Original Article

ISSN (O): 2347-3398; ISSN (P): 2277-7253

Assessment of Clinical Profile of Patients with Allergic Rhinitis

Monika Sharma[1], **KM Jameel**[2]

[1]Associate Professor, Department of ENT, Sree Narayana Institute of Medical Sciences, Chalakka, Kerala, India, [2]Assistant Professor, Department of ENT, Sree Narayana Institute of Medical Sciences, Chalakka, Kerala, India.

Abstract

Background: Assessing clinical profile of patients with Allergic rhinitis (AR). **Subjects & Methods:** One hundred forty- eight patients comprising of 80 males and 68 females of AR were included in the study. Clinical symptoms were recorded. **Results:** Common symptoms were running nose seen in 125 (84.4%), nasal blockage in 110 (74.4%), sneezing in 97 (65.5%), nasal itching in 80 (54%) and watery eyes in 72 (48.6%) cases. Mild intermittent cases were seen in 17%, moderate/ severe intermittent in 30%, mild persistent in 25% and moderate/ severe persistent in 28%. Allergens found to be tobacco smoke in 18%, animals in 20%, pollen in 36% and dust in 26%. A significant difference was seen (P< 0.05). **Conclusion:** Maximum cases were seen in males and age group 31-40 years in both genders. Pollens were most common allergens.

Keywords: Allergic rhinitis, Pollen, Nasal Itching

Corresponding Author: Monika Sharma, Associate Professor, Department of ENT, Sree Narayana Institute of Medical Sciences, Chalakka, Kerala, India.
E-mail: dr_msharma@rediffmail.com

Received: 03 February 2021 **Revised: 17 March 2021** **Accepted: 24 March 2021** **Published: 30 March 2021**

Introduction

Allergic rhinitis (AR) is a common condition affecting approximately 20-25% of general population. It is also known as hay fever. It is the main reason among youngster to visit ENT surgeon. The number of cases is on rise day by day.[1] It is characterized by allergic reaction inside the nasal cavity leading to immunoglobulin E (IgE) mediated inflammation of the membranes lining the nose with release of inflammatory chemicals such as histamine from mast cells. Patients experience frequent nasal discharge, congestion of nasal cavity, sneezing, rhinorrhoea and itching of nose. Literature shows that various conditions such as sinusitis, asthma, otitis media, nasal polyposis, lower respiratory tract infection and dental malocclusion are associated with AR.[2]

There are numerous risk factors for AR. Indoor and outdoor allergens as well as occupational agents cause rhinitis and other allergic diseases.[3] Pollen dust, grass, perfume, smoke and dust particles are allergens. Genetics also play an important role. World health organization (WHO) revised the classification of AR. It has been classified as mild, moderate and severe.[4] It is further classified as intermittent and persistent. If it is less than 4 days a week then it is intermittent and if more than 4 days a week, then it is persistent. Daily activities, sleep pattern, school activities etc. are affected in mild forms. In severe form, all above symptoms is present plus consistency is maintained throughout the day with worsening of symptoms at night.[5] Considering this, the present study aimed at assessing clinical profile of patients with Allergic rhinitis (AR).

Subjects and Methods

One hundred forty- eight patients comprising of 80 males and 68 females were included in the study. All patients agreed to participate in the study and their consent was taken.

A case history proforma was developed and parameters related to patients such as socio- economic status, occupation etc. were recorded. A thorough examination of nasal cavity was conducted by an expert ENT surgeon. Presence of pale and blue color of nasal mucosa was recorded. Clinical symptoms such as nasal blockage, running nose, hypertrophy of turbinates etc. was also recorded in clinical file. History of allergens was asked from patients. All patients were further subjected to X- ray nasal cavity followed by CT nasal sinuses if required. Results of the present study were tabulated and studied using Mann Whitney U test. The software IBM SPSS version 21.0 was used for analysis. Level of significance was below 0.05.

Results

Table 1: Age and gender distribution

Age group (Years)	Males	Females	Total
10-20	7	10	17
21-30	13	15	28
31-40	32	26	58
41-50	18	10	28
>50	10	7	17
Total	80	68	148

Maximum patients were seen in age group 31-40 years (males- 32, females- 26) and least were in age group 10-20 years (males- 7, females- 10) and >50 years (males- 10, females- 7) [Table 1].

Table 2: Presence of symptoms

Symptoms	Number (Percentage)	P-value
Running nose	125 (84.4%)	Significant
Nasal blockage	110 (74.4%)	
Sneezing	97 (65.5%)	
Nasal itching	80 (54%)	
Watery eyes	72 (48.6%)	

Common symptoms were running nose seen in 125 (84.4%), nasal blockage in110 (74.4%), sneezing in 97 (65.5%), nasal itching in 80 (54%) and watery eyes in 72 (48.6%) cases. A significant difference was seen (P< 0.05) [Table 2, Figure 1].

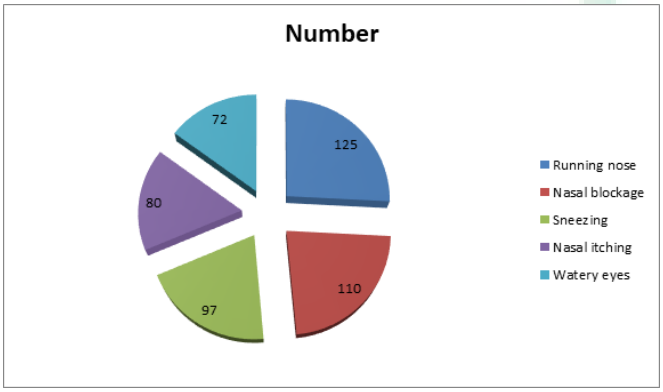

Figure 1:

Mild intermittent cases were seen in 17%, moderate/ severe intermittent in 30%, mild persistent in 25% and moderate/ severe persistent in 28%. Allergens found to be tobacco smoke in 18%, animals in 20%, pollen in 36% and dust in 26%. A significant difference was seen (P< 0.05) [Table 3].

Discussion

Allergic rhinitis (AR) constitutes 55% of all allergic conditions affecting population. Allergic rhinitis (AR) patients are regarded as sneezers-runners and blockers.[6] Sneezing, anterior rhinorrhoea, itchy nose and eyes are predominantly seen among sneezer and runner whereas nasal blockage and thick mucous leading to postnasal discharge breathlessness is seen among nasal congestion.[7] It is seen that subjects may also find that cross-reactivity such as someone allergic to birch pollen may also find that he has an allergic reaction to the skin of apples or potatoes. A clear sign of this is the occurrence of an itchy throat after eating an apple or sneezing when peeling potatoes or apples. The reason is the similarities in the proteins of the pollen and the food.[8] The present study aimed at assessing clinical profile of patients with Allergic rhinitis (AR).

It was seen that maximum patients were seen in age group 31-40 years (males- 32, females- 26) and least were in age group 10-20 years (males- 7, females- 10) and >50 years (males- 10, females- 7). Deb et al,[9] conducted a study among 548 patients out of which 462 patients were diagnosed with AR. It was observed that proportion of "blockers" was 64.1% whereas those "sneezers-runners" were 35.9%. "Blockers" had significantly more sensitization to polyvalent house dust, house dust mites and fungi, on the other hand "sneezers-runners" had more sensitization to pollens. "Moderate/severe persistent" and "mild persistent" types of the disease was seen among blockers and "mild intermittent" and moderate/severe intermittent" type of disease were significantly more common among "sneezers-runners".

In this study, it was found that common symptoms were running nose seen in 125 (84.4%), nasal blockage in110 (74.4%), sneezing in 97 (65.5%), nasal itching in 80 (54%) and watery eyes in 72 (48.6%) cases. Shukla et al,[10] in their study on 400 patients found that most of them belonged to 3^{rd} decade of life and <30 years of age. Proportion of blockers were found much higher than sneezers and runners. In majority of cases predisposing factors were seasonal and house dust.

It was seen that mild intermittent cases were seen in 17%, moderate/ severe intermittent in 30%, mild persistent in 25% and moderate/ severe persistent in 28%. Allergens found to be tobacco smoke in 18%, animals in 20%, pollen in 36% and dust in 26%. It is observed that AR interferes with restful sleep if nasal obstruction/congestion is present. Sleep disturbance is a very irritating symptom. Meltzer et al,[11] in their study among 2355 individuals with AR found that more than 80% of the respondents experienced nasal congestion at night, and 17% indicated that this is the most bothersome nocturnal

Table 3: Assessment of parameters

Parameters	Variables	Percentage	P-value
Type/ Severity	Mild intermittent	17%	Non- significant >0.05
	Moderate/ severe intermittent	30%	
	Mild persistent	25%	
	Moderate/ severe persistent	28%	
Allergens	Tobacco smoke	18%	Significant <0.05
	Animals	20%	
	Pollen	36%	
	Dust	26%	

symptoms. A study conducted by Alyasin and Amin,[12] found that 58.3% was "moderate/severe persistent", 34.4% were "mild persistent" (34.4%) and 4.2% were "moderate severe intermittent" and 2.1% were "mild intermittent".

Abri et al,[13] conducted a study among 127 patients with nasal complaints. 48% of patients had AR, and 52% had non-allergic rhinitis. The prevalence of AR was 7%, with females being more affected than males, and age ranging from 18 to 51 years. Prevalence of perennial AR was 84% compared to seasonal AR which was 16%. The most common perennial antigens were house dust mites (80%) followed by cockroaches (67%). All patients diagnosed with seasonal AR were found to be sensitive to Russian thistle. The prevalence of chronic rhinosinusitis in patients with AR was 34%.

Conclusion

Maximum cases were seen in males and age group 31-40 years in both genders. Pollens were most common allergens.

References

1. Sengupta RP, Das S, Roy A. A study in nasal allergy evaluation of intradermal test. Indian J Otolaryngol. 1975;27:67–72.
2. Hj R, Lee CH, Brown DR, Jw W. William JM Diagnosis of food allergy. ArchOtolaryngol. 1964;79:71–80.
3. Aberg N, Sundell J, Erikson B, Hesselmar B, Aberg B. Prevalence of allergic disease in school going children. Allergy. 1996;51:232–239.
4. Bresolin D, Shapiro PA, Shapiro GG, Chapko MK, Dassel S. Mouth breathing in allergic children: Its relationship to dento-facial development. Am J Orthod. 1983;83(4):334–340. Available from: https://dx.doi.org/10.1016/0002-9416(83)90229-4.
5. Passalacqua G, Durham S, R. In cooperation with the Global Allergy and Asthma European Network (GA LEN Allergic Rhinitis and its Impact on Asthma update. Allergen immunotherapy Review Article Journal of Allergy and Clinical Immunology. 2007;119(4):881–891.
6. Bauchau V, Durham SR. Epidemiological characterization of the intermittent and persistent types of allergic rhinitis. Allergy. 2005;60(3):350–353. Available from: https://dx.doi.org/10.1111/j.1398-9995.2005.00751.x.
7. Phipatanakul W. Allergic Rhinoconjunctivitis: Epidemiology. Immunol Allergy Clin North Am. 2005;25(2):263–281. Available from: https://dx.doi.org/10.1016/j.iac.2005.03.001.
8. Wiqar SA. Allergic rhinitis in Allergy and asthma - a clinical primer. IJCP. 1999;p. 65–65.
9. Deb A, Mukherjee S, Saha BK, Sarkar BS, Pal J, Pandey N, et al. Profile of patients with allergic rhinitis (AR): a clinic based cross-sectional study from Kolkata. J Clin Diagn Res . 2014;8(1):67–70. Available from: https://dx.doi.org/10.7860/JCDR/2014/6812.3958.
10. Shukla. Clinical profile of allergic rhinitis patients in Bastar. MIJOENT. 2017;3(3):14–16. Available from: https://doi.org/10.26611/1016331.
11. Meltzer EO, Bukstein DA. The economic impact of allergic rhinitis and current guidelines for treatment. Ann Allergy Asthma Immunol. 2011;106(2):12–16. Available from: https://dx.doi.org/10.1016/j.anai.2010.10.014.
12. Alyasin S, Amin R. The Evaluation of New Classification of Allergic Rhinitis in Patients Referred to a Clinic in the City of Shiraz. Iran J Allergy Asthma Immunol. 2007;6(1):27–31.
13. Al-Abri R, Bharghava D, Kurien M, Chaly V, Al-Badaai Y, Bharghava K. Allergic Rhinitis and Associated Comorbidities: Prevalence in Oman with Knowledge Gaps in Literature. Oman Med J. 2014;29:414–418. Available from: https://dx.doi.org/10.5001/omj.2014.111.

Copyright: © the author(s), 2021. It is an open-access article distributed under the terms of the Creative Commons Attribution License (CC BY 4.0), which permits authors to retain ownership of the copyright for their content, and allow anyone to download, reuse, reprint, modify, distribute and/or copy the content as long as the original authors and source are cited.

How to cite this article: Sharma M, Jameel KM. Assessment of Clinical Profile of Patients with Allergic Rhinitis. Asian J. Med. Res. 2021;10(1):1-3.

DOI: dx.doi.org/10.47009/ajmr.2021.10.1.EN1

Source of Support: Nil, **Conflict of Interest:** None declared.