



## HISTOPATHOLOGICAL STUDY OF LESIONS OF SINO NASAL REGION

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**KEYWORDS :****INTRODUCTION**

Sinonasal region consists of nasal cavity, bilateral paranasal sinuses and nasopharynx. Nose is formed between two and twenty eight days of intrauterine life from olfactory pits of ectoderm. The nasal cavity and paranasal sinuses contain elements like epithelial, glandular, lymphoid, cartilage and bone. Lesions of the nasal cavity and paranasal sinuses comprise wide variety of infections, tumor like lesions and neoplastic conditions.

**MATERIAL AND METHODS**

The present study is an attempt to analyse various tumors and tumor-like lesions received in the Department of Pathology, Madurai Medical College over a period of three years. Surgical specimens obtained from patients with tumor and tumor-like conditions of the nasal cavity and paranasal sinuses from ENT Department of Government Rajaji Hospital, Madurai, were subjected to histopathological evaluation. Most of the biopsies from the region consists of endoscopic biopsies and all the tissue were subjected for histopathological examination. From the resected large specimen bits were taken. All the tissues were processed, stained with H & E and studied under microscope for various histopathological patterns. Special stains such as Periodic acid Schiff's and reticulin stains were used wherever necessary.

**RESULTS**

During the study period 34628 biopsy materials were received from Govt Rajaji Hospital, among them 194 specimens were from sinonasal region with an incidence of 0.56%. Out of the 194 cases, tumor-like lesions 139 (71.64%) [1] were the commonest lesion followed by malignant cases 38 (18.55%) and benign lesions were 17 cases (8.76%).

The histopathological diagnosis of tumor like lesions was depicted in the Table -1. Among this simple nasal polyp was the commonest lesion and constitute 72.6% and more number of cases 46 (48.5%) occurred in the second and third decade of life[2]. All the lesions show male predominance. Out of 101 cases of polyps, 56 cases were from nasal cavity followed by ethmoidal sinus 35 cases.

**Table 1-Tumor like lesions in Sinonasal region**

S.No	Lesion	No.of cases	Incidence
1.	Simple polyps	101	72.67%
2.	Rhinosporidiosis	26	18.71%
3.	Fungal lesions	4	2.88%
4.	Fibrous dysplasia	3	2.16%
5.	Fibromatosis	5	3.59%
	Total	139	

In our study benign tumors were 17 cases and show marked male predominance with a male female ratio of 7.5:1. Inverted papilloma was the common lesion 6 (35.2%) among 17 cases. Except one female patient all benign lesions were from male patients. Other benign lesions were shown in Table 2.

S.No	Tumor	Incidence	Nasal cavity	PNS
1.	Inverted papilloma	35.35%	6	
2	Capillary haemangioma	17.6%	3	
3	Benign mixed tumor	23.5%	1	
4	Juvenile angiofibroma	5.8%	4	
5	Osteoma	5.8%	-	1
6	Leiomyoma	5.8%	1	
7	Monomorphic adenoma	5.8%	1	

**Table 2.Sex incidence of tumors and tumor like lesions of sinonasal tract**

Tumor Type	Total no of cases	No of male cases	No of female cases	M:Female ratio
Benign	17	15	2	7.5:1
Malignant	38	25	13	1.92:1
Tumor like lesions	139	83	56	1.4:1
TOTAL	194	123	71	1.73:1

Among the total cases, 38 were malignant tumors and predominated in the sixth and seventh decades of life comprised 18 cases (47.3%). Twenty six cases of Squamous cell carcinoma were found out of 38 malignant cases (68.4%). Maximum cases of squamous cell carcinoma occurred in fifth and sixth decade. 14 cases were from nasal cavity and 12 from maxillary sinus.

S no	Tumor Type	Age in years					
		21-30	31-40	41-50	51-60	61-70	71-80
1	Squamous cell carcinoma	2	3	3	11	6	1
2	Schneiderian cell carcinoma	--	--	1	--	--	1
3	Adenoid cystic carcinoma	1	1	1			1
4	Non Hodgkin lymphoma		1				
5	Plasmacytoma			1			
6	Haemangiopericytoma			1			
7	Haemangioendothelioma	1					
8	Olfactory neuroblastoma		1				
9	Anaplastic carcinoma			1			

**DISCUSSION**

Tumor registries all over the world pay little attention to benign tumors of nose and paranasal sinuses. More over, malignant tumors are so rare, that they constitute less than 1% of all malignancies.

Tumor like lesions was the common entity accounting for 71.6% of the total specimens received from sinonasal region. Seema et al study also shows non neoplastic lesions of 67% and Zafer et al reported 60%. Benign lesions were 17 cases (8.76%) and was 11% by Aparna et al. Malignant cases were 38 (18.55%) cases and shows higher incidence than any other study.

The tumor like lesions occurred in the second and third decades predominantly and is also observed in Manikanta study and Chaturvedi et al.[6] Nasal polyps (73%) were the common tumor like lesions and is consistent with the study by Zafar et al. Rhinosporidiosis, an endemic lesion in our state comprised 13.4% of tumor like lesions. Benign lesions were predominant in the second and third decade with 6 cases (47%) occurring in that age group. Malignant tumors presented in the sixth decade with a mean age of 53 years and is correlating with Manikanta study.

Among the neoplastic lesions, malignant tumors had a higher incidence 69% compared to benign tumors 31%. Inverted papilloma

was the commonest benign tumor among the 17 cases(35.5%) reported as benign.[2] This was correlating with the study conducted by Manikanta et al(42.8%) and Lathi et al (36.8%) . Leiomyoma and monomorphous adenoma are the two rare benign tumors in our study.

Of the 38 malignant neoplasms, 23 were from nasal cavity and 15 were from paranasal sinuses. Among the paranasal sinuses, maxillary antrum showed more number of cases(93%) and consistent with Chaturvedi et al.

Squamous cell carcinoma of the nasal cavity and paranasal sinuses account for approximately 3% of head and neck neoplasms. 58% of the cases are reported in maxillary antrum and 30% develop in nasal cavity.[3] In our study squamous cell carcinoma was the commonest histological type of malignancy in the sinonasal region (68.4%), [4]followed by adenoid cystic carcinoma(10.7%) and same finding was observed in many of the studies including Lathi et al and Satarkar et al.[5] There was a higher incidence of transitional cell carcinoma (5.3%) in our study compared to an incidence of most of the studies. This may be related to increased incidence of tobacco use and cigarette smoking. Chronic recurrent sinusitis with secondary squamous metaplasia has been suggested as a factor in the development of sinonasal carcinoma.

### CONCLUSION

Sinonasal region has a complex architecture and a wide variety of lesions are described in that location. In our study tumor like lesion was the commonest lesion and among them inflammatory nasal polyp was the predominant lesion. Sinonasal carcinoma showed a higher incidence and with male predominance. Malignant lesions are common in sixth to seventh decade and non neoplastic lesions are common in second and third decade. Benign tumor has low incidence in our study and inverted papilloma was the commonest one.

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