

Original Research Article

Benign lesions of the sinonasal tract: clinical study

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ABSTRACT

Background: Benign nasal mass lesions may remain asymptomatic for a long time. Bothersome symptoms like nasal obstruction, bleeding from nose, headache prompts the patient to visit the hospital. Although these are not life threatening, but yet timely intervention not only relieves patient symptoms but also prevents its further progress which may necessitate a more extensive surgical approach. The aim of the study was to determine the incidence of various benign nasal mass lesions presenting to the ENT outpatient department, by reviewing the histopathological report postoperatively.

Methods: It's a retrospective study over a period of 4 years and 1 month (from November 2012 to November 2016). Both males and females in the age group 1 yr to 70 yrs, who underwent surgery for nasal mass and histopathologically proved as benign mass, were included in the study. Patient data was collected from medical record section, operation theatre surgical records and histopathology register from the department of pathology.

Results: Histopathology review of 146 cases was done. Majority of the patients (139/146) had non neoplastic lesions and only 7 patients had benign neoplastic lesion. Majority were males and in the age group of 20 to 60 yrs.

Conclusions: Though the majority of nasal mass lesions studied are benign non neoplastic, yet these cause bothersome symptoms to the patients thereby requiring surgical intervention.

Keywords: Polyp, Nasal mass, Neoplastic, Surgery

INTRODUCTION

Large number of patients present to the ENT opd with complaints of nasal mass and associated complaints of nasal obstruction. Some of the commonest benign nasal mass lesions are-allergic nasal polyp, inflammatory polyps, hemangiomas, angiofibromas, foreign body granuloma and rhinolith.¹ Less common are benign neoplastic lesions like schwannoma and hemangiopericytoma. Neoplasm of nasal cavity and paranasal sinuses account for 0.2-0.8% of all neoplasm.² In most of the cases ENT examination and diagnostic nasal endoscopy followed by radiological investigations are sufficient to arrive at a diagnosis, however some cases may require biopsy especially when malignancy is suspected.³ All patients who undergo surgery for the nasal

mass, the excised specimen is mandatorily sent for histopathological examination.

In our study we did a retrospective analysis of patients who presented with nasal mass and underwent surgery with mandatory post-operative histopathological examination of the excised mass, to determine the incidence of various benign nasal mass lesions presenting to our outpatient department.

METHODS

Ours is a retrospective study done at a tertiary care hospital, to assess the incidence of various benign nasal mass lesions over a period of 4 years and 1 month (from November 2012 to November 2016).

All those patients (both males and females in the age group of 1 to 70 yrs) who underwent surgery for nasal mass and histopathologically proved as benign mass were included in the study. Depending on the histopathology the benign nasal mass lesions were divided into neoplastic and non neoplastic lesions.

Patient data was collected from medical record section, operation theatre surgical records and histopathology reports from the department of pathology.

RESULTS

Retrospective analysis of histopathological reports of 146 patients who presented with nasal mass (benign nasal mass and underwent surgery), over a period of 4 years was done. Following the surgical procedure, the excised specimen was sent for histopathological examination, processed sections were stained with hematoxylin and eosin stain. Special stains were used wherever applicable.

Out of 146 patients, majority were males. 79 were males and 67 females (Table 1).

Table 1: Demographic outcome.

Sex	N (%)
Males	79 (54.10)
Females	67 (45.89)

62 patients presented with bilateral nasal obstruction and 36 patients with unilateral nasal obstruction. 5 patients presented with complaints of occasional episodes of bleeding from nose. Rest of the patients gave non specific complaints like headache, facial pain, alternating nasal obstruction (Table 2).

Table 2: Clinical symptoms.

	N (%)
Unilateral nasal obstruction	36 (24.65)
Bilateral nasal obstruction	62 (42.46)
Occasional episodes of bleeding from nose	5 (3.42)
Nonspecific symptoms	43 (29.45)

Table 3: Histopathological outcome.

	N (%)
B/L ethmoidal polyp.	68 (46.57)
Antrochoanal polyp	42 (28.76)
Foreign body granuloma	7 (4.79)
Nasolabial cyst	7 (4.79)
Rhinolith	6(4.10)
Hemangioma	5(3.42)
Fibroangioma	4(2.73)
Rhinoscleroma	3(2.05)
Shwannoma	2 (1.36)
Rhinosporidiosis	1 (0.68)
Hemangiopericytoma.	1 (0.68)

The histopathology review of 146 patients showed the following findings (Table 3).

DISCUSSION

Patients with nasal mass may present with various symptoms like nasal obstruction, epistaxis, hyposmia, headache etc. In all these patients, ENT examination is done including diagnostic nasal endoscopy followed by necessary radiological investigations and in certain cases biopsy may be required for confirmation of diagnosis. In all those patients undergoing surgery, the excised specimen is submitted for histopathological examination mandatorily as both benign and malignant tumours can mimic each other or even coexist at times.⁴

In our study the incidence of non neoplastic lesion was very high(96.52%) compared to neoplastic lesion, which was only 4.86%. This is comparable to earlier studies by Dasgupta et al.⁵ and Mysorekar et al in which the incidence of non neoplastic lesion was higher than neoplastic lesions.⁶

Non neoplastic lesions

Ethmoidal and antrochoanal polyp: They constituted 79.11% of the total cases. Bilateral ethmoidal polyps were 48.9% and antrochoanal polyp were 30.21% of the cases. Majority were males (78%). Females formed 22% of the cases. All were in 20-50 yrs age group. All these patients presented with either unilateral or bilateral nasal obstruction and underwent FESS after complete examination.

Hemangiomas: Hemangiomas are benign neoplasms composed of proliferative and hyperplastic vascular endothelium.⁷

In our study 5 out of 139 benign non neoplastic cases were hemangiomas, out of which 3 were males and 2 females. All the 5 patients presented with history of repeated episodes of nasal bleed and 4 of them had unilateral nasal obstruction. On DNE, in 3 out of the 5 cases, the lesion was found to be arising from septum and in 2 cases from lateral nasal wall.

Rhinoscleroma: Rhinoscleroma is a chronic, slowly progressive inflammatory disease of the upper respiratory tract, caused by *Klebsiella rhinoscleromatis*.⁸ In our study 3 out of 139 benign non neoplastic cases were Rhinoscleroma. All the 3 patients presented with complaints of nasal obstruction.

Rhinosporidiosis: It is a chronic granulomatous disease caused by rhinosporidium seebri. Although a variety of sites may be affected, the principal site of infection is the nasal mucosa. It is more prevalent in males and in second decade of life.⁹ In our study only 1 case of rhinosporidiosis was diagnosed.

Rhinolith: The term rhinolith was first coined in 1848 to describe a partially or completely encrusted foreign body in nose.¹⁰ Rhinolith may at times develop spontaneously in case of chronic sinusitis with accumulation of secretions followed by mineral deposition.^{11,12} In our study 6 cases of rhinolith were reported.

Foreign body granuloma: If there is no clear history of foreign body insertion into the nasal cavity, a radiological image of foreign body granuloma may be easily mistaken for a soft tissue neoplasm.¹³ In our study 7 cases were reported and all the 7 patients presented with complaints of partial nasal obstruction.

Nasolabial cyst: It is a non odontogenic soft tissue cyst occurring in the maxillofacial region. It expands slowly causing a swelling in the nasolabial region and at times expands and present inside the nasal cavity as nasal mass arising from lateral nasal mass. Usually seen in 4th to 5th decade of life. Most often presents as unilateral cyst, the incidence of bilateral cyst is 10% in literature.¹⁴ In our study 7 cases were reported and all presented with unilateral swelling over the nasolabial region.

Benign neoplastic lesions

Schwannomas: These are benign nerve sheath tumours that may arise anywhere in the body. Although one third of these tumours arise in the head and neck, their occurrence in the nasal cavity is rare, representing only 4% of all head and neck schwannomas.¹⁵ Nasal and sinonasal schwannomas arising along the septum may occur along the course of anterior ethmoidal nerve at the anterior aspect of the nasal septum as a part of the first division of trigeminal nerve or along the nasopalatine nerve, part of the second division of trigeminal nerve.¹⁶ In our study 2 cases of nasal schwannomas were reported both arising from the lateral nasal wall.

Fibroangiomas: Patients with angiofibromas present with classical complaints of epistaxis, however in case of fibroangioma (in our study all the 4 cases of fibroangioma) present with nasal obstruction and mass in the nasal cavity with history of occasional episodes of bleeding from nose. It is a benign fibrovascular tumour with dominant fibrous component. Primary treatment is surgical excision, depending on the extent of the tumour, various approaches are used like lateral rhinotomy, infratemporal fossa approach, midfacial degloving procedure or combined craniofacial resection.¹⁷

Hemangiopericytoma: It is a tumour arising from the pericytes of the capillaries, representing 1% of the vascular tumours.¹⁸ In our study only 1 case of hemangiopericytoma was reported. This patient presented with unilateral nasal obstruction occasional episodes of bleeding from nose. CT scan showed evidence of nasal mass in the region of anterior and posterior ethmoidal air cells with partial erosion of adjacent lateral orbital wall. Patient underwent endoscopic excision with complete

relief of symptoms. After 5 months patient again presented with complaints of partial nasal obstruction on the same side. Repeat CT was suggestive of small mass at the same site. Diagnosed as recurrence and revision surgery was done (complete excision by external ethmoidectomy approach).

CONCLUSION

In our study inflammatory and allergic nasal polyp was found to be the commonest benign nasal mass lesion. All the patients presenting with nasal mass lesion require a detailed ENT examination and radiological workup (computed tomography of nose and paranasal sinuses). In certain cases a biopsy is mandatory to plan the surgical approach. Though benign nasal mass lesions are not life threatening yet they cause significant bothersome symptoms which necessitates surgical intervention, not only to alleviate patient symptoms but also for histopathological confirmation of diagnosis.

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Ethical approval: The study was approved by the Institutional Ethics Committee

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