. Then every 6 monthly for total duration of 2 years.

RESULTS

Forty patients had undergone surgical excision for tumors arising from or involving the nasopharynx. The mean age was 21.37 years (range 10–43). Thirty three patients (83%) were males and 7 (17%) were females.

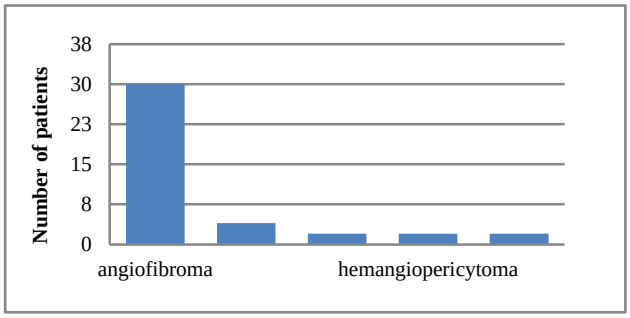

Figure 1: Individual number of cases included in the study.

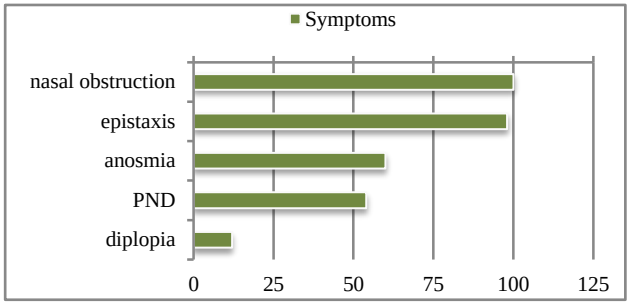

Figure 2: Symptoms which patient presented in percentage.

Benign nasopharyngeal tumors were juvenile nasopharyngeal angiofibroma in thirty cases (75%), lobular capillary hemangioma in four cases (10%), paraganglioma in two cases (5%), hemangiopericytoma in two cases (5%), and neurofibroma in two cases (5%). Unprovoked epistaxis and nasal obstruction were most common presenting features.[4] Physical characteristics on anterior rhinos copy and diagnostic nasal endoscopy was nonspecific. All patients underwent CECT nose and PNS.

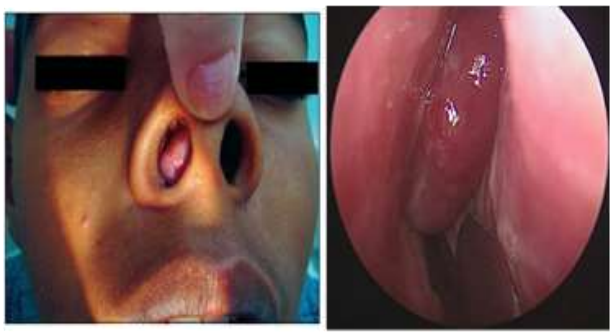

Figure 3: Preoperative picture of patient with mass in right nasal cavity (right) and nasal endoscopic picture of mass arising from nasopharynx (left).

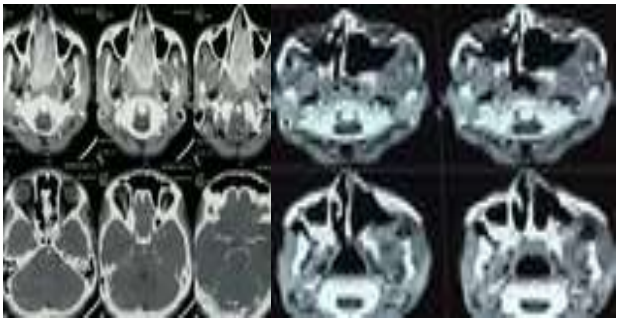

Figure 4: Preoperative and postoperative CT scan of the patient. Postoperative CT was done 3 months post-surgery.

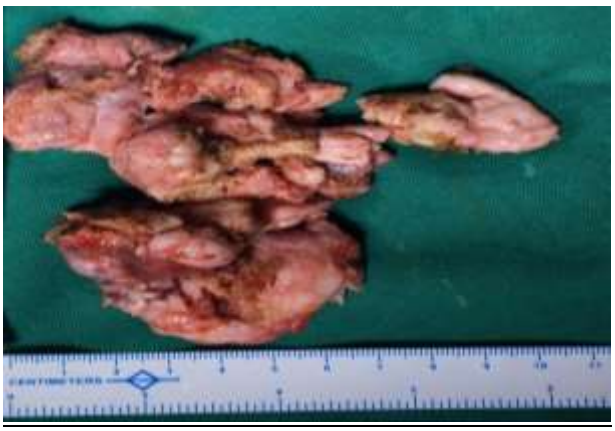

Figure 5: Resected specimen of mass arising from nasopharynx shown in figure 2 which on HPE s/o juvenile nasal angiofibroma.

There were no significant post-operative complications. Recurrence due to residual lesion was seen in three cases (7%). The mean follow up period was 2 years.

DISCUSSION

Primary benign nasopharyngeal tumors are rare. They occur commonly in second and third decades with predominance in males. The commonest presenting symptoms in our study were nasal obstruction and epistaxis, followed by mass in the nose, and nasal discharge which was similar to the study done by Moorthy et al.[5] Among the benign tumors vascular tumors were found to be commonest non epithelial tumours in our study which was similar to the study done by Mohanty et al.[6] Among which juvenile nasopharyngeal angiofibroma was the commonest benign vascular tumor accounting for more than 50%. All masses of the nasopharynx should be studied carefully. When surgically removed, they should be subjected to histopathological examination to confirm the diagnosis and to rule out malignancy. This will help in effective management. Surgical approach to nasopharynx can be via external approach like lateral rhinotomy, transpalatal route and maxillary swing.[6] These approaches have more

morbidity thus transnasl endoscopic approach is betters it provides better visualisation with less morbidity.[7]

CONCLUSION

Thus concluding JNA is commonest benign naso-pharyngeal tumour and surgical approach depends on size and extent of tumour.[5] All masses of nasopharynx should be subjected to radiological and post op histopathological examination for proper management. Benign masses of nasopharynx makes an interesting study which requires proper history, thorough examination, histopathological evaluation for effective management.

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Conflict of interest: None declared
Ethical approval: The study was approved by the Institutional Ethics Committee

REFERENCES

1. Mohanty S, Gopinath M, Subramanian M. Benign Tumours of Nasopharynx-Revisited. Indian J Otolaryngol Head Neck Surg. 2013;65(1):22-5.
2. Anatomy of the Nasopharynx. Acta Oto-Laryngologica. 1975;79(329):2-3.
3. Moorthy PNS, Reddy BR, Qaiyum HA, Srivalli M, Srikanth K. Management of juvenile nasopharyngeal angiofibroma: a five year retrospective study. Indian J Otolaryngol Head Neck Surg. 2010;62(4):390–4.
4. Callum Faris. Scott-Brown's Otorhinolaryngology, Head and Neck Surgery. 7th edn. London: Hodder Arnold; 2008: 2449.
5. Fu YS, Perzin KH. Non-epithelial tumors of the nasal cavity, paranasal sinuses, and nasopharynx: a clinicopathologic study I. General features and vascular tumors. Cancer. 1974;33:1275–88.
6. Wei WI, Ho CM, Yuen PW, Fung CF, Sham JS, Lam KH. Maxillary swing approach for resection of tumors in and around the nasopharynx. Arch Otolaryngol Head Neck Surg. 1995;121:638–42.
7. Radkowski D, McGill T, Healy GB, Ohlms L, Jones DT. Angiofibroma changes in staging and treatment. Arch Otolaryngol Head Neck Surg. 1996;122(2):122–9.

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