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Original Article

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Nasal Mass a Clinicopathological Study

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Abstract

Background: Aim: Clinico- pathological assessment of nasal masses. **Materials and Methods:** A total of one hundred twenty- six nasal masses were stained by Haematoxylin and Eosin. Detailed microscopic examination was done and diagnoses were given according to WHO classification. **Results:** Age group 21-30 years had 11 males and 8 females, 31-40 years had 28 males and 14 females, 41-50 years had 27 males and 23 females, 51-60 years had 6 males and 3 females, >60 years had 4 males and 2 females. Benign masses were angiofibroma seen in 3, hemangioma in 1, allergic polyp in 2, inflammatory polyp in 1 and angiomatous polyp in 5 cases. Malignant masses were SCC in 4, nasopharyngeal carcinoma in 2, adenocarcinoma in 1, olfactory neuroblastoma in 1 and malignant melanoma in 2 cases. Non- neoplastic masses were angiomatous polyp in 22, inflammatory polyp in 46, rhinoscleroma in 8, mucormycosis in 6, allergic polyp in 20 and rhinosporidiasis in 2 cases. Common clinical features were anosmia in12, headache in 25, nasal obstruction in 86, nasal discharge in 51 and epistaxisin 9patients. **Conclusion:** Nasal obstruction was the most common symptom. Age group 41-50 years was commonly involved. Non- neoplastic lesions were more compared to neoplastic lesions.

Keywords: Nasal mass, Nasal obstruction, inverted pappiloma ,polyps rhinosporidiosis.

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Introduction

Numerous non- neoplastic and neoplastic conditions involve nasal cavity and are commonly encountered in clinical practice. Diseases affecting this region are associated with many of specialized tissues present at this site, each with its own aberrations that exist in the region.[1]

Most patients present with complaints of nasal obstruction. Other symptoms include nasal discharge, epistaxis and disturbances of smell.[2] A sinonasal mass can have various differential diagnoses. They may be congenital, inflammatory, neoplastic (benign or malignant) or traumatic in nature.[3] A congenital nasal mass may present intranasally, extra-nasally or as external nasal mass with or without nasal obstruction. Congenital masses are predominantly mid line swellings and include dermoids, glioma and encephaloceles as common diagnoses. Polyps are a common cause of nasal obstruction in adults with a prevalence of about 4% in the general population. Collective approach including clinical examination, nasal endoscopy, radiology help to reach to presumptive diagnosis, however Histopathological examination remains the mainstay of definitive diagnosis.[4]

Benign tumor incidence is relatively common in sinonasal tract, whereas malignant neoplasms are rare. Malignant tumors comprise less than 1% of total malignancies and make only 3% of all malignant tumors of upper aerodigestive tract.[5] Hippocrates gave a graphic description of nasal polypoidal masses as early as 460-370 B.C., and can thus be considered the "Father of Rhinology". Forestus (1522-1597 A.D.) described a case of a woman whose nasal polyps, according to him, were due to forcing of mucous membrane into the nose, which he attributed to her carrying heavy weights on her head.[6] The present study was undertaken with the aim to study clinico- pathological assessment of nasal masses.

Materials and Methods

A total of one hundred twenty- six patients with nasal masses from ENT department of either gender were included in the study. Lesions of external nose, were excluded. The study protocol was approved from institutional review board.

Detailed history was taken and complete nasal examination was done.Diagnostic nasal endoscopy was performed biopsy was taken from nasal masses and send for histopathological examinations The tissues were processed as routinely for Histopathological examination and were stained by Haematoxylin and Eosin. Detailed microscopic examination was done and diagnoses were given according to WHO classification. Clinical and radiological details were obtained from case sheets. Special stains and Immunohistochemistry were done wherever needed. Results of the study were clubbed together and using appropriate statistical tests,

statistical analysis was performed. P value less than 0.05 was considered significant.

Results

Age group 21-30 years had 11 males and 8 females, 31-40 years had 28 males and 14 females, 41-50 years had 27 males and 23 females, 51-60 years had 6 males and 3 females, >60 years had 4 males and 2 females. A significant difference was observed (P< 0.05) [Table 1].

Table 1: Age and gender wise distribution

Age groups (years)	Male	Female	P value
21-30	11	8	>0.05
31-40	28	14	<0.05
41-50	27	23	>0.05
51-60	6	3	<0.05
>60	4	2	<0.05
Total	76	50	

Table 2: Histopathological diagnoses of nasal masses

Variables	Types	Number	P value
Benign	Inverted papilloma	17	>0.05
	Juvenile nasopharyngeal angiofibroma	6	
	Haemangioma	2	
	Squamous papilloma	2	
	Schwanoma	1	
Malignant	SCC	22	<0.05
	Adeno carcinoma	10	
	Adenocystic carcinoma	8	
	Olfactory neuroblastoma	4	
	Malignant Melanoma	4	
	Nasopharyngeal carcinoma	6	
Non-neoplastic	Ethmoid Polyp	21	<0.05
	Antrochoanal Polyp	14	
	Rhinoscleroma	2	
	Angiomatous polyp	1	
	Rhinosporidiosis	6	

Benign masses were Inverted papilloma seen in 17 , hemangioma in 2, JNA 6 ,Schwanoma 1, Squamous papilloma 2 cases. Malignant masses were SCC in 22, nasopharyngeal carcinoma in 6 , adenocarcinoma in 10, olfactory neuroblastoma in 4 and malignant melanoma in 4, Adeno cystic carcinoma 8 cases. Non- neoplastic masses were Ethmoidal polyp in 21, AC polyp in 14, rhinoscleroma in 2, Angiomatous polyp in 1 and Rhinosporidiosis in 6 cases. A significant difference was observed (P< 0.05) [Table 2, Figure 1].

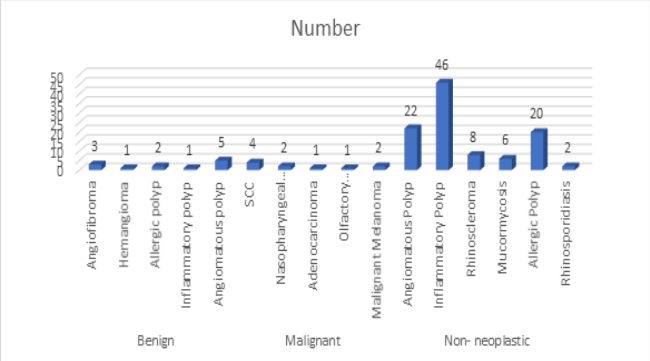

Figure 1:

Table 3: Clinical presentation in patients

Clinical features	Number	P value
Anosmia	12	<0.05
Headache	25	
Nasal obstruction	86	
Nasal discharge	51	
Epistaxis	9	

Common clinical features were anosmia in12, headache in 25, nasal obstruction in 86, nasal discharge in 51 and epistaxis in 9 patients. A significant difference was observed (P< 0.05) [Table 3].

Discussion

Polyp is a general term used to describe any mass of tissue that bulges or projects downwards from the normal surface and is macroscopically visible. It is also known as prolapsed pedunculated mucosa.[9] This condition is well-known with little improvement in its treatment modality, although it is a common condition; the exact aetiopathological correlation is still unknown.[10,11] The present study was undertaken with the aim to study clinico- pathological assessment of nasal masses.

We observed that age group 21-30 years had 11 males and 8 females, 31-40 years had 28 males and 14 females, 41-50 years had 27 males and 23 females, 51-60 years had 6 males and 3 females, >60 years had 4 males and 2 females. Lathi et al,[12] examined the clinico-pathological profile of sinonasal masses in 112 patients (male 68, female 44; age group 8-70 years). Nasal polyploid masses were non-neoplastic in 80 (71.4%) subjects, and neoplastic in 32 (28.6%) cases. Nasal obstruction was the most common (97.3%) presenting complaint, followed by rhinorrhoea (49.1%), hyposmia (31.25%), intermittent epistaxis (17.9%), headache (16.9%), facial swelling (11.6%) and eye-related symptoms (10.7%). The most common site of origin of polyploid masses was the middle meatus (54.4%) followed by the lateral wall of the nasal cavity (16.1%) and superior meatus (10.7%). Unilateral nasal masses was present in 47.7% patients, while the remaining patients had bilateral nasal masses. Allergic (62.5%) and inflammatory (25%) polyps were the most common non-neoplastic mass. Haemangioma (47.3%) and inverted papilloma (36.8%) were most common benign neoplastic mass; 92.3% of all malignant masses were squamous cell carcinoma. Surgery was the major mode of

treatment. It included Caldwell-Luc operation (7.1%), polypectomy (17.8%), excision of mass (25.0%) and functional endoscopic sinus surgery (44.6%). Malignancies were treated with radiotherapy.

We observed that benign masses were angiofibroma seen in 3, hemangioma in 1, allergic polyp in 2, inflammatory polyp in 1 and angiomatous polyp in 5 cases. Malignant masses were SCC in 4, nasopharyngeal carcinoma in 2, adenocarcinoma in 1, olfactory neuroblastoma in 1 and malignant melanoma in 2 cases. Non- neoplastic masses were angiomatous polyp in 22, inflammatory polyp in 46, rhinoscleroma in 8, mucormycosis in 6, allergic polyp in 20 and rhinosporidiasis in 2 cases. Rawat et al,[13] found that 264 cases of sino-nasal masses inflammatory and tumor like lesions were 68.56 % cases, benign tumors were 22.72 % (60 cases) and the malignant were 8.71 % (23 cases). The ratio of inflammatory and tumor like lesions to neoplastic lesions was 2.18. The most common benign neoplastic lesions to be found was angiofibroma (28/60) 46.67 % of cases, followed by pyogenic granuloma with 12 (20 %) cases. They found a sex ratio of 4.4:1 this was because of the high proportion of angiofibroma (an exclusive male disease) and inverted papilloma (a predominantly male disease) cases in present study. The mean age for malignant sino-nasal tumors was 53 years. Squamous cell carcinomas of maxilla were the commonest malignant lesion with 47.82 % of total malignant cases. Nasal discharge and nasal obstruction were the main complains of the patient with inflammatory and tumor like lesions. 75 % patient of benign lesions presented with complain of minor to significant nasal bleeding this was due to higher number of cases of angiofibromas and haemangiomas. Pain was complained by 43.47 % and secondaries in neck by 34.6 % cases of malignant masses. But the secondaries in the neck were shown by nasopharyngeal malignancies.

We observed that common clinical features were anosmia in12, headache in 25, nasal obstruction in 86, nasal discharge in 51 and epistaxis in 9 patients. Pradhananga et al,[14] conducted a clinicopathological study of haemangioma and reported unusual origin of capillary type from the nasal septum and of the cavernous variety from the lateral nasal wall. They found 6.3% of their sinonasal masses to be malignant. In a study by Bolger et al,[15] 42 % of asymptomatic patients had mucosal changes on CT scan. In a study Stankiewicz and Chow,[16] examined 78 patients meeting chronic rhinosinusitis symptom criteria of which only 47 % had evidence of chronic rhinosinusitis on CT. Bist et al,[17] found that the number of non-neoplastic lesions were more than the neoplastic lesion, 60% versus 40% respectively. In the neoplastic group, 19.8% and 23.76% patients presented with benign and malignant lesion, respectively. The incidence was more predominant in the age group of 11-20 years (22.72%) with male to female ratio of 1.08:1. In our study, among non-neoplastic lesions the occurrence of sinonasal polyps was highest seen in 80.30% cases. In neoplastic lesions, angiofibroma was most common benign lesion seen in 35% cases. Carcinoma nasal cavity was the commonest malignant lesion seen in 45.83% cases. In 3.63% patients, clinical and radiologic diagnosis was not correlated with histopathologic diagnosis. Only two cases required immuno-histocytochemistry to confirm the final diagnosis.

Conclusion

Results of present study showed that nasal obstruction was the most common symptom. Age group 41-50 years was commonly involved. Non- neoplastic lesions were more compared to neoplastic lesions.

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