

A Retrospective Analysis of Sinonasal Masses: A Clinical, Histopathological and Radiological Correlation.



Medical Science

KEYWORDS : nasal masses, nasopharynx, paranasal sinus, nasal cavity

Raveena R

Junior resident, Department of ENT , AJ Institute of Medical Sciences and Research Centre, Mangalore, India

Mahesh S G

Associate professor, Department of ENT, AJ Institute of Medical Sciences and Research Centre, Mangalore, India

Devan PP

Head of the department, Department of ENT, AJ Institute of Medical Sciences and Research Centre, Mangalore, India

ABSTRACT

Nasal masses is one of the commonly encountered conditions in the dept of otorhinolaryngology. The aim of the study is to put forward clinical features of sinonasal masses so as to diagnose the condition at the earliest and to correlate clinical & radiological diagnosis with postoperative histopathology.

It is a retrospective study carried out from Jan 2014 to Jan2015 in our institution.

Patient included in the study were aged above 18yrs with clinically detected nasal masses.

INTRODUCTION

The swellings of nasal cavity, paranasal sinuses and nasopharynx have inflicted man from time immemorial. The presenting symptomatology of all tumors is similar and using advanced imaging like CT, a presumptive diagnosis is often made. However, a careful histopathological examination is necessary to decide the nature of any particular lesion. A variety of non-neoplastic and neoplastic conditions involve the sinonasal sinuses and nasopharynx and these are very common lesions encountered in clinical practice. A detailed history, clinical examination and most importantly, thorough histopathological evaluation are essential part of workup of patients, so that a correct and timely intervention is done.

It is difficult to determine clinically and radiologically the actual pathology underneath every nasal masses and in some cases further treatment planning like postop radiotherapy and chemotherapy as in case of malignancies therefore postop histopathological evaluation is mandatory for a definitive diagnosis.

AIMS AND OBJECTIVES

- To find the occurrence of various masses arising from the nose, paranasal sinus and nasopharynx.
- To find the correlation between the clinical and radiological diagnosis.
- To find the correlation between clinical ,radiological and histological diagnosis.

MATERIALS AND METHODS

This is a retrospective analytical review of all the patients with sinonasal masses that presented to our Dept in A J IMS Mangalore in the last one year(JAN 2014 –JAN 2015).

The data retrieved included biodata such as age, sex, occupation, etio pathological profile which includes presenting complaint, duration of complaints, associated history of allergy, number of episode(s), associated condition(s), nasal obstruction, epistaxis, nasal discharge, loss of smell, site, bilateral or unilateral

Apart from routine work up and investigation ct scan of nose and pns were done. Surgery was performed and every specimen was sent for histopathological examination. HPE report was correlated with clinical diagnosis.

RESULTS:

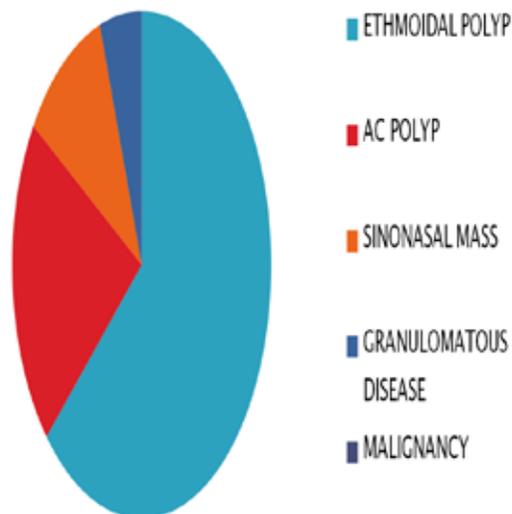
20 patients of non-neoplastic and neoplastic lesions of the nose presenting as nasal mass were studied in relation to distribution of different lesions, age-sex distribution, presenting symptoms,

nasal endoscopy, radiological and histopathological findings. We compared the histopathological and radiological diagnostic consistency with clinical diagnosis. The total no of patients enrolled during the study period was 20.All the patients were within the age group ranging from 19-68yrs.

Out of 20 cases studied, 16(80%) were non-neoplastic and 4(20%) were neoplastic. Among the non neoplastic conditions, inflammatory and allergic polyps accounted for 13(75%) of cases A male preponderance of 1. 23:1 was found

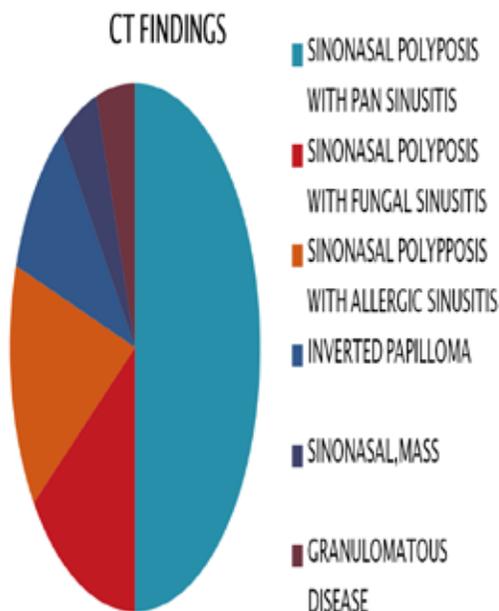
Nasal obstruction(100%) was the commonest symptom in our study followed by rhinorrhoea .A diagnostic nasal endoscopy was performed on all patients before embarking on endoscopic sinus surgery.Most of our patients had benign nasal polyps in which ethmoidal polyps was the commonest.

CLINICAL DIAGNOSIS

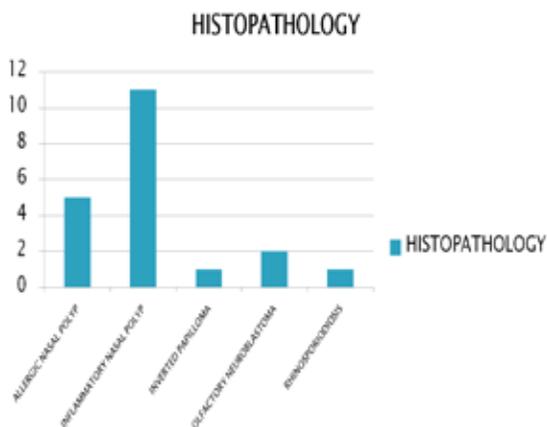


CT of the nose and paranasal sinuses is still the ideal imaging method to investigate nasal and paranasal sinus diseases with a high sensitivity. Radiologically in 72% patients bilateral disease was found while unilateral disease was present in 28%patients. On CT, polyps appear as rounded bodies of soft tissue arising from the mucosal surfaces of nose and paranasal sinus .They never cause bone erosion .Evidence of fungal disease with dou-

ble density sign was present in 14% patients. Extension to the middle cranial fossa and pressure erosion on the septum with encroachment on the nasopharyngeal wall was seen in 1(2%) case each. Radiology was suggestive of Inverted papilloma in 1(2%) cases .If soft tissue mass arising from the nasal mucosa is associated with bone erosion then it is a definite pointer towards the diagnosis of malignancy.



Allergic polyps and infective (non specific) polyps were proven histopathologically in each. Inflammatory polyps were classified as non allergic polyps depending upon the predominance of eosinophils. Polyps with positive fungal hyphae were seen in 14% subjects in our study. Of the 4 patients with neoplastic lesions, 1 were seen to Inverted papilloma ,1 rhinosporidiosis and 2 olfactory neuroblastoma.



DISCUSSION

The nose and paranasal sinuses are involved in a wide variety of pathological conditions. Macroscopically simple nasal polyps are pale bags of non specific eosinophilic, oedematous, hyperplastic, sinonasal masses, they are most often bilateral, and indeed any unilateral lesion should be considered as a neoplasia, benign or malignant. The frequency of SNM increases with age similar to findings in our study.

There is a high incidence of benign non-neoplastic lesions in our study, constituting about 80% of cases while 20% were ma-

lignant. Simple nasal polyps and antrochoanal polyps were the most common non-neoplastic sinonasal masses in this study forming up to 75 %.

Nasal polyp seems to occur more often in men¹, and their prevalence increases in both sexes with age from previous reports our study showed higher preponderance among the females than males which is at variance with previous reports this may probably be related to hormonal difference but this was not classically established by our study. Antrochoanal polyps and inverted papilloma were found to be commoner in females than males which are similar to findings from previous reports ².

Occupation has been observed not to be a risk factor from our study as majority of the patients reviewed were students of different levels, then the self employed, civil servants and the least was unemployed full time housewives.

Earliest presentation was within one month with an average of 20months duration before presentation this may be due to patient's visit to non-specialists who have been offering palliative conservative treatment and are only referred after treatment failure.

The common symptoms and signs of sinonasal masses found in our study were nasal obstruction ,rhinorrhea, feeling of nasal mass, epistaxis, loss of smell however majority of our patients presented with nasal obstruction and rhinorrhea which compares favourably with findings from other studies.³Epistaxis should give a suspicion of neoplastic changes . Symptoms of allergy such as rhinorrhea, itchy nostrils, excessive sneezing were noticed in more than 50% of the patients which support the fact that allergy still plays a major role in nasal polyp in our environment.

Nasal polyposis are invariably bilateral as noted in less than half of our patients similar to a previous report and when unilateral as noted above requires histological examination to exclude malignancy or other pathology such as inverted papilloma which was the commonest intermediate tumor recorded in our study. It was found to be commoner in females and this is similar to previous reports, even though it is a benign tumor the tendency towards malignant transformation is high and treatment is usually surgical excision and studies have found a recurrence rate as high as 50% after treatment. They are insensitive to palpation and rarely bleed

Pathological assessment of the nasal polyp showed that more than three-quarters of the nasal masses were benign in nature and this may be due to reduced risk of exposure to carcinogenic agents from wood work, boot and shoe work, furniture making .Out of the histological result simple inflammatory polyp which is a benign lesion and most responded to surgical excision and follow up while 75% had allergic nasal polyp which showed evidence of high eosinophils in contrast to a previous study that reported allergic nasal polyp to be the commonest . Eighteen percent had inverted papilloma, although it is a rare tumor occurring in approximately 4% of the nasal tumors .

CONCLUSION

Sinonasal masses are still thought to be a simple problem in our environment. The need for early recognition and referral to the ENT surgeon needs to be advocated among the primary care physicians as well as continuing medical education for the primary care physician on the care of sinonasal masses.

Nasal obstruction and rhinorrhea are the commonest symptom of presentation, bilateral is likely to be benign and commoner on the left side than the right side and simple inflammatory nasal polyp is still the commonest histological pattern seen in our environment.

For benign tumor surgery is still the best modality of treatment and in case of recurrence in unilateral nasal masses a suspicion of malignant transformation should be envisaged. In the view of our results 83% of cases diagnosed by clinical and radiological examination correlated with histopathological diagnosis while 17% of cases did not correlate. The overall sensitivity and specificity of clinical and radiological diagnosis was 78 %.

REFERENCE

1. Tondon PL and Gulati J, Mehta N. (1971); Histological study of polypoidal lesions in the nasal cavity. Indian Journal Otolaryngology and head & neck surgery 13; 3-11
2. Diamantopoulos I, Jones NS, Lowe J. All nasal polyps need histopathological examination: an audit based appraisal of clinical practice. J Laryngol Otol 2000;114:755-9.
3. Chopra H. Nasal polyps: A clinical, histopathological and radiological profile. Ind J Otolaryngol Head Neck Surg 2008;60:112-116
4. Karki R. Correlation of clinical and radiological with postoperative histopathological diagnosis of nasal masses. Indian Journal Otolaryngology and head and neck surgery 49:32-36.
5. Anjali Das Gupta, Ghosh RN and Mukherjee Chhanda. (1997); Nasal Polyps- Histopathologic spectrum. Indian Journal Otolaryngology and head and neck surgery 49:32-36.
6. Batsakis JG. (1980); The pathology of head and neck tumors Nasal cavity and paranasal sinuses. Part 5. Head Neck surgery 2; 410-419.
7. William HL. (1973); Head and neck Otolaryngology. Edited by Paparella MM, Shumrick DA, Saunders WB, 27-28.