

Original Research Article

A clinicopathological study of patients with sino nasal polyposis in tertiary care centre

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ABSTRACT

Background: Masses in sino nasal cavity presents with wide range of complaints like nasal obstruction, nasal discharge, epistaxis, headache, swelling in and around the nose, through clinical examination, rigid nasal endoscopy and by use of advanced imaging technique computerized tomography (CT), magnetic resonance imaging (MRI) of nose and paranasal sinuses. Presumptive diagnosis is often made. However, it is a careful histopathological examination which divides the nature of any particular lesion, like neoplastic benign or malignant or non-neoplastic and inflammatory which makes possible to implement correct and timely intervention, which is a major dividing factor for better prognosis.

Methods: A total of 100 cases of nasal polyps were studied by the department of ENT at Hassan institute of medical sciences, Hassan during a period of 1 year from January 2019 to January 2020. They were treated surgically by endoscopic excision, lateral rhinotomy or by radical surgery. All the excised masses were sent for histopathological examination to determine their final diagnosis.

Results: The middle age group of 21 to 30 years was the most common age group affected with more male predominance. Nearly 85% of the cases were non-neoplastic. The most common presentation was nasal obstruction with ethmoidal sinus being the commonest sinuses seen in the present study.

Conclusions: Polypoid lesions in the nasal cavity and paranasal sinuses may range widely from benign to malignant affecting all the ages. Common nasal lesions were seen in age group 21-30 years and maximum lesions were non-neoplastic.

Keywords: Polyp, Neoplastic, Polypoid, Sino nasal

INTRODUCTION

The nose is the most prominent part of the face with functional and considerable aesthetic importance. Anatomical position of the nose and its passage have been considered as the direct route to the brain.¹

Masses in sino nasal cavity presents with wide range of complaints like nasal obstruction, nasal discharge, epistaxis, headache, swelling in and around the nose, through clinical examination, rigid nasal endoscopy and

by use of advanced imaging technique CT, MRI of nose and paranasal sinuses. Presumptive diagnosis is often made.

Nasal masses are common finding in an ENT (ear, nose and throat) outpatient department. Masses in the sino nasal cavity and nasopharynx may be neoplastic or non-neoplastic. Presence of any mass in the nose and paranasal sinuses seems to be a simple problem. However, it raises many questions about the differential diagnosis.²

A variety of sino nasal conditions (neoplastic, non-neoplastic and inflammatory) are very common lesions encountered in clinical practice with the reported incidence of 1 to 4% of the population. Most patients present with complaints of nasal obstruction.³ Associated symptoms may be excessive sneezing, rhinorrhea, headache, post nasal discharge, epistaxis or hyposmia.

Polypoid masses in the nose are quite common in otorhinolaryngological practice. In fact, the most common benign mass in nose is the nasal polyp. These masses can be congenital or acquired. Congenital masses such as dermoid cysts, glioma and encephaloceles are predominantly midline swellings and may present either intranasally or extra nasally.^{4,5}

Interestingly, this condition affects only humans and chimpanzees. Acquired sino nasal masses can be inflammatory including allergic, traumatic, granulomatous or neoplastic (benign and malignant) in nature.⁶ A nasal polyp is simply a physical finding but not a diagnosis by itself because a variety of lesions, ranging from simple allergic nasal polyp to malignancy can mimic a similar presentation. With advanced investigations like CT or MRI scan (with or without contrast), a presumptive diagnosis can be made with some certainty. Nasal polyps appear as smooth, shiny, boggy, grey to pink, edematous mass.^{7,8}

However it is a careful histopathological examination which divides the nature of any particular lesion, like neoplastic benign or malignant or non-neoplastic and inflammatory which makes possible to implement correct and timely intervention, which is a major dividing factor for better prognosis.

Objective

The objective was to study the clinical presentation and histopathological classification of sino nasal masses.

METHODS

The present study was 1 year prospective study carried with patients who presented themselves to the department of ENT in HIMS, Hassan from January 2019 to January 2020. A total of 100 study patients with nasal or sino nasal polypoid masses during the study period who met the inclusion criteria were selected for the purpose of the study by convenient sampling.

Inclusion criteria

All patients who presented with nasal or sino nasal polyps for the first time and the patients who gave consent were included in the study.

Exclusion criteria

The study excluded patients whose polyps or mass had been treated earlier and patients who didn't give consent.

All the patients were thoroughly examined clinically after taking a detailed history regarding their habits, occupation, onset, progression and duration of illness and other general aspects. Anterior rhinoscopy and posterior rhinoscopy were done. Diagnostic nasal endoscopic was done with 0 degree nasal endoscope under 4% lignocaine anesthesia and the extent of the nasal mass was determined whenever possible. Investigations like complete blood chemistry including absolute eosinophil count, urine analysis, ECG, chest X-ray and 2-D echocardiogram were done. Plain X-ray of paranasal sinuses (Water's view) was taken. CT scan (axial and coronal) of paranasal sinuses, with contrast enhancement whenever necessary, was done in all cases to determine the extent of involvement of various structures and nature of the disease.

The study was undertaken after obtaining the approval from the institute ethical committee and data was analyzed using microsoft office excel 2007 and presented in the form of percentage and ratio.

RESULTS

The presenting symptoms of majority of these 100 patients were nasal obstruction, excessive sneezing, rhinorrhea and nasal mass. Post-nasal discharge, headache (mainly in orbital or frontal region) and hyposmia were the next frequent symptoms. Epistaxis occurred in a few patients. 63 patients were males and 37 were females. 8 patients were children aged below 10 years, 5 were aged between 11 to 20 years and the rest between 21 to 70 years, with maximum numbers between 21 to 50 years of age. Neoplastic lesions presented predominantly with nasal obstruction and nasal mass. Other symptoms were epistaxis, hyposmia, rhinorrhoea, headache and postnasal discharge. Neoplastic lesions presented predominantly with nasal obstruction and nasal mass. Other symptoms were epistaxis, hyposmia, rhinorrhea, headache and postnasal discharge. Three angiofibroma cases which affected adolescent males presented with recurrent episodes of epistaxis, nasal obstruction and snoring. All the patients were investigated thoroughly, admitted to hospital and treated, mainly by surgery. Functional Endoscopic Sinus Surgery was done in the majority of patients. Angiofibromata were excised by lateral rhinotomy and medial maxillectomy aided by nasal endoscope. Inverted papilloma cases also required radical excision by lateral rhinotomy. Endoscopic biopsy was done for cases of maxillary carcinoma. All the excised tissues from these cases were sent for histopathological examination. Squamous cell carcinoma accounted for 3 cases (Table 2 and 3).

Table 1: Various lesions encountered in our study.

Type of lesions	Number of patients
Ethmoidal polyps	46
Antro-choanal polyps	38
Both ethmoidal and antrochoanal polyps	1
Frontoethmoidal mucocele	0
Angiofibroma	3
Haemangioma	2
Inverted papilloma	7
Carcinoma of maxilla	3

Table 2: Age distribution in the series.

Age group (in years)	Number of patients
0 to 10	8
11 to 20	5
21 to 30	12
31 to 40	26
41 to 50	17
51 to 60	21
61 to 70	11

Table 3: Gender distribution in the series.

Types of lesions	Number of males	Number of females
Non-neoplastic	51	34
Neoplastic	12	03

Of these 100 patients, 63 were males and 37 were females. 8 patients were children aged below 10 years and the rest ranged from 11 to 70 years. 85 cases were non-neoplastic lesions and 15 were neoplastic in nature. Of these 15 cases, 12 were benign lesions and 3 cases were malignant. Among the non-neoplastic lesions, ethmoidal polyps amounted to 46, antro-choanal polyps 38, both ethmoidal and antro-choanal polyps (Table 1).

DISCUSSION

All the patients presented with a polypoidal mass in the nose and/or paranasal sinuses and nasal obstruction. Other symptoms were excessive sneezing, postnasal discharge, headache, hyposmia and epistaxis. 63 patients were males and 37 were females, showing that males are more commonly affected than females. This was observed for both non-neoplastic and neoplastic lesions. All ages were affected from childhood (6-70 years) but there is a peak period in the 21 to 50 years aged patients. The 8 children who were affected by antro-choanal polyps were below 10 years of age. Ethmoidal polyposis was the most common disease affecting 46 patients, followed by antro-choanal polyps in 38. Both were present in 1st case. 2 cases were nasopharyngeal angiofibromata and 12 were of inverted papilloma. Carcinoma of maxilla was found in 1 case.

In the study done by Rokade et al sino nasal masses were found to be having high predilection for male of 1.6:1 and Zafar et al also found more male predominance of 1.7:1 which is similar to other studies.^{9,10}

The most common age of presentation of this condition was seen between the age group of 21 to 30 years of the age in the present study. These findings were found to be comparable to the study findings of Bakari et al where it was 33 years and Zafar et al where age was 22.5 years of age.^{2,10}

Histopathological findings were found to vary from the clinical diagnosis in some of the cases. Eosinophils predominated followed by lymphocytes, plasma cells, macrophages and neutrophils in cases of ethmoidal polyps, whereas lymphocytes were predominant in antro-choanal polyps.

Among the neoplastic cases, 12 were benign and 3 were malignant. Of the benign cases, 3 cases were nasopharyngeal angiofibroma, 2 were haemangioma (bleeding polypus of septum) and 7 were inverted papilloma. Of the malignant cases, squamous cell carcinoma was seen in 3 cases.

In the present study nearly 85% of the study subjects were non-malignant masses which is in comparable to the study findings of Rokade et al and Dasgupta et al.^{9,11}

In the present study it was seen that ethmoidal and antrochoanal polyps were the most type of polyps seen. Both of these polyps are generally allergic in nature and seen most commonly in tropical countries like India And Sri Lanka.¹²

Limitation

The sample size was smaller and cannot be generalized to whole population and the cases presented to hospital in the later stage of the disease with fear of COVID-19 infection. Hence patient who could have presented early stages might be missed in this study.

CONCLUSION

From our case series, it is evident that polypoidal masses in the nasal cavity and paranasal sinuses form a wide spectrum of lesions ranging from simple non-neoplastic lesions to benign or malignant neoplasms. These lesions affect different age groups and also have different histopathologic findings. They may be due to a variety of aetiologies like allergy, infections, traumatic and possibly many other yet to be identified causes. These may include formation of polyps resembling tumours or may be truly neoplastic. It is quite impossible to distinguish between such lesions clinically. Hence, it is essential that all polypoidal masses excised from the nose and paranasal sinuses during surgery must be thoroughly evaluated by histopathology to avoid a misdiagnosis. Taking into account the medicolegal implications, trauma and financial aspects which might be incurred in case of deceptive diseases, all polypoidal masses excised from the nose and paranasal sinuses justify histopathological examination.

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

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