

CLINICO-PATHOLOGICAL STUDY OF NON-NEOPLASTIC LESIONS IN SINO-NASAL CAVITY OF PATIENTS ATTENDING CIMS, BILASPUR (C. G.): A RETROSPECTIVE STUDYR. C. Arya¹, M. K. Minj², Amit Kumar Tiwari³, Amit Kumar Bhardwaj⁴, Digvijay Singh⁵**HOW TO CITE THIS ARTICLE:**

R. C. Arya, M. K. Minj, Amit Kumar Tiwari, Amit Kumar Bhardwaj, Digvijay Singh. "Clinico-Pathological Study of Non-neoplastic Lesions in Sino-nasal Cavity of Patients Attending CIMS, Bilaspur (C. G.): A Retrospective Study". Journal of Evidence based Medicine and Healthcare; Volume 2, Issue 40, October 05, 2015; Page: 6746-6751, DOI: 10.18410/jebmh/2015/920

ABSTRACT: INTRODUCTION: The present study examined the patterns of sinonasal masses in biopsies received in department of pathology of Govt. CIMS, Bilaspur which is a tertiary care hospital of central eastern region of India and represents a tribal belt. During the study period, 91 biopsied reported were retrieved from the records and results analyzed. **OBJECTIVE:** This study is designed to find out patterns of benign lesions of nasal mass in patients attending Chhattisgarh Institute of Medical Sciences (CIMS), a teaching institute in Bilaspur Chhattisgarh. **MATERIAL AND METHODS:** 91 nasal biopsy records of March 2003 to August 2015 were reviewed. All the biopsy samples of patients were received and studied in department of pathology. **RESULTS AND OBSERVATIONS:** Average age of subjects reported as non-neoplastic lesions is found 19.69 years with standard deviation of 9.44, ranging from 6 to 47 years. Among 75 non-neoplastic lesions, 63 (84.00%) reported as rhinosporidiosis, 10(13.33%) non-specific inflammatory polyp and 2 were (2.67%) tuberculosis. **CONCLUSION:** Rhinosporidiosis encountered as most common non-neoplastic lesion and most patients affected were in younger age groups. The study concluded with the exceptionally higher prevalence of rhinosporidiosis observed in this region.

KEYWORDS: CIMS, Nasal, Non-neoplastic, Polyp, Rhinosporidiosis.

INTRODUCTION: Non-neoplastic and neoplastic lesions of nasal cavity, paranasal sinuses and nasopharynx are commonly encountered in routine clinical practice.¹ They are a common finding in all the age groups. Most patients present with complaints of nasal obstruction.² Other symptoms include nasal discharge, epistaxis and disturbances of smell. Although, clinical complaint of a mass in nose seems to be a simple problem but it gives rise to a large number of differential diagnosis in the mind of treating physician and diagnosing pathologists. Sinonasal area is exposed to various infective agents, chemicals, antigens, mechanical and many other influences. These deleterious exposures lead to formation of tumor like and neoplastic conditions.³ These masses may be inflammatory including allergic, traumatic, granulomas or may be neoplastic.⁴

The commonest nasal mass seen is polyp.⁵ Rhinosporidiosis is also one of the most common nasal mass in our country.⁶ Polyp is a general term used to describe any mass of tissue that bulges or projects downwards from the normal surface and are macroscopically visible. Classically they are caused by a combination of allergy and infection.⁷ Benign tumors excluding polyps include papilloma, schwannoma, meningioma, and hemangioma. Malignant tumours of

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nasal cavity are not very common; still constitute an important cause of nasal obstruction, morbidity and mortality. Malignant tumours occur in the form of adenocarcinoma, squamous cell carcinoma, melanoma and various sarcomas. Sometimes paranasal sinus tumours present as a protruding nasal mass.⁸

The aim of this study is to evaluate the clinicopathological profile of non-neoplastic sinonasal masses seen during the study period and to draw attention to the fact that in a tertiary care hospital of tribal region in central east India.

MATERIALS AND METHODS: This study was conducted in the department of pathology at Govt. Chhattisgarh Institute of Medical Sciences (CIMS), Bilaspur, over a period of approximately twelve years from March 2003 to August 2015 retrospectively. The formalin fixed specimens were received with complete clinical and radiological features. These were mostly referred from ENT department of CIMS Bilaspur, a tertiary centre of Chhattisgarh. Routine gross examination and required number of sections were taken and stained with hematoxylin and eosin. The data was retrieved from the record files of Pathology department. The acquired data was analyzed using the descriptive statistics.

RESULTS AND OBSERVATION: Total 91 cases presented as mass of nasal cavity, paranasal sinuses and nasopharynx. Histopathological examinations revealed 75 (82.42%) non-neoplastic lesions, and 16 (17.58%) were found neoplastic. The ratio of non-neoplastic to neoplastic lesion was 4.68:1. The age of presentation as non-neoplastic lesions ranged from 6 years to 47 years of life, and mean age was 19.69 years with standard deviation of 9.44, presented with non-neoplastic nasal mass in nasal cavity and paranasal sinuses, so majority of patients were young. The M: F ratio of total number of non-neoplastic lesions was 1.9:1, thus, non-neoplastic lesions of nasal cavity, and paranasal sinuses had shown stronger predilection for male as compared to female.

The nasal cavity was the predominant site of involvement with 73 cases (97.33%) out of 75 and nasopharynx with only 2 cases (2.67%). Rhinosporodiosis had a major contribution accounting for 63 (84%) of cases. The other non-neoplastic lesions in the decreasing order of frequency were inflammatory nasal polyp contributing 10 (13.33%) and tubercular lesions 2 (2.67%). Age range was wide, the youngest patient was 6 years old and oldest was 47 years old and peak was seen in second decades in 11-20 years age group.

Gender	No. (%)
Male	49
Female	26
Total	75
Site	
Nasal	51
Paranasal	24
Total	75

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Age group	
<10	11
11-20	37
21-30	17
31-40	7
41-50	3
51-60	0
61-70	0
Total	75

Table 1: Gender, site and age group wise distribution of nasal mass

Non-neoplastic mass	Number	Percentage
Rhinosporodiosis	63	84.00%
Inflammatory nasal polyps	10	13.33%
Tuberculosis	2	2.67%
Total	75	100%

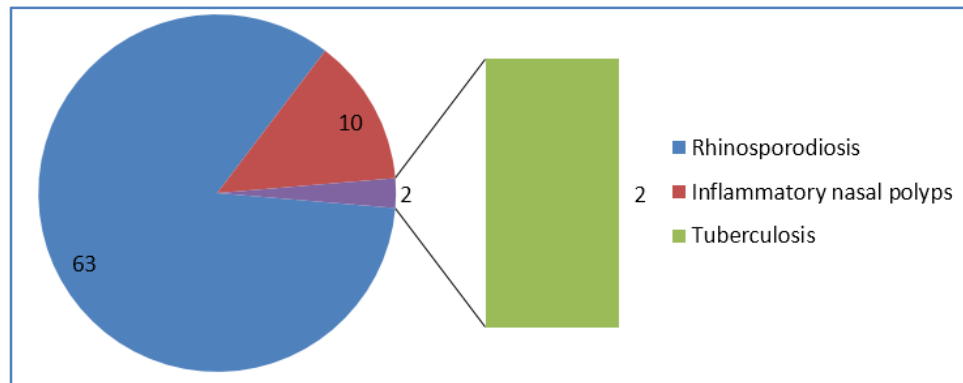
Table 2: Histological type of non-neoplastic masses according to their number and percentage

Non-neoplastic mass	Male	Female
Rhinosporodiosis	42	21
Inflammatory polyp	6	4
Tuberculosis	1	1
Total	49	26

Table 3: Gender wise distribution of histological types of nasal mass

Symptoms	Frequency	Percentage
Nasal obstruction	71	94.66%
Epistaxis	39	52.00%
Anosmia	23	30.66%
Headache	12	16.00%
Rhinorrhea	9	12.00%
Eye related symptoms	6	8.00%
Facial pain	2	2.66%
External nasal deformity	1	1.33

Table 4: Clinical symptoms of the patients, their number and percentage



Graph 1: Histological type of non-neoplastic masses according to their number

DISCUSSION: Non-neoplastic lesions had predilection for males, demonstrating a male to female ratio of 1.9:1. Similar reports were found in other studies however a few studies also revealed an opposite ratio showing female preponderance.^{9,10} A British review of nasal polyposis reported a M: F ratio at 2:1.¹¹ The maximum cases belong to childhood to adolescent age groups from 11 to 20 years and less which was followed by patients in 21 to 30 years age group. This presentation of pattern reflex the occurrence of nasal lesions including polypoidal masses in late childhood extending up to early adulthood which can be explained on the basis of outdoor activities and job exposures in this low socioeconomic population.¹²

Rhinosporidiosis was the commonest lesion observed in this region. It constituted 84.00% (63 cases) of all non-neoplastic cases. The other non-neoplastic lesions in the decreasing order of frequency were – inflammatory nasal polyp (10 cases, 13.33%) and tuberculosis (2 cases, 2.67%). Nasal obstruction was the most common presenting complaint (94.66% cases). Epistaxis (52.00%), Anosmia (30.66%), Headache (16.00%), Rhinorrhea (12.00%), and Eye related symptoms (8.00%) were other common symptoms. Facial pain (2.66%) and external nasal deformity (1.33%) were demonstrated in a minority of patients. Among non-neoplastic polypoid nasal masses, 58.4% were multiple and 31.6% presented as a single mass.

Present study showed predominance of inflammatory lesions including nasal polyps over other benign and malignant tumours. Inflammatory conditions include specific fungal lesion of rhinosporidiosis, non-specific inflammatory polyp and tuberculosis. In other studies also revealed rhinosporidiosis as an endemic disease in India, Sri Lanka and a few African nations.¹³ Inflammatory lesions were more common in males as compared to females with a ratio of 1.9:1. The incidence of rhinosporidiosis is high i.e. 63 cases (84.00%) with male preponderance contributing 42 cases (66.67%) whereas females contributed 21 cases (33.33%), with a M: F ratio 3:1. Most of the cases of rhinosporidiosis were young and associated with history of epistaxis.

We observed two cases of tuberculosis but as studies reveal sinonasal tuberculosis is a rare entity.^{14,15} This difference might be due to higher prevalence of tuberculosis in many parts of the world. Acid fast bacilli stain and culture were positive. The less variety of non-neoplastic is probably due to maximum contribution of rhinosporidiosis. It is important to recognize the range

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of non-neoplastic lesions in this region and to differentiate them from neoplastic lesions because of different treatment modality and emotional burden on the patient.

CONCLUSION: Sinonasal masses have various differential diagnoses. Malignancy should be distinguished from non-malignant lesions. Benign conditions show a peak during second to third decade of life. Rhinosporidiosis encountered the most common nasal mass in present study followed by non-specific inflammatory polyps. Nasal obstruction is the most common presenting symptom.

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AUTHORS:

1. R. C. Arya
2. M. K. Minj
3. Amit Kumar Tiwari
4. Amit Kumar Bhardwaj
5. Digvijay Singh

PARTICULARS OF CONTRIBUTORS:

1. Associate Professor & HOD, Department of Pathology, CIMS.
2. Associate Professor, Department of Pathology, CIMS.
3. Assistant Professor, Department of Pathology, CIMS.
4. Demonstrator, Department of Pathology, CIMS.

5. Demonstrator, Department of Pathology, CIMS.

NAME ADDRESS EMAIL ID OF THE CORRESPONDING AUTHOR:

Dr. R. C. Arya,
Associate Professor,
Department of Pathology,
Chhattisgarh Institute of Medical Sciences,
Bilaspur.
E-mail: aryan_ramesh2004@yahoo.co.in

Date of Submission: 25/09/2015.
Date of Peer Review: 26/09/2015.
Date of Acceptance: 28/09/2015.
Date of Publishing: 01/10/2015.