

HISTOMORPHOLOGICAL STUDY OF BENIGN NASAL MASSES – A FIVE YEAR STUDY

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ABSTRACT:

Background:- Non-neoplastic and neoplastic lesions of nasal cavity, paranasal sinuses and nasopharynx commonly present as either nasal polyps or masses. The symptomatology of all lesions are similar. Histopathologic study being the gold standard, helps in definitive diagnosis of these lesions.

Objectives:-

- To study age and sex predilection, along with study of histologic types of nasal masses
- To find the prevalence of nasal masses

Material and methods:- A retrospective five year study was done. Cases were retrieved from archives, relevant details were collected from the request forms and slides were reviewed.

Results:- There were 166 cases from nasal cavity, paranasal sinuses and nasopharynx, of which non-neoplastic were 152 (91.56%) and neoplastic were 14 (8.43%). Allergic polyps were 140 (84.33%), Rhinoscleroma 7 (04.21%) and Nonspecific inflammatory lesions 5 (03.01%). Neoplastic lesions comprised of Angiomatous polyps 10 (6.02%), Nasopharyngeal Angiofibroma 2 (1.20%) and Papillomas 2 (1.20%).

Conclusion:- Non neoplastic lesions were the commonest pathology of which majority were due to allergic inflammation. Angiomatous polyps were predominant amongst neoplastic lesions.

Keywords:- Nasal cavity, Paranasal sinuses, Nasopharynx, Angiomatous polyp, Nasopharyngeal Angiofibroma, Papilloma

INTRODUCTION

Non-neoplastic and neoplastic lesions of nasal cavity, paranasal sinuses and nasopharynx presents as either polypoidal mass or irregular mass. The lesions affects up to 4% of the population, commonly seen in middle aged males.^{1,2} Nasal polyps are the projections of mucous membrane covered by columnar to ciliated epithelium and extends into the nasal

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cavity, paranasal sinuses or nasopharynx.³ Polypoidal nasal mass is a very common lesion encountered in clinical practice. Most frequently they appear as simple nasal polyp or polypoidal lesions due to a variety of pathologic conditions from infective granulomatous diseases to polypoid neoplasm including malignant lesions.⁴The most common site of origin is ethmoidal labyrinths, particularly from middle turbinate mucosa. These polyps and all the lesions from nasal cavity, nasopharynx and paranasal sinuses clinically present as translucent, gelatinous, rounded mass, ranging from 0.5 to 3cm in diameter.⁵ This unusual clinicopathological features of lesions leads to difficulty in diagnosis, prognosis and

management of the disease and it is important that all polyps and polypoidal lesions of nose should be submitted for histopathology.^{6,3} Carcinomas of the nasal cavity and paranasal sinuses account for 0.2-0.8% of all malignant neoplasms and 3% of those occurring in the head and neck malignancies.⁷ Histopathological study being the gold standard, helps in definitive diagnosis of the lesion.⁴ This will help to identify exact type of polyps, their histomorphology, etiopathogenesis, and the contribution of allergy, bacterial infection and other causes of formation of polyps.³

OBJECTIVES

- To study age and sex predilection, along with study of histologic types of nasal masses
- To find the prevalence of nasal masses

MATERIAL AND METHODS

Source of Data: This is a retrospective study, conducted from the year 2011-2015, undertaken in the department of Pathology, S S Institute of Medical Sciences & Research Centre (SSIMS & RC) Davanagere. Cases presented clinically as nasal masses were included in the study. The clinical details like age, sex, site of lesion and histopathological details were retrieved from the data.

Method of Collection of Data: A total number of 166 cases of nasal masses were studied. All the tissues were fixed in 10% formalin and were

routinely processed and embedded in paraffin. Tiny bits were inked with Eosin. Bony fragments if present were decalcified. Four to five microns thick paraffin sections were taken for the study. Two slides were routinely stained with Haematoxylin and Eosin stain (H&E) and special stains here done whenever needed.

RESULTS: The present study included 166 cases of nasal masses, out of which 104 cases (62.65%) were males and 62 cases (37.34%) were females, with M: F ratio being 1.67:1. The most common site of presentation was antrochoanal region 128 cases (77.1%), followed by ethmoidal region 36 cases (21.7%) and nasopharynx 2 cases (01.2%). The nasal masses presenting as polypoidal mass were 157 cases (94.6%) and as irregular mass were 9 cases (05.4%), with majority of the cases presented as bilateral nasal masses 124 cases (74.7%) and only 42 cases (25.3%) were unilateral. The most affected population in both non-neoplastic and benign neoplastic masses was 11-30 years with 88 cases (53%). Of these non-neoplastic were 152 cases (91.56%) and neoplastic were 14 cases (8.43%). Non neoplastic Allergic polyps were 140 cases (84.33%), Rhinoscleroma 7 cases (4.21%) and Nonspecific inflammatory lesions 5 cases (3.01%). Whereas, the neoplastic lesions were benign lesions, out of which Angiomatous polyps were 10 cases (6.02%), Nasopharyngeal Angiofibroma were 2 cases (1.20%) and Papillomas were 2 cases (1.20%). (Shown in Table 1)

Table 1: HISTOLOGICAL TYPES OF NASAL MASSES

HISTOLOGICAL TYPES OF LESION	NO. OF CASES	(PERCENTAGE %)
INFLAMMATORY POLYP		
Allergic polyp	140 (84.33)	93.39
Angiomatous polyp	09 (06.03)	
Chronic non-specific inflammatory polyp	05 (03.03)	
	154	
RHINOSCLEROMA	07	04.21
NASOPHARYNGEAL ANGIOFIBROMA	02	01.20
INVERTED PAPILLOMA	02	01.20
TOTAL NO OF CASES	166	100

DISCUSSION

The present histopathological study included 166 masses of the nasal cavity, encountered during the period of 5 years. In The most common clinical presentation were polyps. Most common presenting age group being 2nd decade, with mean age of 21.5 years, with male predominance. This was consistent with studies done by Kulkarni et al.⁸ On the present study non-neoplastic polyps 152 cases (91.56%), formed the largest group of polypoidal lesions, followed by neoplastic polyps, benign 14 (08.43%). Similar observations was made by Khan et al⁹ and Kumari et al.¹⁰ Two types of non-neoplastic nasal masses were encountered in the present study, one was allergic polyp associated with nasal allergy, showed eosinophilic infiltration and the other was polyp with chronic infection of nonspecific aetiology and was termed as chronic nonspecific inflammatory polyp, which showed edematous stroma with mixed inflammatory cells consisting

of lymphocytes, plasma cells and eosinophils.³ In our study we observed that majority of cases, 140 cases (84.3%) were allergic polyps and 5 cases (03.01%) were nonspecific inflammatory polyps. The histopathologic findings of allergic polyps were similar to that observed by Dafale et al,⁶ and Khan N et al.⁹ In present study we observed 7 cases of Rhinoscleroma, accounting for 04.21% of all the non-neoplastic lesions. There was no sex predilection. The patients presented with profuse foul smelling nasal discharge. Microscopically the predominant cells were foamy histiocytes (Mikulicz cells) and plasma cells. The study was consistent with Khan et al⁹ 03.33%. Kulkarni et al,⁸ showed 15.8% cases of Rhinoscleroma. Whereas study by Dasgupta et al,¹¹ showed only 01.2% cases of Rhinoscleroma and Garg D et al,¹² have not encountered any cases of Rhinoscleroma. There were 10 cases (06.02%) of Angiomatous polyp microscopy revealed edematous stroma with mixed inflammatory cells consisting of lymphocytes, plasma cells & eosinophils along

with dilated and congested blood vessels. The two benign tumours observed in our study were Angiofibroma and inverted papilloma, accounted for 01.20% each. Angiofibroma cases presented with profuse and recurrent epistaxis from the polypoidal mass. Microscopic features showed an intricate mixture of blood vessels ranging from capillary sized to venous size along with loose oedematous to dense stroma.¹³ Inverted papilloma histopathology revealed proliferating columnar or squamous epithelium with an admixture of mucin secreting cells. The provisional diagnosis was made after clinical examination and radiological investigations but final diagnosis was made only after histopathological examination.⁹ An observation made by Kumari et al¹⁰ showed Angiofibroma and Inverted papilloma 06% each. Whereas, study by Singh D et al,³ showed majority of Angiofibroma cases (11.4%) and Ngairangbam S et al,¹ found majority of Inverted papilloma (9.8%) among the neoplastic benign polyps. In our present study we did not encounter any malignant neoplasms. According to Lathi et al² in their study stated that malignancy of sinonasal tract is rare, while the most common malignancy they encountered was squamous cell carcinoma, in maxillary sinus. Squamous cell carcinoma was seen in majority 37.5% and 25% cases of Nasopharyngeal carcinoma second most common malignancy in study made by Khan et al.⁹

CONCLUSION

Histopathological examination is simple, reliable, cost effective and gold standard diagnostic procedure. Polyps were most common lesions. Nasal cavity, paranasal sinuses and nasopharynx show variety of histological types, but Allergic and Angiomatous polyps were the most common lesions among non-neoplastic polyps and Inverted papilloma & Angiofibroma were the two benign masses encountered.

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