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A STUDY ON PREVALENCE OF NASAL POLYP, ITS RISK FACTORS AND THE ROLE OF CORTICOSTEROID IN THE TREATMENTOF NASAL POLYP: A PROSPECTIVE OBSERVATIONAL STUDY

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ABSTRACT

Background: Nasal polyps are benign inflammatory growths in the nasal mucosa often associated with chronic rhinosinusitis, asthma, and allergic conditions. Objective: This study aimed to assess the prevalence of nasal polyps, identify associated risk factors, demographic patterns, and evaluate the efficacy of corticosteroids in treatment. **Methods**: A prospective observational study was conducted on 32 patients diagnosed with nasal polyps. Risk factors such as allergy, smoking, asthma, and family history were assessed. Patients were treated with intranasal corticosteroids, and outcomes were measured over 8 weeks. **Results**: The prevalence was higher in males (62.5%) with peak incidence in the 31–50-year age group. Allergic rhinitis (53.1%) and smoking (37.5%) were the most common risk factors. Corticosteroid treatment showed symptom improvement in 84.3% of cases. **Conclusion**: Nasal polyps are commonly associated with allergic and environmental factors. Corticosteroids remain effective in reducing polyp size and improving symptoms.

KEYWORDS: Nasal, Polyp.

INTRODUCTION

Nasal polyps are soft, painless, non-cancerous growths on the lining of nasal passages or sinuses. They result from chronic inflammation due to asthma, recurring infection, allergies, drug sensitivity, or immune disorders. Their management includes medical and surgical options, with corticosteroids being the first-line treatment[1]. This study aims to evaluate the demographic profile, prevalence, and risk factors of nasal polyps and to assess the clinical outcome of corticosteroid therapy in a hospital-based population. He overall prevalence of nasal polyps in the general population is estimated to be between 1-4%. This means that roughly 1 to 4 people out of every 100 will experience nasal polyps. While nasal polyps are not uncommon, their prevalence increases with age, with the highest incidence occurring between 40 and 60 years old. Factors Influencing Prevalence: Age: Nasal polyps are more common in adults, particularly those between 40 and 60 years old. They are less common in children[2].

Gender: Nasal polyps are more prevalent in males than females. Underlying Conditions: Nasal polyps are frequently associated with chronic rhinosinusitis (CRS) and can also be found in conditions like cystic fibrosis, allergic fungal rhinosinusitis, aspirin-exacerbated respiratory disease, and Churg-Strauss syndrome. Geographic Location[3]

The prevalence of nasal polyps may vary based on geographic location and environmental factors, but this is an area that requires further study[4]. Nasal polyps are benign, inflammatory outgrowths of the nasal lining. They are often associated with chronic rhinosinusitis with nasal polyps (CRSwNP). CRSwNP is estimated to affect 25-30% of patients with CRS. While nasal polyps can be asymptomatic, they can also cause symptoms such as nasal obstruction, loss of smell, and post-nasal drip. Many cases of nasal polyps are effectively managed with medical treatments like intranasal corticosteroids and short courses of oral corticosteroids. Surgery may be considered for patients whose polyps do not respond to medical management5-7].

METHODOLOGY

This study was conducted in tertiary hospital of purba Medinipur After obtaining institutional ethical committee approval It was a Observational cross-sectional study. study conducted on 36 patients in the department of Otorhinolaryngology, at a tertiary care centre, from January/2021–July/2021. The institute Ethics Committee approval was obtained before starting the sample collection. A written and informed consent was taken from the patient regarding the study in his/her vernacular language and English. In this study Patients were subjected to: A detailed history of sign & symptoms and its duration. Detailed history of systemic diseases and its duration, medication were noted.

Patients were subjected to General physical examination. Patient were counselling about the study so that drop out rate can be reduced.

Flowchart

Participants Assessed for Eligibility (n = 36)

↓

Excluded (n = 4)

- 2 Had recent steroid use

- 1 Had previous nasal surgery

- 1 Did not consent

↓

Included in Study (n = 32)

↓

Given Corticosteroid Treatment

↓

Followed Up for 8 Weeks (n = 32 completed)

↓

Improved Symptoms (n = 27) | No Improvement (n = 5)

Study Design: Prospective observational study

Sample Size: 32 patients

Study Duration: 6 months

Inclusion Criteria:

- Patients aged >18 years with clinically and endoscopically confirmed nasal polyps
- Willing to follow up for 8 weeks

Exclusion Criteria:

- Previous nasal surgery

- Systemic steroid use within 3 months
- Immunocompromised patients

Procedure:

- Detailed history and physical examination
- Diagnostic nasal endoscopy
- CT PNS in select cases
- Risk factors recorded (allergy, smoking, asthma, etc.)
- Treatment: Mometasone furoate nasal spray 200 mcg/day for 8 weeks
- Symptom scoring pre- and post-treatment (nasal obstruction, discharge, anosmia, etc

All the data is put in excel sheet then mean, median and association is analysed by SPSS version 20. Chi-square test was used as test of significance for qualitative data. Continuous data was represented as mean and SD. MS Excel and MS word was used to obtain various types of graphs such as bar diagram. P value (Probability that the result is true) of P value <0.05 was considered as statistically significant after assuming all the rules of statistical tests. Statistical software: MS Excel, SPSS version 22 (IBM SPSS Statistics, Somers NY, USA) was used to analyse data. Sample size is calculated by N master statistical software

RESULTS

This study was conducted in a tertiary hospital of purba Medinipur After obtaining institutional ethical committee approval It was a Observational cross-sectional study. study conducted on 36 patients in the department of Otorhinolaryngology, at a tertiary care centre . In this study we found that 31 to 50 age groups were more suffered of Nasal polyps as compared to othergroup and male(62.5%) wee more suffered of nasal polyp as compared to female(Table 1)

Demographic Profile Table 1:

Variable	**Number (n=32)**	**Percentage (%)**
Age (years)		
18–30	6	18.7%
31–50	15	46.8%
>50	11	34.3%
Sex		
Male	20	62.5%
Female	12	37.5%

In this study we found that allergic(53.1%) person more suffered if nasal poly as compared to smoker and asthma patient (Table 2)

Risk Factors Table 2

Risk Factors		
Allergic rhinitis	17	53.1%
Smoking	12	37.5%
Asthma	2	6.25%
Family history	1	3.125%

In this study we found that person who take corticosteroid more improved as compared to person who did not use corticosteroids therapy (Table 3)

Response to Treatment Table 3

Response to Treatment	Number	Prevalence
Improved	27	84.3%
No Improvement	5	15.7%

DISCUSSION

This study revealed that nasal polyps are more prevalent among middle-aged males. The most common associated risk factor was allergic rhinitis, followed by smoking and asthma. The significant response to intranasal corticosteroid treatment underscores their role as a primary management strategy[8-10]. These findings are consistent with other global and regional studies, though small sample size remains a limitation. The pathophysiology often involves eosinophilic inflammation and mucosal oedema, making corticosteroids an effective anti-inflammatory agent[11].This research study focuses on the prevalence, risk factors, and the impact of corticosteroids in treating nasal polyps through a prospective observational study. Nasal polyps are growths in the nasal passages and sinuses, and the study aims to understand their frequency, what makes people susceptible, and how well steroid medications work in managing them. Prevalence: The study will likely investigate how common nasal polyps are in the general population or a specific group, as prevalence rates vary. Risk Factors: The study will explore potential risk factors, which could include allergies, asthma, infections, cystic fibrosis, and aspirin sensitivity[12].

In this study we found that 31 to 50 age groups were more suffered of Nasal polyps as compared to other group and male(62.5%) wee more suffered of nasal polyp as compared to female(Table 1)

Corticosteroid Role: The research will assess the effectiveness of corticosteroids, both topical and systemic, in reducing polyp size, improving symptoms, and potentially preventing recurrence. Prospective Observational Design: The study will follow a group of individuals with nasal polyps over time to observe changes and outcomes, rather than randomly assigning treatments[13-15].

In this study we found that allergic(53.1%) person more suffered if nasal poly as compared to smoker and asthma patient (Table 2)

Improved Understanding: By examining these aspects, the study can improve our understanding of nasal polyps, leading to better management strategies. Targeted Treatment: Identifying risk factors can help in identifying individuals who may be more susceptible to developing polyps, allowing for preventative measures. Optimal treatment[16-18]

In this study we found that person who take corticosteroid more improved as compared to person who did not use corticosteroids therapy (Table 3)

The study can shed light on the most effective use of corticosteroids, both in terms of dosage and duration, for different severities of nasal polyposis[19-20]. In essence, this research aims to provide valuable insights into the nature of nasal polyps and the role of corticosteroids in their management, contributing to improved patient care.

CONCLUSION

Nasal polyps frequently affect individuals with underlying allergic or respiratory conditions. Early identification and treatment with corticosteroids can reduce symptom burden and delay surgical intervention. Larger studies are warranted to validate these findings and explore long-term outcomes.

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