

Clinical Correlation Of Chronic Rhinosinusitis With Nasal Polyps

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ABSTRACT

Background: Chronic rhinosinusitis with and without nasal polyps represent different group of one chronic inflammatory disease of the mucosa of the nasal cavity and paranasal sinuses. Coexistence of chronic rhinosinusitis with nasal polyps¹ has similar characteristics of inflammation that supports assumption that chronic rhinosinusitis and nasal polyps may at least be in part, the same disease process. **Objectives:** This study is aimed to correlate the chronic rhinosinusitis associated with nasal polyps. **Methods:** This was a prospective descriptive study was conducted on the patients attending the department of ENT in NGMC teaching hospital from March 2016 to September 2017. **Result :** There were 70 cases including 47 male and 23 female, with an age range of 17 years to 65 years. **Conclusion:** This study supports that a patient with chronic rhinosinusitis associated with nasal polyps is a subtype of chronic sinus disease.

Keywords: *Chronic rhinosinusitis (CRS), Nasal endoscopy, Nasal polyps (NPs)*

INTRODUCTION

Rhinosinusitis is a significant health problem which seems to mirror the increasing frequency of allergic rhinitis and it poses in a large financial burden on society. The last decade has seen the development of a number of guidelines, consensus documents and position papers on the epidemiology, diagnosis and treatment of rhinosinusitis and nasal polyposis¹. Chronic rhinosinusitis (CRS) is an inflammatory disease of the mucosa of the nasal cavity and paranasal sinuses with symptoms lasting longer than 12 weeks. Based on the presence of nasal polyps on endoscopy, CRS is clinically divided in CRS with and without nasal polyps (NPs)².

The European position paper on rhinosinusitis and nasal polyps proposed the criteria for diagnosis of chronic rhinosinusitis in adults as 12 or more weeks of persistent symptoms and signs with no complete resolution³. The European position paper on rhinosinusitis and nasal polyps (EPOS) has now defined rhinosinusitis as a diagnosis made on clinical grounds based on the presence of characteristic symptoms, combined with objective evidence of mucosal inflammation. Nasal polyps represent the end stage local manifestation of chronic

inflammatory disease of the sinonasal tract. The condition is a distinct subgroup of chronic rhinosinusitis, chronic rhinosinusitis with polyps (CRSwNP). Despite the prevalence of polyps, the long history of recognition and extensive research and literature, their etiology remains elusive and poorly understood. In the last few decades numerous studies have tried to determine the exact pathogenesis of this disease and although many have shown factors thought to be related and associated, none have come to a definitive conclusion about causation. CRSwNP can significantly affect quality of life, and places significant financial burden on society, directly as a result of outpatient appointments, prescriptions, investigations and hospitalization, and indirectly as a result of missed work days and decreased productivity at work. Despite adequate treatment CRSwNP runs a chronic and recurrent course. Nasal polyps continue to be a challenge for rhinologists treating patients with this chronic disease and for those searching for a cause⁴.

Nasal polyps are best thought of as 'chronic rhinosinusitis with nasal polyps' (CRSwNP), and European guidelines define these conditions clinically as⁴:

- ☞ inflammation of the nose and paranasal sinuses associated with two or more symptoms, one of which should be nasal blockage/obstruction/congestion or nasal discharge:
 - o +/- facial pain/pressure
 - o reduction or loss of smell
- and either
 - ☞ endoscopic evidence of
 - o polyps and/or
 - o mucopurulent discharge from the middle meatus or oedema, mucosal obstruction primarily in the middle meatus

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and/or

☞ CT changes:

- o mucosal changes within the osteomeatal complex and/or sinuses

Nasal polyps and chronic rhinosinusitis are often taken together as one disease entity, because it seems impossible to clearly differentiate between them. Nasal Polyposis is therefore considered a subgroup of Chronic Rhinosinusitis. Present study is conducted to evaluate the chronic rhinosinusitis associated with nasal polyps.

MATERIALS AND METHODS

This was a prospective descriptive study conducted in the patients attending the department of ENT in NGMC teaching hospital. We collected data of 70 consecutive patients with chronic sinus disease, over a period from March 2016 to September 2017. Demographic profile and clinical presentation of patients were assessed. Written informed consent was taken from all patients.

The patients were divided into two different groups according to clinical presentation of CRS and endoscopic appearance of nasal polyps. The groups were as follows:

Group 1: CRS, no polyps (Group 1, CRS);

Group 2 CRS and polyps (Group 2, CRSwNPs).

Nasal polyps were detected by nasal endoscopy and graded on a 0–3 point scale. Polyps were scored as follows:

Grade 1 when restricted to the middle meatus,

Grade 2 when they reach beyond the middle turbinate,

Grade 3 when they reach the inferior turbinate or fill the nasal cavity

Radiological evaluation with CT scan done in patients presented with nasal polyps.

RESULT

The study conducted in the patients attending the department of ENT in NGMC teaching hospital from March 2016 to September 2017. During the period under study, a total of 70 patients with established chronic rhinosinusitis were studied. 47(67.1%) were males and 23 (32.9%) females. Their ages ranged from 17 year to 65 years with mean age was 32.37 (SD 11.17). Patients in the age group of 10-20 years were 6 (8%), followed by 21-30 were 34(48%), 31-40 were 16(22%), 41-50 were 9 (12%) and >50 were 5 (7%).

There were 47(67.1%) male and 23(32.9%) female in this study. The demographic and clinical characteristics of patients with CRS and nasal polyp are given in Table. Nasal polyps were detected endoscopically in 19(27.1%) patients; 1(5.3%) patients had grade I polyps, 6(31.6%) patient had grade II

polyps and 12(63.2%) patient had grade III polyps. Most common complaint of the patients is nasal obstruction 68(97.1%), followed by nasal discharge 52(74.3%), sneezing 27(38.6%), olfactory dysfunction 20(28.6%) and facial pain 13(18.6%). Olfactory impairment was present in 68.4% of patients only with NPs. There were 19(27.1%) patients who presented with nasal polyp. On nasal endoscopy, 1(5.3%) patient had grade one polyp, 6(31.6%) had grade two polyp and 12(63.2%) had grade three polyp. Mucopurulent discharge are seen only in patients with nasal polyps, however nasal mucosal oedema and mucosal obstructions are least common presentation in this study.

Variable	Total patients	Group 1 CRS	Group 2 CRSwNPs	P value
Total number	70	51(72.9%)	19(27.1%)	
Mean age years (SD)	32.37(11.17)	28.43 (7.52)	42.95 (12.6)	0.046
Sex (M/F)	47/23	38/13	9/10	0.032
Mean duration of symptoms years, (SD)	3.27(1.36)	2.78(0.96)	4.58(1.42)	0.000
Nasal obstruction , N= (%)	68(97.1)	49(96.1)	19(100)	0.381
Nasal discharge , n (%)	52(74.3)	33(64.7)	19(100)	0.003
Sneezing, N= (%)	27(38.6)	23(45.1)	4(21.1)	0.006
Facial pain, N= (%)	13(18.6)	8(15.7)	5(26.3)	0.309
Olfactory dysfunction, N= (%)	20(28.6)	7(13.7)	13(68.4)	0.000
Congestion, N= (%)	24(34.3)	22(43.1)	2(10.5)	0.011
Edema/mucosal obstruction, N= (%)	6(8.6)	1(2)	5(26.3)	0.001
Mucopurulent discharge, N= (%)	15(21.4)	-	15(78.9)	0.000
Nasal polyp, N= (%)	19(27.1)	-	19(100)	0.000
Grade I, N= (%)	-	-	1(5.3)	
Grade II, N= (%)	-	-	6(31.6)	
Grade III, N= (%)	-	-	12(63.2)	

Table: Demographic and clinical characteristics of patients with Chronic rhinosinusitis (CRS), and with CRS and nasal polyps (CRSwNPs)

DISCUSSION

According to most recent position statements in chronic sinus disease, CRS is considered a disease continuum with “extremes” such as CRS with and without NPs². In this study, we aimed to scrutinized the chronic rhinosinusitis and its associations with nasal polyps. Moreover, our results indicate that looking from a clinical point of view, there is an apparent

profile of symptoms, sign, radiologic changes, in different subgroups of CRS. In this study the most common symptoms are nasal obstruction, nasal discharge and sneezing. Olfactory impairment is more common in patients with nasal polyps and CRS, although a complete olfactory loss was a characteristic feature of NPs⁵.

In this study, sinus CT scan was done in patients with nasal polyp to evaluate the extent of disease. Nasal endoscopy made it possible to directly investigate the extent of Sino nasal polyposis. Mucopurulent discharge are seen only in patients with nasal polyps. It should be mentioned that in most of cases, NPs were diagnosed late (Grade II & III) when it filled the nasal cavity, and this suggests inadequate, ineffective, or delayed management in community care of patients with CRS. Patient with chronic rhinosinusitis appears to associated with nasal polyps is a subtype of chronic sinus disease.

CONCLUSION

CRS associated with nasal polyps is the most severe form of disease with longer duration of nasal symptoms. From the clinical standpoint, these observations support that in patients with chronic sinus disease often associated with nasal polyps, which should be otherwise evaluated and treated as early as possible. Further studies are needed to identify the key factors underlying CRS and development or formation of NPs. This study vindicates that a patient with chronic rhinosinusitis associated with nasal polyps is a subtype of chronic sinus disease. Identifying the causal factors and variants in NPs are important to the path towards improved prevention, diagnosis and treatment of CRS with or without NPs.

REFERENCES

1. Fokkens W, Lund V, Bachert C, Clement P, Hellings P, Holmstrom M, et al. EAACI position paper on rhinosinusitis and nasal polyps. *Allergy* 2005;60:583-601.
2. Jurate Staikuniene, Saulius Vaitkus, Lidija Marija Japertiene, Silvija Ryskiene. Association of chronic rhinosinusitis with nasal polyps and asthma: clinical and radiological features, allergy and inflammation markers. *Medicine (Kaunas)* 2008; 44(4):257-265
3. Glenis S. Medical management of chronic rhinosinusitis. In: Gleeson M editor. *Scott-Brown`s Otolaryngology, Head and Neck Surgery*. 7th Edition. Great Britain: Hodder Arnold; 2008. p1469.
4. In: John CW, Raymond WC editors. *Scott-Brown`s Otolaryngology, Head and Neck Surgery*. 8th Edition. London New York: CRC Press; 2018. P1025-1037.
5. Van Zele T, Claeys S, Gevaert P, Van Maele G, Holtappels G, Van Cauwenberge P, et al. Differentiation of chronic sinus diseases by measurement of inflammatory markers. *Allergy* 2006; 61:1280-9.