

# Clinicopathological study of non-neoplastic lesions of nasal cavity and paranasal sinuses

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## Abstract

**Objectives:** The aim of this study is to highlight the prevalence of non-neoplastic lesions of nasal cavity and paranasal sinuses in patients attending the ENT OPD of government medical college, Jammu. **Study design:** This prospective study consists of 42 patients with the non neoplastic lesions out of 66 patients with the nasal and paranasal masses which were reported to ENT opd over a period of 1 year. **Results:** All the cases were accessed clinically and specimens were sent for histopathology. The non neoplastic lesions in the study group in the decreasing order were nasal polyps, rhinosporodiosis, tuberculosis, dentigerous cyst. All these lesions involve nasal and paranasal sinuses and no non neoplastic lesion was seen in the nasopharynx. **Conclusion:** This study adds to the descriptive data relating to the incidence, clinical and histological patterns of non neoplastic nose and paranasal sinuses masses, thus consolidating the observations of previous studies. The findings of this study would aid in better diagnosis at an early stage thereby improving patient compliance and better response to treatment.

**Key Words:** Histopathology, non neoplastic, paranasal sinuses, polyps.

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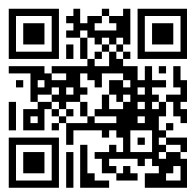
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polypoidal lesions of nasal cavity, paranasal sinuses and nasopharynx.

## MATERIALS AND METHOD

The prospective study was conducted on 42 patients with non neoplastic out of 66 patients presented with nasal mass over a period of 1 year from November 2015 to October 2016 in the department of Otorhinolaryngology, Government Medical College, Jammu. Patients were clinically accessed. Gross examination was done followed by histopathological section of 5-6 micron thickness was stained with haematoxylin and eosin, periodic acid schiff's and reticulin stains. The data so obtained was compiled and analysed.

## OBSERVATIONS

A total of 66 cases presented to ENT opd with mass in the nasal cavity, paranasal sinuses and nasopharynx over a period of 1 year out of which, 42 were non neoplastic lesions with incidence of 63.6% per year. Age of presentation of non neoplastic lesion was between 1<sup>st</sup> and 2<sup>nd</sup> decade which include young adult population with male: female ratio of 1:1.3 as shown in table 1.

## INTRODUCTION

A variety of non neoplastic and neoplastic conditions involve the nasal cavity and paranasal sinuses. These are very common lesions encountered in the clinical practice. Nasal cavity, Paranasal sinuses and nasopharynx are exposed to variety of infections, chemical irritants, antigenically stimulating, mechanically, traumatic and undoubtedly many other influences.<sup>1</sup> A large numbers of diseases affecting these structures are due to the presence of specialized tissue and each has its own aberrations that exist in the region<sup>2</sup>. The aim of this prospective study is to find out the incidence and variety of non neoplastic

**Table 1: Incidence, Sex Ratio, Age of Presentation**

Non neoplastic lesions	No.(% of cases) N=42	Males	Females	M:F	Age of presentation ( decades)
Nasal polyps	37(89%)	13	24	1:1.8	1 <sup>st</sup> and2 <sup>nd</sup>
Rhinosporodiosis	3(7%)	2	1	2:1	5 <sup>th</sup>
Tuberculosis	1(2%)	1		1:0	4 <sup>th</sup>
Dentigerous cyst	1(2%)	1		1:0	4 <sup>th</sup>

All the non neoplastic lesions were seen in nose and paranasal sinuses and no non neoplastic lesion was seen in nasopharynx. Table 2 shows clinical symptoms of the patients with non neoplastic lesions.

**Table 2: Clinical Presentation**

Clinical symptoms	Non Neoplastic (n=42)
Nasal obstruction	37(88%)
Rhinorrhoea	23(54%)
PND	14(33%)
Headache	11(26%)
Sneezing	12(28%)
Epistaxis	10(23%)
Mass	12(28%)
Smell	0
Swelling over sinus	0
Neck swelling	0

Nasal polyps:- Nasal polyps were predominately observed amongst all the non neoplastic lesions and constitute 89% (37cases) with maximum (15) cases seen in the age group of 16-25 years with male: female ratio 1:1.8. Table 3 shows age and sex distribution of nasal polyps. Histopathologically, nasal polyps were divided into eosinophilic and inflammatory depending upon the presence of eosinophilic and inflammatory cells. Inflammatory polyps were 54% and allergic were 33% among nasal polyps as shown in table 3 and fig 1.

**Table 3: Age and Sex Distribution of nasal polyps**

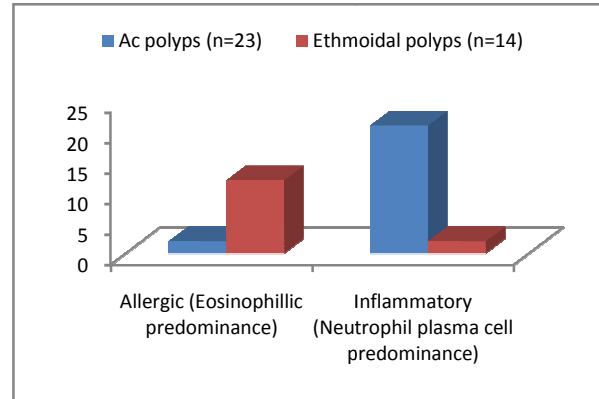
Age Group	A-C Polyps (23)		Ethmoidal Polyp (14)	
	Male	Female	Male	Female
5-15		3	3	
16-25	3	10		2
26-35	1	1	1	3
36-45	1	3	1	1
46-55	1		2	1
56-65				
66-75				

**Tuberculosis:** Tuberculosis was seen in 4 and 5th decade of life with 2% (1 case) incidence in male patient with nasal mass and foul smelling nasal discharge. Microscopically; granuloma was seen, composed of langhan’s giant cell, epitheloid cells and lymphocyte.

**Dentigerous cyst:** Incidence of 2% (1 cases) was seen between age group of 46-55 years in a male patient with swelling maxilla. Histopathologically, cyst lined by

stratified squamous epithelium with peripheral layers infiltrated by chronic inflammatory cells.

**Rhinosporodiosis:** 3 cases with 7% incidence was seen with histopathological findings of thick wall sporangia see below ulcerated mucosa.



**Figure 1:** Showing number of cases neutrophil and eosinophilic predominant among nasal polypi histopathologically

## DISCUSSION

Incidence of non neoplastic lesions was 63.6 per year. This is consistent with the finding in study by Rawat *et al* who reported incidence of 68.5 per year.<sup>3</sup> Another study by Humayun *et al* has reported incidence of 70 per year.<sup>4</sup> As non neoplastic lesions include wide range of polypoidal mass and it is necessary to differentiate it from neoplastic masses histopathologically for deciding the line of management. As we have observed that nasal polyp predominantly were seen in 37cases out of 42 non neoplastic cases which constitute 89% among which antrochoanal polyps were 54% and allergic were 33%. Zafar *et al*, in their study reported 62% of cases of nasal polyps.<sup>5</sup> On the other hand, Bijjaragi *et al* reported 53.3% inflammatory and 68% allergic polyps.<sup>6</sup> Rhinosporodiosis microscopically shows thick wall sprongia seen below the ulcerated respiratory epithelium with 7%(3 cases ) of incidence, which was lower as compared with incidence of 31.89% reported by Humayun *et al*.<sup>4</sup> Ahluwalia also reported histopathologically similar finding characterized by hyperplastic polypoidal lesion of the nasal cavity.<sup>7</sup> Single case of tuberculosis and dentigerous cyst with each incidence of 2% was observed. Zafar *et al* had reported almost similar incidence of tuberculosis 4% and dentigerous cyst 2% in their study.<sup>5</sup> Gupta *et al* had not reported any case of tuberculosis.<sup>8</sup> According to Waldman and Nayer at al sinonasal tuberculosis was rare entity and reported 2 cases in their study in which bits of tissue microscopically shows presence of round cells, epitheloid cells, giant cells of langhan’s type with caseous necrosis.<sup>9</sup>

## CONCLUSION

From this study we reached to an inference that non neoplastic lesions are very common lesions of nose and paranasal sinuses and histopathology remains the gold standard to differentiate non neoplastic from neoplastic tumour in order to decide proper line of management.

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