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Study of Polypoidal Mass in Nasal Cavity

Debabrata Das[1], Ashis Kumar Ghosh[2], Riju Bhattacharya[3]

Abstract: ***Introduction: A variety of lesions present as polypoidal nasal mass ranging from simple inflammatory mucosal polyp to various benign and malignant neoplasms. Sequentially it should undergo clinical, endoscpic, radiological and finally histopathological examination after surgical excision. Materials & Methods: 100 patients with nasal polypoidal mass ,treated at ENT department Burdwan Medical College & Hospital, Burdwan from Feb2011 o January 2012,are included in this study consecutively. Patients with congenital nasal mass and a nasal mass with intracranial origin or extensions are exclude from the study. Result: From our study, it is evident that the polypoidal masses in the nasal cavity and the paranasal sinuses form a wide spectrum of lesions ranging from the non-neoplastic lesions to benign and malignant neoplasms with various histopathologic findings which affect different age groups. Discussion: Our study predominated by non neoplastic lesions out of which antrochoanal polyp is the commonest. In chronic specific granulomatous lesions it is rhinosporidiosis which dominated and among the neoplastic lesions we found angiofibroma, inverted papilloma as benign entities. As malignant neoplasms pathologies are squamous cell carcinoma, adenocarcinoma and adenocystic carcinoma. Conclusion: Hence it is essential that all polypoidal masses should undergo a battery of radiological investigations and to be removed from nose and paranasal sinuses. Finally the excised lesions should be thoroughly evaluated histopathologically, to avoid misleading diagnosis. Pending final diagnosis, it is preferable to describe any polypoidal lesion as "nasal polyps" as a sign and not the final diagnosis.***

Keywords: Polyoidal nasal mass,Nasal polyp

1. Introduction

A variety of lesions present as polypoidal nasal mass ranging from simple inflammatory mucosal polyp to various benign and malignant neoplasms. Clinically it is difficult to predict everytime the exact nature of pathology. Sequentially it should undergo clinical, endoscpic, radiological and finally histopathological examination after surgical excision.

The aim of the study is clinicoradiological assessment of various polypoidallesion in nasal cavity and their correlation with histopathological examination.

2. Materials & Methods

100 patients with nasal polypoidal mass ,treated at ENT department BurdwanMedical College & Hospital, Burdwan from Feb2011 o January 2012,are included in this study consecutively.Patients with congenital nasal mass and a nasal mass with intracranial origin or extensions are exclude from the study.Allpatiens were subjected to comprehensive history, clinical and radiological evaluation followed by histopathological examination after surgical intervention depending on the pathology.Depending on the histopathological report all nasal polypoidal masses are classified into various groups.

3. Result & discussion

In our study we studied the clinicoradiological features of polypoidal nasal mass and tried to work out how accurately it can help us to predict the final histopathology.

Patients were taken between 7 to 71 yrs with mean age of 30.68 yrs. We have divided the lesions into neoplastic, nonneoplastic and chronic specific granulomatous disorders.

Figure 1

Table 1: Distribution of diagnosis with percentage

Non-neoplastic	Neoplastic	Chronic specific granuloma	Total
62 (62%)	20 (20%)	18 (18%)	100

Our study dominated by non neoplastic lesion which is similar to the study conducted by Mysorekar et al[1] (70.3%), Kalpana & Mahadeva et al[2](66%),Zafar et a[3] (60%).

Regarding age distribution non nepolastic lesion mainly found in younger age group maximum between 11 to 20 years while Tondon et al [4]found it between 20-29 yrs whereas neoplastic lesions were between 61 to 80 yrs

In our study males predominated in neoplastic (85%), non neoplastic (53.2%) and chronic specific granulomatous disorders (72.2%) which is similar to the study conducted by Dasgupta A et al[5] and Tondon et al[4].

Table 2: Distribution of lesions

Type of lesion	Males	Females	Total	Percentage
Non neplastic	33	29	62	62
Antrochoanal polyp	29	21	50	50
Ethmoidal polyp	4	8	12	12
Chronic specific granuloma			18	18
Rhinospordiosis	13	5	18	18
Noplastic lesions	18	2	20	20
Angiofibroma	8	0	8	8
Inverted papilloma	3	1	4	4
Squamous cell carcinoma	5	1	6	6
Adenocarcinoma	1	0	1	1
Adenocystic Carcinoma	1	0	1	1

Our study Comprised of nasal polyps as the major group(62% as shown in table2).Amongst these lesions antrochoanal polyp (50%) were more common than ethmoidal polyp(12%). This was significantly higher compared to the incidence of 4-6% described by Gustav Killian[6].

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Table 3: Age distribution in nasal polyp cases in different studies

Patient Age in years	DrakeLee[22] N=200		Majumdar58 N=115		Our Study N=62	
	N	Percentage	N	Percentage	N	Percentage
10-Jan	-	0	-	0	-	
20-Nov	7	3.50%	2	1.70%	24	38.70%
21-30	36	18%	8	7%	15	24.10%
31-40	50	25%	13	11.30%	12	19.30%
41-50	31	15.50%	27	23.50%	7	11.20%
51-60	43	21.50%	34	29.60%	3	4.80%
61-70	27	13.50%	23	20%	1	1.60%
71-80	6	3%	8	7%	-	

In our study patients having nasal polyps were ranged between 11 to 70 yrs and amongst them 81% belongs to 11-40 years which is quite higher than Darke Lee[7]& Majumdar.[8]

Antrochoanal polyp are more common in children and adolescents[9], our study agree with this with 38% involvement in the age group of 11 to 20 years. Regarding ethmoidal polyp, the incidence is50% in the age group of 31-40 years.

Out of 62 cases of nasal polyposis the males dominated with 33 cases (53.2%) with a male to female ratio of 1.1:1

Our study having 6.4% association with bronchial asthma which is lower comparative to other studies done by Lund VJ[10], Hoseman W[11].This probably because we didn't perform PFT to detect asthma.

Symptomatology of AC polyp excepting post nasal discharge, nasal obstruction and rhinorrhoea are very much closer to the study done by Dark Lee[7.T]

The polyps are divided into two types depending on the presence of eosinophil and other inflammatory cells. Eosinophillic polyp are said to be associated with allergy while inflammatory polyp are having moderate number of plasma cell, lymphocytes and neutrophils.

In our study 64% of ethmoidal polyp showing eosinophillic type and 58% of AC polyp showed inflammatory cell type.

In the group of chronic specific granulomas our study comprised of Rhinosporidiosis and Infective Granuloma.The incidence of rhinosporidiosis in our study is low compared to other studies done by Tondon PL et al [4]and Dasgupta A et al[5]. This is because low endemicity of the disease in our region. Like other studies we do also have male preponderance (72.2%) 13 out of 18 cases.

We had two cases which presented clinically like infective granuloma with epistaxis but histopathologically they came out to be Adenocarcinoma and Antrochoanalpolyp. This signifies the importance of histopathology.

In neoplastic lesions the proportion of benign neoplasm is 60% which is more than that of malignant neoplasms. The incidence of malignant lesions in our study is higher comparative to other studies done by Tondon PL et al [4]and Dasgupta A et al[5].

Among the benign neoplasms, angiofibroma topped with eight cases,in the age group of11-30 years and showing predominance in adolescent males (5 cases with in 11-20 years)with a mean age of 22.2 years which is closer to that of Sinha A et al[12] with 18.6 years. All eight cases presented with the chief complain of epist axis along with nasal obstruction for a duration of 12-24 months. On CT scan all the lesions showed intense contrast enhancement with homogenous density. Neel BH *et al,* [13]reported nasal obstruction in 92%, epist axis in 90% and rhinorrhoea in 21% of cases with mean duration of 19.9 months, which is closer to our study.

In our series the incidence of Inverted Papilloma was 33.3% which is relatively higher compared to other studies like Tondon PL *et al*[4](20%).

In the four cases reported in our study, the mean age was 21 years, which is different to the incidence reported by Batsakis *et al*[14](50 years) and Cummings CW *et al*[15](5 to 7th decade). The male to female ratio was 3:1 as compared to 1:10 in Calcaterra16and Cummings[15].

The presenting complaints were nasal obstruction (75%) and epistaxis (25%), compared to Calcaterra[16]who found nasal obstruction (81%) as the main symptom with epistaxis 27%, which is very close when compared to our study. Batsakis[31]stated that, inverted papilloma mimics an ordinary nasal polyp except for the history of epistaxis. Out of the four cases in our study three had history of surgeries, mainly avulsion of masses, which points to the propensity of this disease for recurrence especially if treated conservatively.

CT scan done in all our cases showed lateral nasal wall as the site of origin.

Out of four cases two involved maxillary antrum and rest two affect maxillary and ethmoid air cells. Two of the cases also exhibited bony erosin and all the cases are homogeneous in density. Histopathological examination revealed the characteristic microscopic invagination of surface epithelium into the stroma with intact basement membrame.

Study	Number of cases	Percentage
Tondon[4](n=134)	9	6%
Dasgupta A[5](n=345)	41	11.5%
Bhattacharya[17](n=560)	42	7.5%
Diamantopoulos[18](n=2021)	83	4.1%
Our Study (n=100)	8	8%

The proportion of malignant neoplasms in nasal polypoidal masses in our series is 8% which is nearer to Bhattacharya study[17](7.5%).

Age: The age range of our patients was 41 to 80 years with mean age of 64 years, similar to Tondon study4where it was 60 years. The ratio of male to female was 7:1.

Site of Origin: The commonest site of origin was maxillary antrum with 62.5% (5cases) which is similar to Chessman AD *et al*[19]who reported the incidence of 60% for antral carcinoma.

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Clinical Features: The predominant symptoms were nasal obstruction (100%), epistaxis (100%)and nasal mass (100%). 12.5% of our cases had smell disturbance,12.5% had post nasal discharge. Six cases presented with bilateral palpable cervical node of level I. Only two of them presented with epiphora and cheek swelling. The mean duration of symptoms was 9.3 months which led us to conclude that malignancy of nasal cavity has a rather late presentation.

Table: Proportion of Squamous Cell Carcinoma in histopathoogy in different studies

Type	Tondon[4] n=9	DasGupta[5] n=41	Bhattacharya n=17	Diamantopoulos[14] n=18	Our Study n=8
Squamous cell carcinoma	67%	36.6%	45.2%	36.1%	75%

Squamous cell carcinoma 67% 36.6% 45.2% 36.1% 75%

Moderately differentiated squamous cell carcinoma was most common type (75%) which is closer to Tondon study[4](67%). Histopathology showed irregular epithelial dysplasia, keratosis, irregular stratification, cellular pleomorphism with atypical cells and abnormal mitotic figures. Few areas showed superficial invasive island of malignant cells in subepethilial soft tissue.

One case of adenoid cystic carcinoma was documented in our study arising from nasopharynx, but presented as a polypoidal mass in the nasal cavity. Histopathologically it was characterized by cribriform appearance, showing epithelial tumor cells of ducts and myoepithelial cells arranged in duct like structures, having typical fenestrations or cyst-like spaces.

Table: Importance of histopathology in diagnosis

SL No.	Study	Change of diagnosis after histopathological examination
1.	Diamantopoulos1[14](n=2021)	10%
2.	Dasgupta[5](n=345)	12%
3.	Tondon[4](n=134)	08%
4.	Our Study	06%

In a significant number of cases the true nature of the disease went undetected. Ultimately it was histopathology that revealed the true nature of the disease. The chart depicts the indispensability of histopathology and radiological evaluation in accurate diagnosis.

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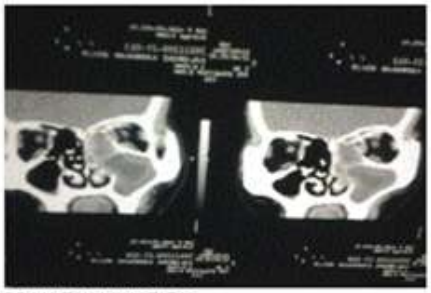
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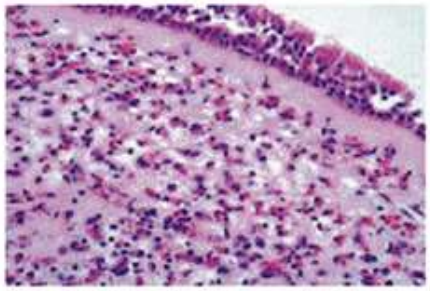


ON CLINICAL EXAMINATION





ON CLINICAL AND CT SCAN EXAMINATION



ON HISTOPATHOLOGICAL VIEW

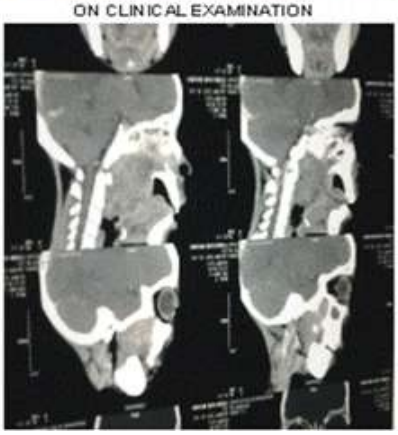
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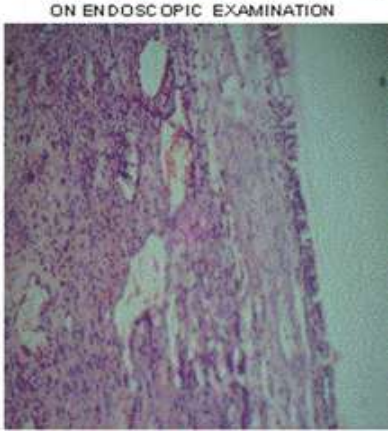




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ON ENDOSCOPIC EXAMINATION





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