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A histopathological study of lesions of nasal cavity and para nasal sinuses

[1] Charu Chandra, [*2] Pragat Gupta

[1] Associate Professor, Department of Patholgy, Mayo institute of Medical Science, Barabanki, Uttar Pradesh, India
[2] Assistant professor, Department of Patholgy, Hind institute of Medical science Barabanki, Uttar Pradesh, India

Abstract
Background: Lesions of nasal cavity are quite common. 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. the present study was carried out to record the various neoplastic and non-neoplastic lesions of nasal cavity and paranasal sinuses.
Materials & Methods: The present study was conducted in the department of general pathology in year 2015. It comprised of 108 cases reported to the department. Information such as name, age, gender, chief complaint, clinical and radio graphical findings etc. were retrieved from OPD record. All the biopsies were fixed with 10% buffered formalin. Hematoxilin and eosin staining was done.
Results: Out of 108 lesions, 52 were non neoplastic and 56 were neoplastic lesion. The difference was non -significant (P- 1). 42 lesions were inflammatory polyp, 8 were fungal infection, 1 case each was of nasal glioma and rhiniosporidiosis. The difference was significant (P < 0.05). 30 lesions were benign and 26 were malignant. The difference was significant (P< 0.05). Figuer III shows that benign neoplastic lesions were inverted papilloma (14), schwannoma (6), angiofibroma (8) and capillary hemangioma (2). The difference was significant (P< 0.05). 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). The difference was significant (P< 0.05).
Conclusion: Lesions of nasal cavity and paranasal sinuses are of paramaount importance because of high mortality and morbidity. Histopathology is the key to differentiate one lesion from another which is beneficial for the management of lesion.

Keywords: benign, malignant, neoplastic

1. 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].
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 [3].
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. 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 [4].
Thus, the present study was carried out to record the various neoplastic and non-neoplastic lesions of nasal cavity and paranasal sinuses.

2. Materials and methods
The present study was conducted in the department of general pathology in year 2015. It comprised of 108 cases reported to the department. Information such as name, age, gender, chief complaint, clinical and radio graphical findings etc. were retrieved from OPD record.
All the biopsies received in year 2015 were included in the study and fixed with 10% buffered formalin. Hematoxilin and eosin staining was done.
Results obtained were tabulated and subjected to statistical analysis for correct inferences. P value < 0.05 was considered significant.

3. Results
Table I shows that out of 108 lesions, 52 were non neoplastic and 56 were neoplastic lesion. The difference was non -significant (P- 1). Figuer I shows that 42 lesions were inflammatory polyp, 8 were fungal infection, 1 case each was of nasal glioma and rhiniosporidiosis. The difference was significant (P < 0.05). Figure II shows that 30 lesions were benign and 26 were malignant. The difference was significant (P< 0.05). Figure III shows that benign neoplastic lesions were inverted papilloma (14), schwannoma (6), angiofibroma (8) and capillary hemangioma (2). The difference was significant (P< 0.05). Figure IV shows that 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). The difference was significant (P< 0.05).

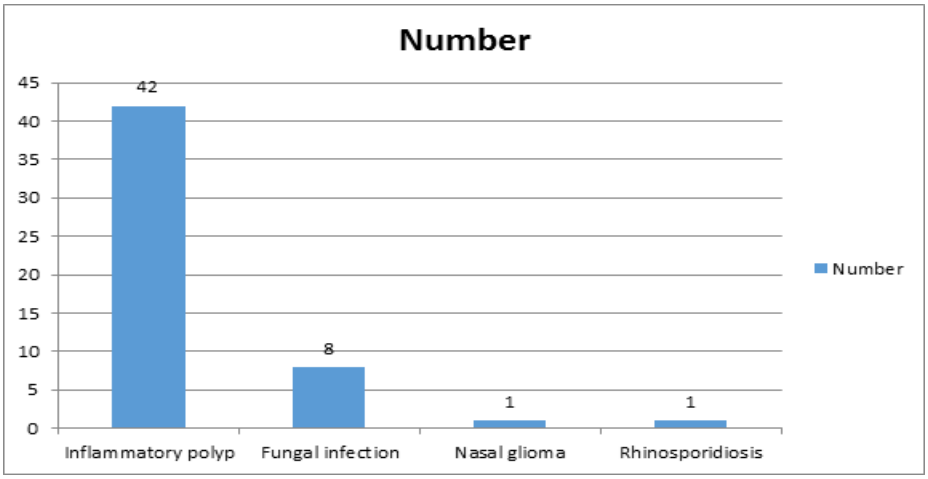

Fig 1: Non neoplastic lesions

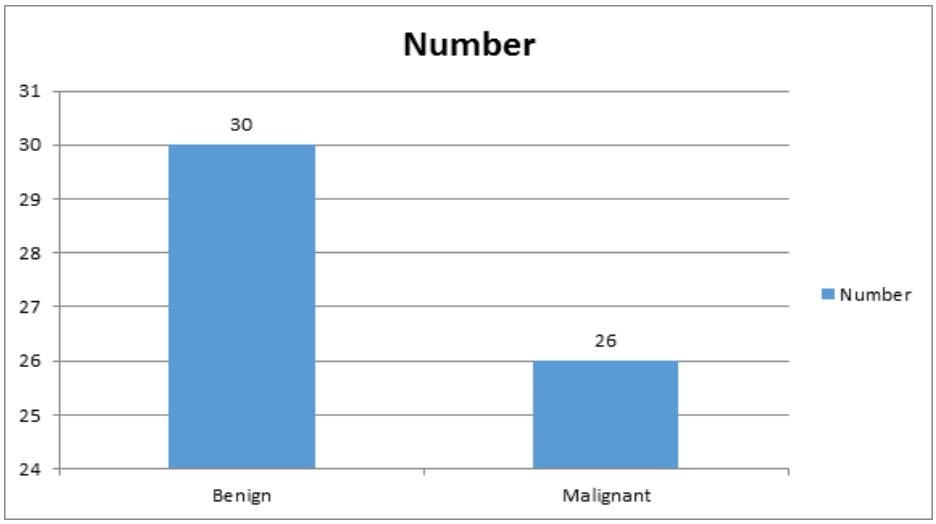

Fig 2: Neoplastic lesions

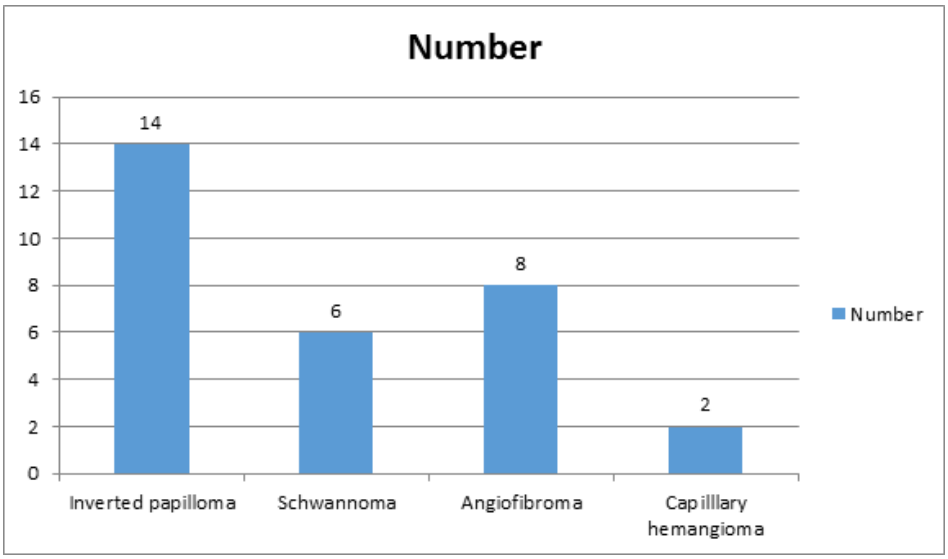

Fig 3: Histopathological diagnosis of benign neoplastic lesions

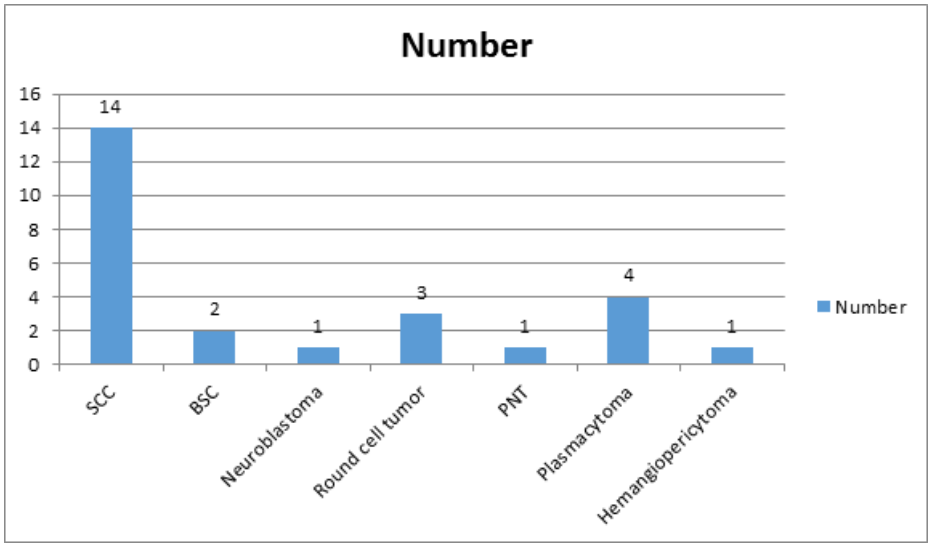

Fig 4: Histopathological diagnosis of malignant neoplastic lesions

Table 1: Non neoplastic lesion

Non neoplastic lesion	Neoplastic lesion	P value
52	56	1

4. Discussion

It is important to recognize the range 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. Thus, the present study was carried out to record the various neoplastic and non-neoplastic lesions of nasal cavity and paranasal sinuses.

In this study, out of 108 lesions, 52 were non-neoplastic and 56 were neoplastic lesion. This is similar to Dasgupta *et al.* [5] We found that 42 lesions were inflammatory polyp, 8 were fungal infection, 1 case each was of nasal glioma and rhiniosporidiosis. These all were non- neoplastic lesions of nasal cavity. This is in accordance to Bakari A *et al.* [6].

In this study we found that 30 lesions were benign and 26 were malignant. However, the incidence of benign and malignant was comparable. In study by Pradhananga[7], malignant lesions were seen in 68% of cases.

Most common benign neoplastic lesions were inverted papilloma, schwannoma, angiofibroma and capillary hemangioma. This is similar to Patel *et al.* [8].

Modh SK [9] in their study on 162 cases found that maximum neoplastic lesions were squamous cell carcinoma and plasmacytoma was the least in number. Whereas in our study, most common was squamous cell carcinoma followed by basal cell carcinoma, plasmacytoma, neuroblastoma, round cell tumor, PNT and hemangiopericytoma. This is similar to Parajuli *et al.* [10].

These lesions are quite common in today's life. Most common causes are allergic, antigenic and obstructive. Early detection and prompt treatment is required to eliminate the lesion. Proper diagnosis on the basis of histopathology is must.

5. Conclusion

Lesions of nasal cavity and paranasal sinuses are of paramaount importance because of high mortality and morbidity. Histopathology is the key to differentiate one lesion from another which is beneficial for the management of lesion.

6. References

1. Rahbor R, Resto UA, Robson CD, *et al.* Nasal glioma and encephalocele: Diagnosis and management. Laryngoscope. 2003; 113:2069-77.
2. Humayun AHM, ZahurulHuq AHM, Ahmed SMT, et al. Clinicopathological study of sinonasal masses. Bangladesh J Otorhinolaryngol. 2010; 16:15-22.
3. Zimmer LA, Carrau RL. Neoplasms of the nose and paranasal sinuses. In: Bailey BJ, Johnson JT, Newland SD, editors. Head & Neck Surgery-Otolaryngology. 4th ed. Lippincott: Williams & Wilkins. 2006, 1482-6.
4. Lathi A, Syed MM, Kalakoti P, *et al.* Clinico-pathological profile of sinonasal masses: a study from a tertiary care hospital of India. Acta Otorhinolaryngol Ital. 2011; 31:372-77.
5. Dasgupta A, Ghosh RN, Mukherjee C. Nasal polyps – Histopathologic spectrum. Indian J Otolaryngol Head Neck Surg. 1997; 49:32-36.
6. Bakari A, Afolabi QA, Adoga AA, *et al.* Clinico-pathological profile of sino nasal masses: An experience in National Ear Care Center Kaduna, Nigeria. BMC Res Notes. 2010; 3:186.
7. Pradhananga RB, Adhikari P, Thapa NM, *et al.* Overview of nasal masses. J Inst Med. 2008; 30:13-16.
8. Patel SV, Katakwar BP. Clinicopathological study of benign and malignant lesions of nasal cavity, paranasal sinuses and nasopharynx: A prospective study. Orissa J Otolaryngol Head Neck Surg. 2009; 3:11-15.
9. Modh SK, Delwadia KN, Gonsai RN. Histopathological spectrum of sinonasal masses- A study of 162 cases. Int J Cur Res Rev. 2013; 5(03):83-91.
10. Parajuli S, Tuladhar A. Histomorphological spectrum of masses of the nasal cavity, paranasal sinuses and nasopharynx. Journal of Pathology of Nepal. 2013; 3(5):351-55.