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Histopathological Study of Lesions of Nasal Cavity

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ABSTRACT

Background: Masses in nasal cavity form a heterogeneous group of lesions with a broad spectrum of histopathological features. The present study was histopathological assessment of lesions of nasal cavity. **Methods:** This present study was conducted on 113 specimens of nose obtained from ENT department. The sections were stained with haematoxylin and eosin, dried and mounted in DPX and then microscopy was done. **Results:** Maximum specimens were obtained from age group 21-30 years (45), followed by 31-40 years (28), 11-20 years (24), 41-50 years (13) and >50 years (3). The difference was significant (P< 0.05). Non neoplastic nasal lesions were 82 which comprised of polyps (66), mucormycosis (14), rhinophyma (2). Out of 16 neoplastic (benign) nasal lesions, inverted papilloma was seen in 8, hemangioma in 3, angiofibroma in 2, ossifying fibroma in 2. Out of 8 neoplastic (borderline) nasal lesions, 8 were hemangiopericytoma. Out of 7 neoplastic (malignant) nasal lesions, SCC was seen in 4 and BCC in 3. **Conclusion:** Common nasal lesions were seen in age group 21-30 years and maximum lesions were non- neoplastic nasal lesions and neoplastic (benign) nasal lesions.

Keywords: Nasal lesions, Neoplastic, Non- neoplastic.

INTRODUCTION

Nose is the organ helps in smell as well as has aesthetic significance. It is most sensitive part of the face. The nasal cavity (or nasal fossa) is a large air filled space above and behind the nose in the middle of the face. Each cavity is the continuation of one of the two nostrils. Lesions of nasal cavity are quite common.[1] It can be neoplastic and non-neoplastic. Diseases of the nasal cavity include viral, bacterial and fungal infections, nasal cavity tumors as well as inflammations of the nasal mucosa. Deviated nasal septum, common cold, nasal polyp, nose bleed, rhinitis and broken nose are common lesions affecting nasal cavity. Nasal polyps are the most common cause of nasal obstruction. The most common causes are allergy, asthma and infections.[2] Polypoidal mass in the nose is a very common lesion encountered in clinical practice. It may be due to the most frequently occurring simple nasal polyp or polypoidal lesions due to a variety of other pathologic entity ranging from infective diseases to polypoid neoplasm including malignant ones. Tumors of nose are usually uncommon. Malignant tumors account for 0.2% to 0.8% of total malignancies and only 3% of all malignant tumors of upper aerodigestive tract.[3]

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Masses in nasal cavity form a heterogeneous group of lesions with a broad spectrum of histopathological features.[4] A variety of these non-neoplastic and neoplastic lesions are quite impossible to differentiate clinically and they are clinically diagnosed as nasal polyp. The lack of differentiation between neoplastic and non-neoplastic, benign or malignant makes it neglected by the clinicians, as a result causing a delay in diagnosis and treatment.[5] The present study was histopathological assessment of lesions of nasal cavity.

MATERIALS AND METHODS

This present study was conducted in the department of general pathology. It comprised of 113 specimens of nose obtained from ENT department. Ethical clearance was taken from institutional ethical committee.

Information such as name, age, gender etc. was recorded in case history performa. All specimens were fixed in 10% formalin and kept overnight. After passing the tissue dehydration in graded alcohol for 6 hours each in three changes, clearing was done with two changes of xylene for hour each. Followed by this, impregnation and embedding in paraffin were done, blocks were prepared and 5µ sections were cut. The sections were stained with haematoxylin and eosin, dried and mounted in DPX and then microscopy was done. Results were tabulated and subjected to statistical analysis. P value less than 0.05 was considered significant.

RESULTS

Table 1: Distribution of patients

Age group (Years)	Number	P value
11-20	24	0.02
21-30	45	
31-40	28	
41-50	13	
>50	3	

Table 1 shows that maximum specimens were obtained from age group 21-30 years (45), followed by 31-40 years (28), 11-20 years (24), 41-50 years (13) and >50 years (3). The difference was significant (P< 0.05). Maximum males were present in age group 21-30 years and females in 21-30 years also. The difference was significant (P< 0.05).

Table 2: Non neoplastic nasal lesions

Histopathological diagnosis	Numbers	P value
Non neoplastic nasal lesions	82	0.01
Polyp	66	
Mucormycosis	14	
Rhinophyma	2	

Table 2 shows that non neoplastic nasal lesions were 82 which comprised of polyps (66), mucormycosis (14), rhinophyma (2). The difference was significant (P< 0.05).

Table 3: Neoplastic (Benign) nasal lesions

Lesion	Number	P value
Neoplastic (Benign) nasal lesions	16	0.01
Inverted papilloma	8	
Hemangioma	3	
Angiofibroma	2	
Ossifying fibroma	3	

Table 3 shows that out of 16 neoplastic (benign) nasal lesions, inverted papilloma was seen in 8, hemangioma in 3, angiofibroma in 2, ossifying fibroma in 2. The difference was significant (P< 0.05).

Table 4: Neoplastic (Borderline) nasal lesions

Lesion	Number
Neoplastic (Borderline) nasal lesions	8
Hemangiopericytoma	8

Table 4 shows that out of 8 neoplastic (borderline) nasal lesions, 8 were hemangiopericytoma.

Table 5: Neoplastic (Malignant) nasal lesions

Lesion	Number	P value
Neoplastic (Malignant) nasal lesions	7	0.05
SCC	4	
BCC	3	

Table 5 shows that out of 7 neoplastic (malignant) nasal lesions, SCC was seen in 4 and BCC in 3. The difference was significant (P< 0.05).

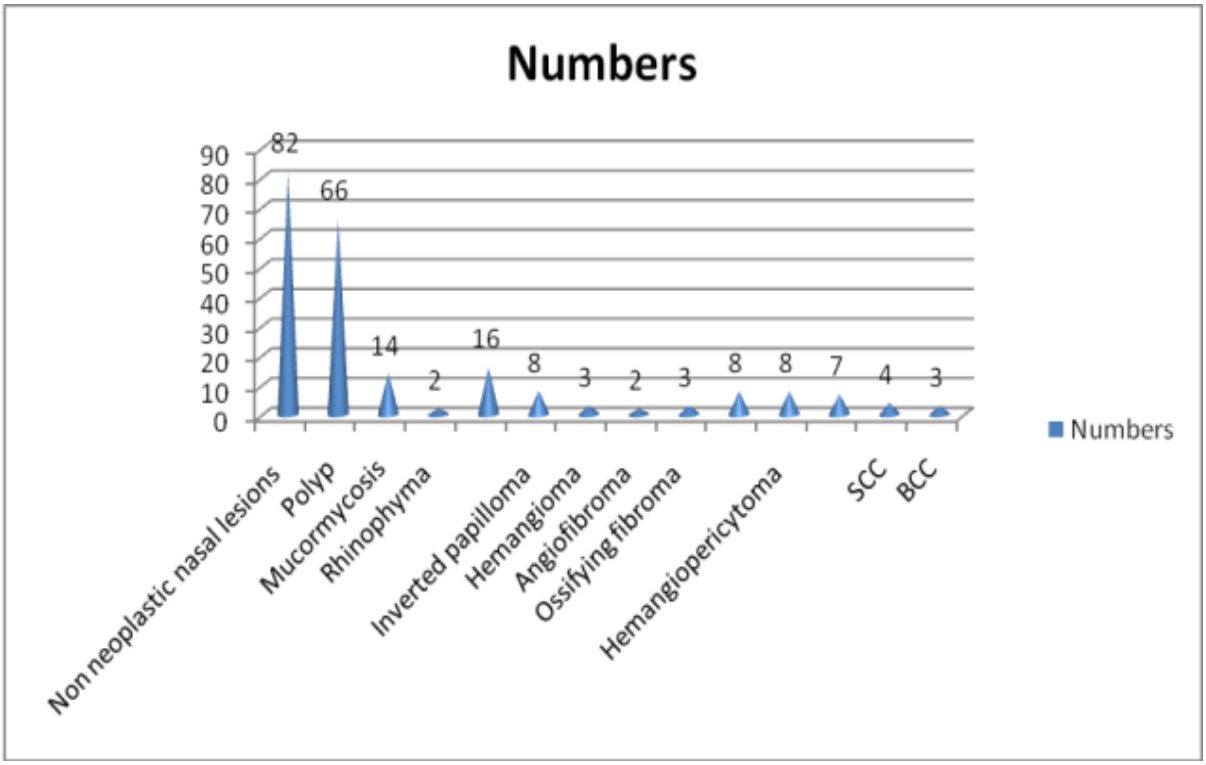

Figure 1: Number of Lesions.

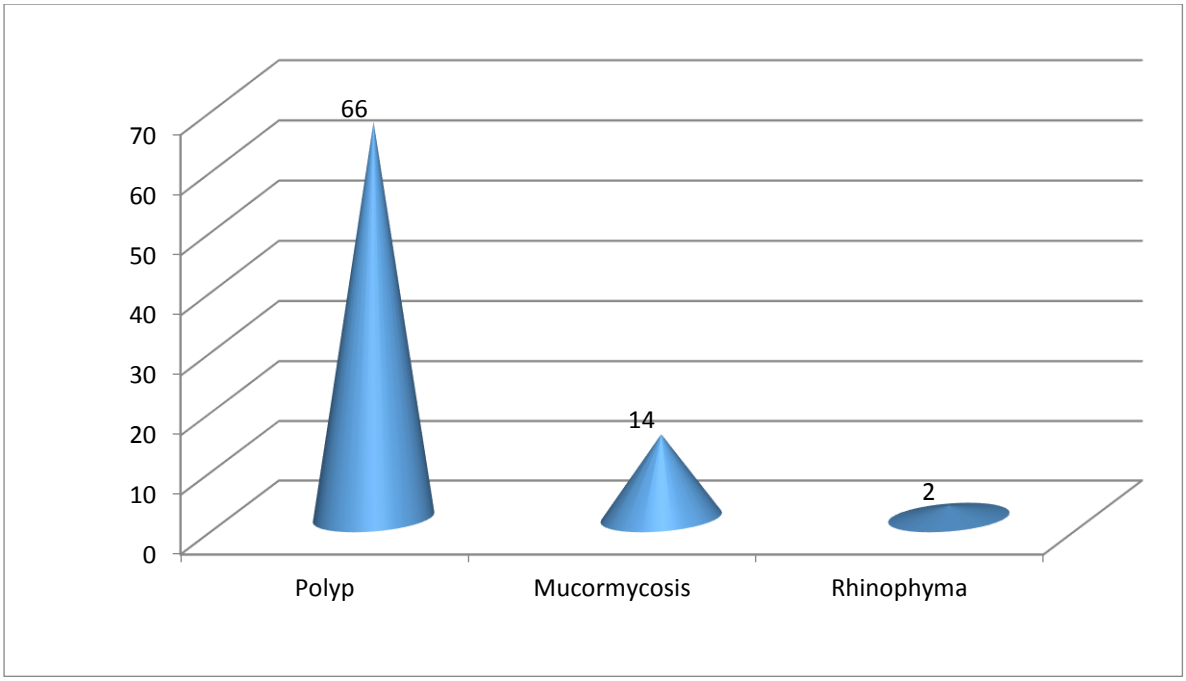

Figure 2: Non- Neoplastic nasal lesions.

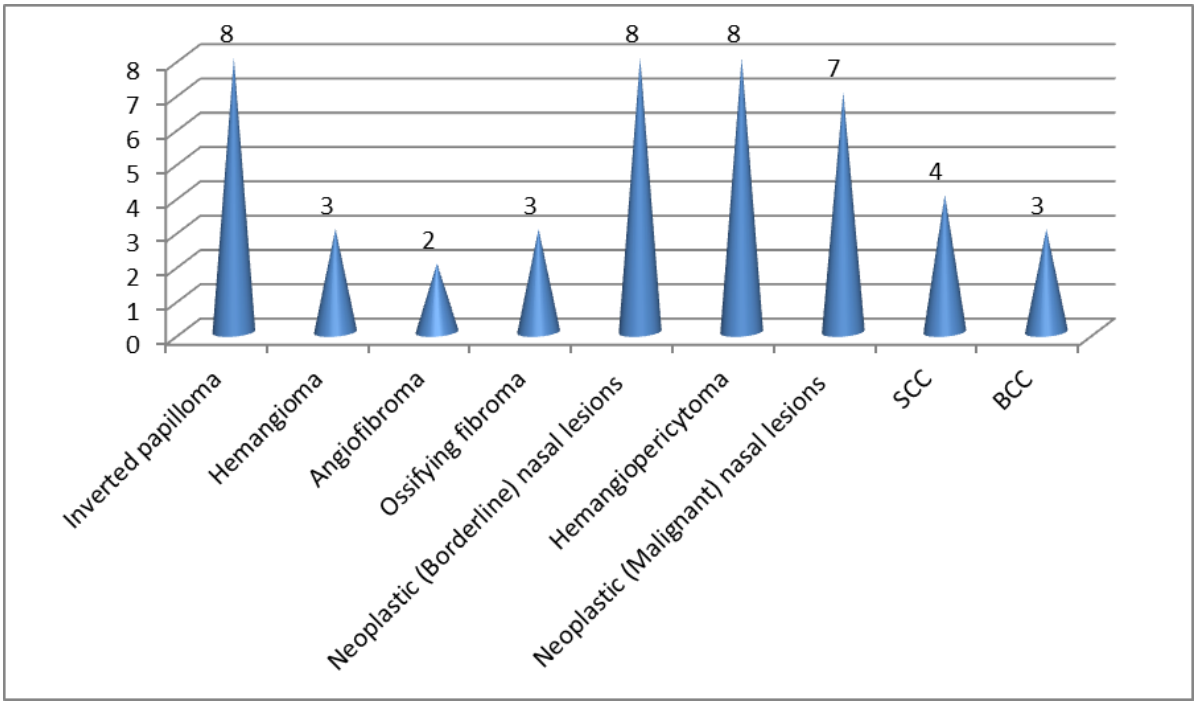

Figure 3: Neoplastic nasal lesions.

DISCUSSION

A variety of non-neoplastic and neoplastic conditions involve the nasal cavity (NC), paranasal sinuses (PNS) and these are very common lesions encountered in clinical practice. A large number of diseases affecting these structures are due, to many of the specialized tissues, each with its own aberrations that exist in the region.[6] The presenting features and symptomatology and advanced imaging technique help to reach a presumptive diagnosis but histopathological examination remains the mainstay of definitive diagnosis. Thus careful histological workup is essential for a correct diagnosis and timely intervention.[7]

It is commonly seen in all age groups with no specific gender predilection. Common features are nasal blockage, nasal discharge, blocked nose, facial swelling etc. Nose is the part which is constantly exposed to dust, chemicals, irritants and antigens. All this initiate disease of nasal cavity. Frequent

recurrences and long duration of disease is problematic.[8]

Benign lesions of nasal cavity (NC) and paranasal sinuses (PNS) are common. Malignant lesions in nasal cavity, paranasal sinuses and nasopharynx constitute approximately 1% of all the malignant tumours.[9] A wide range of variation in histopathological types and grades of malignancies has led the emergence of studying their clinical and pathological aspects. The exact nature of the lesion eliminates the confusion and strengthens the diagnosis. Thus by knowing the diagnosis, exact treatment can be given to the patient. It is beneficial for both clinician and patient.[10] The present study was histopathological assessment of lesions of nasal cavity.

In this study, maximum specimens were obtained from age group 21-30 years (45), followed by 31-40 years (28), 11-20 years (24), 41-50 years (13) and >50 years (3). Bijjaragi et al,[11] found that out of 108 lesions, 52 were non neoplastic and 56 were neoplastic lesion. 42 lesions were inflammatory polyp, 8 were fungal infection, 1 case each was of nasal glioma and rhiniosporidiosis. 30 lesions were benign and 26 were malignant. The difference was significant (P< 0.05). Benign neoplastic lesions were inverted papilloma (14), schwannoma (6), angiofibroma (8) and capillary hemangioma (2). Malignant neoplastic lesions were squamous cell carcinoma (14), basal cell carcinoma (2), neuroblastoma (1), round cell tumor (3), PNT (1), plasmacytoma (4) and hemangiopericytoma (1).

We observed that non neoplastic nasal lesions were 82 which comprised of polyps (66), mucormycosis (14), rhinophyma (2). Out of 16 neoplastic (benign) nasal lesions, inverted papilloma was seen in 8, hemangioma in 3, angiofibroma in 2, ossifying fibroma in 2. Out of 8 neoplastic (borderline) nasal lesions, 8 were hemangiopericytoma. Out of 8 neoplastic (malignant) nasal lesions, SCC was seen in 4 and BCC in 3.

Parmar et al,[12] compared various histopathological lesions of nasal mass in relation to age, sex and site distribution. A histopathological study of total 100 cases of nasal lesions was done. Out of 100 cases, 59 were males and 41 were females. Male to female ratio was 1.44:1. Maximum numbers of nasal lesions were detected in age group of 11-20 years with 24 (24%) cases. Out of these 100 cases, 80 (80%) were non neoplastic and 20 (20%) were of neoplastic origin. In neoplastic lesions, 12 (12%) were benign, 1 (1%) was borderline and 7 (7%) were malignant nasal lesions. Non neoplastic lesions were composed of the majority of cases followed by benign neoplastic lesions.

CONCLUSION

Authors found that common nasal lesions were seen in age group 21-30 years and maximum lesions were non- neoplastic (benign) nasal lesions and neoplastic (benign) nasal lesions.

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