ORIGINAL RESEARCH PAPER

Pathology

CLINICO-PATHOLOGICAL PROFILING OF SINONASAL MASSES STUDY IN PATIENTS ATTENDING ENT OPD IN MGM MEDICAL COLLEGE AND HOSPITAL IN JAMSHEDPUR

KEY WORDS: nasal polyp, histopathology, nasal masses, neoplastic, nonneoplastic, rhinorrhea.

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ABSTRACT

Nasal mass is a commonest presenting feature of patients attending ENT (Ear, Nose and Throat) outpatients department. Nasal mass can be solid, cystic, fungating, non-fungating, soft or hard. Further, they can be benign or malignant. Nasal polyps are common, non-cancerous, teardrop-shaped growth that form in the nose sinuses and mostly occurs where the sinuses open into the nasal cavity. At the mature stage this nasal polyps have seen as peeled grapes. They can arise from nasal septum, floor, lateral wall, and roof of the nasal cavity, paranasal sinuses, nasopharynx or herniation from cranium. The close anatomical relationship between nasal passages and adjacent sinuses result in rapid involvement of one from another. Most suffering patients complain of nasal obstruction. Nasal polyps study was undertaken to note the various histopathological patterns of nasal masses, their classification and relative distribution of various lesions with regard to age and sex in our experiment. Nasal obstruction and rhinorrhea are the most common symptoms of presentation, simple inflammatory nasal polyps are the most common histological pattern seen in our environment, and surgery is the best modality of treatment.

I.INTRODUCTION

The most prominent facial part of the human face is nose with substantial aesthetic and functional significance along with aura of emotional and cultural importance. Nose anatomical position and its passage have been regarded as the direct avenue to the brain, human's source of intelligence and spirituality [1]. Nasal mass is a commonest presenting feature of patients attending ENT (Ear, Nose and Throat) outpatients department. Nasal mass can be solid, cystic, fungating, non-fungating, soft or hard. Further, they can be benign or malignant. Nasal polyps are common, non-cancerous, teardrop-shaped growth that form in the nose sinuses and mostly occurs where the sinuses open into the nasal cavity. At the mature stage this nasal polyps have seen as peeled grapes. They can arise from nasal septum, floor, lateral wall, and roof of the nasal cavity, paranasal sinuses, nasopharynx or herniation from cranium. The close anatomical relationship between nasal passages and adjacent sinuses result in rapid involvement of one from another. Most suffering patient complains of nasal obstruction [2]. Other symptoms include nasal discharge, blocked nose, runny nose, constant need to swallow (post-nasal drip), reduced sense of smell or taste, nosebleeds, snoring epistaxis, Stuffy or blocked nose, sneezing, postnasal drip, facial pain, trouble with sense of smell, loss of taste, itching around the eyes, infections and disturbances of smell. The diagnosis of a sinonasal mass could of many differential processes. The nasal polyps could be congenital, inflammatory, neoplastic benign or malignant or traumatic in nature. A congenital nasal mass may present intranasally, extranasally, or as external nasal mass with or without nasal obstruction [3]. Congenital masses are predominantly swellings of mid line and the common diagnoses are dermoids, glioma and encephaloceles [4]. In the general population the common nasal obstruction in adults is polyps with a preponderance of about 4% [5]. The description of this condition in general is any mass of tissue that bulges or projects downwards from the normal surface and is macroscopically visible is termed as polyps and it is also well termed as prolapsed pedunculated mucosa. In spite, considering it as a normal condition but this condition is well known with little improvement in its treatment modality, but the accurate aetiopathological correlation is still needs more investigation. 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. The trend and tradition of a clinical entity changes with time. Tandon et al. [6] and Dasgupta et al. [7] dedicated considerable attempt in the study of sinonasal masses in the Indian population. However, in the rural population of India analysis of the sinonasal masses till date has been lacking. The present investigation was undertaken to study the clinico-pathological profile of sinonasal masses in MGM medical college and hospital of Jamshedpur, India.

II. METHODOLOGY

The study of the nasal polyps was carried out in patients attending ENT OPD in MGM medical college and hospital in Jamshedpur. All patients diagnosed with nasal masses during period from June 2016- November 2018 were included. The criteria for selection of cases were mainly based on history and clinical examination. Before investigation the detailed history were recorded considering the patient's common nasal polyps complaints. At time of taking patient's history the occupational history, personal habits and socioeconomic status of patients were documented according to the modified BG Prasad classification based on Consumer Price Index of April 2006 [8-9]. The required appropriate radiological and clinco- pathological investigation were performed as per demand and accuracy of result. To confirm the diagnosis of histopathological investigation biopsy were taken from all cases. For classification the adopted description of the lesion were taken from World Health Organization classification (1978, 1991) [10-11]. The investigation also included haemoglobin estimation, total and differential count of W.B.C, total platelet count, urine examination, X-ray of nasal and paranasal region. The special investigation i.e biopsy is performed. Subsequently all the material were examined and recorded like its nature of appearance, gross appearance on cutting. Data was analyzed and recorded.

III. RESULT AND INTERPRETATIONS

In the pathological investigation, 33 cases (66%) of nasal masses in the nasal cavity were non-neoplastic and remaining 17 cases (34%) were neoplastic in origin. In the non- neoplastic cases, 23 cases (46%) were of inflammatory, 3 cases (6%) allergic in nature, 4 cases (8%) fungal, 2 cases (4%) were of chronic hyperplastic sinusitis and 1 case (2%) of mucocele. In the 17 cases (34%) with the neoplastic origin, 10 cases (20%) were benign lesions whereas, 7 cases (14%) were malignant in nature. Data were showed in table-1.

Table:1-Nature of the nasal mass in the nasal cavity

Natue of the nasal mass in the nasal cavity		
Origin	**No. of cases**	**Percentage**
NON-NEOPLASTIC (n=33, 66%)		
A. Simple nasal polyp	26	52
1. Inflammatory polyp	23	46
2. Allergic polyp	3	6
B. Miscellaneous	7	14
1. Rhinosporidiosis	4	8
2. Chronic hyperplastic sinusitis	2	4
3. Mucocele	1	2
NEOPLASTIC (n=17, 34%)		
1. Benign	10	20
2. Malignant	7	14

In study of non- epithelial tumour-histology in case of Benign observed in 8 cases (88.88%) where haemangioma found in two cases (22.22%), Angiofibroma in 5 Cases (55.55%) and Fibrous dysplasia of maxilla in one case (11.11%). Whereas in the study of malignant one case is observed (11.11%). Fibrosarcoma found in one case (100%). In course of investigation of non- epithelial tumour-histology (n=9),in Benign study the cases observed was 8 (88.88%). Haemangioma in 2 cases (22.22%), Angiofibroma in 5 (55.55%) and Fibrous dysplasia of maxilla in one case (11.11%). In case of malignant observed in one case (11.11%). Fibrosarcoma is found in one case (100%).Detailed were shown in table-2.

In the allergic polyp group of squamous metaplasia was observed in one case (33.33%), hyperplasia was found in one case (33.33%) and papillomatous change was noted in one case (33.33%) only. In inflammatory polyp series hyperplasia was noted in five cases (21.73%), squamous metaplasia in eight cases (34.78%) and in four cases (17.39%) there was papillomatous change showed in table-3.

Table: 2- NON- EPITHELIAL TUMOUR-HISTOLOGY

NON- EPITHELIAL TUMOUR-HISTOLOGY (n=9)		
Histology	**Number**	**Percentage**
A. Benign	8	88.88
1. Haemangioma	2	22.22
2.Angiofibroma	5	55.55
3.Fibrous dysplasia of maxilla	1	11.11
B. Malignant	1	11.11
Fibrosarcoma	1	100

Table: 3- Variation of epithelium in the cases of simple nasal polyp.

Variation of epithelium in the cases of simple nasal polyp					
Simple nasal polypi	**Epithelium**				
	Normal	**Uncertain**	**Hyperplasia**	**Squamous metaplasia**	**Papillomatous**
Allergic(3)	----	------	1 (33.33%)	1(33.33%)	1(33.33%)
Inflammatory (23)	6 (26.08%)	------	5 (21.73)	8(34.78%)	4(14.39%)

The maximum numbers of patients with nasal masses were between 11 to 20 years of age. The youngest patient was 4 years old and the oldest was 55 years of age. The detail study is described and tabulated in table-4. The prevalence of nasal masses in the nasal cavity was found to be more in male than in female. The appropriate incidence ratio of male: female was nearly 1.5:1 in the observation made in this study.

Table: 3- Age Distribution of Different Types of Nasal Masses

Age Distribution of Different Types of Nasal Masses (n=50)							
Types of nasal masses	**Age group (in years)**						
	0-10	11-20	21-30	31- 40	41-50	51-60	Above 60
Inflammatory polyp (in (23)	3 (13.04%)	15 (65.21%)	3 (13.04%)	2 (8.69%)	----	-----	----
Allergic polyp (n=3)	----	1 (33.33%)	1 (33.33%)	1 (33.33%)	----	----	----
Rhinosporidiosis (n=4)	----	1 (25%)	2 (50%)	1 (25%)	----	----	----
Capillary haemangioma (n=2)	1 (50%)	1 (50%)	----	----	----	----	----
Inverted papiloma (n=1)	----	----	1 (100%)	----	----	----	----
Squamous papiloma (n=1)	----	----	----	----	----	1 (100%)	----
Juvenile Angiofibroma (n=5)	1 (20%)	3 (60%)	1 (20%)	----	----	----	----
Fibroosseus dysplasia (n=1)	----	----	1 (100%)	----	----	----	----
Chronic hyperplastic sinusitis (n=2)	1 (50%)	----	----	1 (50%)	----	----	----
Mucocele (n=1)	----	----	1 (100%)	----	----	----	----
Squamous cell carcinoma (n=5)	----	----	1 (20%)	3 (60%)	1 (20%)	----	----
Differentiated carcinoma (n=1)	----	1 (100%)	----	----	----	----	----
Fibrosarcoma (n=1)	----	----	----	----	1 (100%)	----	----

IV. DISCUSSION AND CONCLUSION

Fifty cases of the nasal masses in the nasal cavity who attended E.N.T. department of MGM medical college and hospital, Jamshedpur have been reviewed. The detailed histopathological studies of patient's were performed. The maximum numbers of patients with nasal masses were between 11 to 20 years of age. The youngest patient was 4 years old and the oldest was 55 years of age. The prevalence of nasal masses in the nasal cavity was found to be more in male than in female. The appropriate incidence ratio of male: female was nearly 1.5:1 in the observation made in this study. The gender predilection study of the nasal masses were conducted by Zafar et al.[12] from India suggest that male are more affected than female and the ration is 1.5:1 whereas the study from Nigeria[13] reveals the female preponderance and ratio is 1:1.2. Bakari et al.[13] had reported a peak incidence of 33 years, while for Zafar et al.[12] the mean age of presentation was 22.5 years. Malignancies have been reported generally after the fourth decade of life. A chronic inflammation of the nasal and sinus mucous membranes causes nasal polyps and is the most common tumours of the nasal cavity but their exact pathogenesis is not understood so far, however a firm association with allergy, infection, asthma and aspirin sensitivity has been concerned[5,14]. We found high proportion of non-neoplastic lesions has been reported in previous studies [12,13, 7]. The prevalence of nasal mass in the nasal cavity was found more in economically low status people. In the racial incidence Non-tribal was found to be more as compared to tribal. This is also in proportion to the urban population ratio of the two races in the city of Jamshedpur. Nasal polyp was found more in the males and in second half of the life. Nasal masses have many differential diagnoses. Polyps are commonest benign lesion, while squamous cell carcinoma is the commonest malignant tumour of the sinonasal tract. Nasal obstruction is the most usual symptom. Medical management is often not adequate and has a limited role. In case of benign lesions surgery is the treatment of choice, while a combination of surgery and radiotherapy is facilitative in malignant conditions.

Conflicts of Interest

The authors declare no conflict of interest.

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