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Original research article

A clinico-pathological study of nasal polypoidal masses: A descriptive hospital based study

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Abstract

A nasal polypoidal mass can sometimes be considered as a minor problem by patients. That nasal mass can be an inflammatory polyp, antrochoanal polyp or benign or malignant tumor. Nasal polyps are benign, chronic inflammatory lesions arising from the mucosa of nasal cavity. They have a tendency to recur. Management of nasal polyps involves a combination of medical and surgical treatments. This cross-sectional, descriptive study was conducted at a tertiary care hospital. Patients attending ENT outpatient department found to have nasal polypoidal masses were included in the study. A diagnosis was made after a detailed history, clinical examination and CT scan was done for planning of surgery. But the final diagnosis was made after histopathologic examination of the specimen. The patients were aged between 6 to 74 years with a mean age of 39.06 years. Among them, 30 (60%) were males and 20 (40%) were females, with a male to female ratio of 1.5:1. Nasal obstruction was the most common symptom in all 50 (100%) patients. Nasal polypoidal masses range from non-neoplastic lesions to benign and malignant neoplasms with different histopathologic types. Though clinical and radiological examinations are important, it is essential to make a final diagnosis after a thorough histopathological examination of all nasal polypoidal masses.

Keywords: Nasal Polyp, clinicopathological profile, inflammatory polyp

Introduction

The word "Polyp" has a Greek origin. Polypous means many feet. Surprisingly, this connotation seems to be very descriptive in terms of nasal polyp pathogenesis. These polypoidal masses in the nasal cavity may arise from the nasal cavity itself, paranasal sinuses or other adjacent structures such as the nasal pharynx or cranial cavity. Despite proposing some etiologic factors such as allergies, infections, vasomotor changes and inflammatory reactions the actual pathogenesis of these disease remains to be elucidated. Yet it still remains a challenge to diagnose and treat the condition as etiology and pathogenesis is still controversial in many cases [1-3].

The prevalence of nasal polyposis during adulthood is between 1% and 4% and in children except in cases of cystic fibrosis, this is lower and two to four times more frequent in males than in females [2-4]. It is characterized by inflammation edematous mucus mass that makes a wide or narrow stalk [5]. Patients usually present with the symptoms like nasal obstruction and discharge, headache, hyposmia, anosmia and facial pain [3-5].

These masses may be of different origins like congenital, developmental, Inflammatory or neoplastic. Nasal polyps are the commonest non neoplastic lesions and can be of allergy or inflammatory etiology. Neoplastic lesion can be either benign or malignant. In benign tumors, angiofibroma and inverted papilloma are the most common benign tumors, whereas in malignant tumors the majority are sinonasal undifferentiated carcinomas followed by squamous cell carcinomas [5-6].

Methodology

A sample size of 50 patients of all ages and of either sex presenting with nasal polypoidal mass were included as study subjects.

Study design: Cross sectional Descriptive Study.

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Inclusion criteria

1. All cases who present with nasal polypoidal masses and consenting to take part in the study.

Exclusion criteria

1. Patients presenting with congenital nasal masses.
2. Nasal masses which prove to be of intracranial origin after investigations.

Statistical analysis

Data collected was entered on Microsoft Excel sheet and analysis was done by using appropriate statistical tests. Appropriate test of significance was used based on type of data. A p value <0.05 was considered significant.

Method of data collection

- Data was collected from patients satisfying the inclusion criteria presenting to the outpatient department.
- 50 patients were selected on Simple Random Selection Technique.
- The study was conducted on patients of all ages and of either sex presenting with nasal polypoidal masses coming to the outpatient department.
- A written informed consent was taken from patients who were willing to take part in the study.
- A detailed history followed by complete clinical examination was undertaken.
- Diagnostic nasal endoscopy followed by relevant hematological and radiological investigations was done.
- Patients not responding to the initial medical line of management were advised to undergo surgery.
- Simple polypectomy with FESS was done based on the extent of disease as reported on the CT scan followed by histopathological examination of the specimen.
- Blood loss during the procedure is minimal owing to the use of microdebrider in performing the surgery and hence quantification was done if necessary.

Results

The present study involves 50 cases, who have undergone endoscopic sinus surgery.

Table 1: Shows the age distribution

Age (Years)	No. of Patients	Percentage
<=20	6	12.0
21-30	9	18.0
31-40	15	30.0
41-50	11	22.0
>50	9	18.0
Total	50	

The patient's age ranged from 6 years to 74 years. The mean age of patients was 39.06 years.
Highest number of patients belong to the age group 31-40 years (i.e., 30%) followed by those in age group of 41-50 years (22%), followed by those in the age group of 21-30 years and >50 years, both the groups accounting for 9 cases (18%). There were 6 cases in the age group of 0-20 years (12%).
In the present study the youngest patient was 6 years old and the oldest was 74 years old.

Table 2: Shows the sex distribution

Sex	No. of Patients	Percentage
Male	30	60.0
Female	20	40.0
Total	50	

In this study there were 30 males accounting for 60% and 20 females accounting for 40% of total patients, indicating a Male: Female ratio of 1.5:1. So, nasal polyps are more common in males in our study.

Table 3: Shows the symptoms

	Nasal Obstruction	Anosmia	Nasal Discharge	Post Nasal Drip	Headache
Present	50 (100%)	43 (86%)	34 (68%)	15 (30%)	8 (16%)
Absent	0 (0%)	7 (14%)	16 (32%)	35 (70%)	42 (84%)
Total	50	50	50	50	50

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Nasal obstruction was the single most common complaint in this study affecting all the 50 patients. The next common symptoms were anosmia (86%), nasal discharge (68%), post nasal drip (30%) and headache (8%).

Table 4: Shows the side of lesion

Side of Lesion	No. of Patients	Percentage
Left	12	24.0
Right	11	22.0
Bilateral	27	54.0
Total	50	

In our study 23 patients (R-11, L-12) had unilateral lesion, while 27 had bilateral lesions.

Table 5: Shows the H/o Allergy

H/o Allergy	No. of Patients	Percentage
Absent	7	14.0
Present	43	86.0
Total	50	

Allergy history was seen in 43 (86%) cases. They had history of excessive sneezing, watering of eyes and itching of nose and face.

Table 6: Shows the Diagnosis

Diagnosis	No. of Patients	Percentage
Bilateral Nasal Polyposis	27	54.0
Left Nasal Polyposis	8	16.0
Right Nasal Polyposis	6	12.0
Left AC Polyp	3	6.0
Right AC Polyp	3	6.0
Right Fungal Rhinosinusitis	2	4.0
Left Fungal Rhinosinusitis	1	2.0

Discussion

Polyps are prevalent in both sexes, all ages, and in all socioeconomic groups, though the average age of onset is between 3rd and 4th decade. In a study by R.H. Kamal [7] the average age of patients who underwent Endoscopic sinus surgery was 25 years (range from 10-52 years). In a study by Jean-Michel Klossek *et al*. [8] the average age of patients who underwent endoscopic surgery was 46.7 years (range from 18-66 years).

In our study the average age of patient who underwent surgery is 39.06 years ranging from 6-74 years**.** Hence our study findings correlate well with previous studies.

In our study a male preponderance is seen with a male to female ratio of 1.5:1. In a study by Stankiewicz [9] there was male preponderance with a male to female ratio of 1.8:1. Hence our study correlates well with previous study.

In our study the commonest symptom was nasal obstruction (100%), followed by anosmia (86%), nasal discharge (68%), post nasal drip (30%) and headache (8%). In a study by Jean-Michel-Klossek8 the patients had nasal.

Obstruction as a commonest symptom followed by anosmia, nasal discharge and pain.

In a study by Chang, Po-Hung MD, Lee, Li-Ang MD [10] *et al*. the patients had chronic nasal obstruction (96%), and purulent rhinorrhea (94%) was found in almost all patients, followed by post nasal drip (61%), headache (36%), smell dysfunction (35%).

In our study presenting symptoms correlate with the previous studies.

Most of the cases presented bilaterally as pale, glistening grape like masses and on probing,

Mass was soft in consistency, insensitive, mobile and didn't bleed on touch and the probe can be passed all around except superiorly. A few cases had unilateral presentation as a pale glistening mass with posterior extension into the choana and on probing, mass was soft in consistency, insensitive, mobile and didn't bleed on touch.

In our study 23 patients (R-11, L-12) have unilateral lesion, while 27 have bilateral lesions. In a study by Stankiewicz [9] 127 patients presented with unilateral lesion and 53 with bilateral lesions, which correlates with our study.

In our study of the 50 patients, 6 patients (R-3, L-3) presented with Antro-Choanal Polyps, these cases had unilateral presentation as a pale glistening mass with posterior extension into the choana and on probing, mass was soft in consistency, insensitive, mobile and didn't bleed on touch and 44 patients (B/L 27, R 6, L-8, Fungal-3) with Ethmoidal Polyps, the cases presented bilaterally as pale, glistening

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grape like masses, not extending into choana and on probing, mass was soft in consistency, insensitive, mobile and didn't bleed on touch and the probe can be passed all around except laterally**.** Whereas in Levine's11 study 40 had Antro-Choanal-

In a study by Chang, Po-Hung MD, Lee, Li-Ang MD [10] *et al*. the patients had chronic nasal obstruction (96%) and purulent rhinorrhea (94%) was found in almost all patients, followed by post nasal drip (61%), headache (36%), smell dysfunction (35%) [12].

Conclusion

- The commonest symptom was nasal obstruction, followed by anosmia, nasal discharge, post nasal drip and headache.
- 23 cases were unilateral and 27 cases were bilateral.
- Allergy was the most common etiological factor (43 cases i.e. 86%).
- Bleeding (18%) was the most frequent complication intraoperatively. The average hospital stay was 2.5 days. Post-operative complication like synechiae was seen occasionally.

References

1. Pawliczak R, Lewandowska PA, Kowalski ML. Pathogenesis of nasal polyps: an update. Curr Allergy Asthma Rep. 2005;5:463-71.
2. Dr. Vijay Kumar Kalra, Dr. Samar Pal Singh Yadav, Dr. Swati Vashishth. Polypoid masses in the nasal cavity. International J of healthcare and biomedical research. 2018;06(2):144-148.
3. Shadman Nemati, Ali Mojtahedi, Seyyed Ebrahim Naghavi Rahmatollah Banan, Firoozeh Zia. Investigating Helicobacter pylori in nasal polyposis using polymerase chain reaction, urease test and culture. Eur Arch Otorhinolaryngol. 2012;269:1457-1461.
4. Bernstein JM. Update on the molecular biology of nasal polyposis. Otolaryngol Clin North Am. 2005;38:1234-55.
5. Shadman Nemati, Faeze Keihanian Amin Saeidinia, Mahdi Bakhshaei. Effect of Bevacizumab on Growth of Human Nasal Polyposis *in vitro*; An Off-Label use of Anti-Angiogenic Agent for Nasal Polyposis Treatment. Drug Design, Development and Therapy. 2019;13:3383-3389.
6. Kalpana KMK, Mahadeva KC. Polypoidal lesions in the nasal cavity. J Clin Diag Res. 2013;7:1040-42.
7. Reda Kamal. Endoscopic transnasal surgery in antrochoanal polyp. Arch Otolaryngol Head Neck Surg. 1990;116:841-43.
8. Klossek, *et al*. Diffuse nasal polyposis-postoperative long term results after endoscopic sinus surgery and frontal irrigation. Otolaryngology Head and Neck Surgery. 1997;117:355-61.
9. Stankiewicz. Complications in endoscopic intranasal ethmoidectomy: An update. Laryngoscope. 1989;99:689-90.
10. Chang, Po-Hung MD, Lee, Li-Ang MD, *et al*. Functional Endoscopic Sinus Surgery in children using limited approach. Arch Otolaryngol Head Neck Surgery. 2004;130(9):1033-36.
11. Levine HL. Functional endoscopic surgery. Evaluation, Surgery and Follow up of 250 patients. Laryngoscope. 1990;100:79-84.
12. Haque MR, Hossain MM, Kundu SC, *et al*. Study of functional endoscopic sinus surgery technique. Mymensingh Medical Journal. 2004;13(1):39-42.