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Clinical Features in Patients of Allergic Rhinitis

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ABSTRACT

Allergic rhinitis is caused by an inflammatory response to an allergen to which the patient has already been exposed. In this study we aim to study the presenting complaints, clinical features and findings in a group of 100 patients of allergic rhinitis. A total of 100 patients with allergic rhinitis were enrolled into the study. We conducted a prospective interventional study on adult population (>=18 years) suffering from AR having two or more of the following symptoms– Sneezing, Itching in nose, eyes ,ears and palate, Nasal discharge, Nasal obstruction, Allergic salute, allergic shiner, Anosmia, Pale blue nasal mucosa, Hypertrophied boggy inferior turbinates. We found that there is high prevalence of AR in young population. Our study shows that the most common presenting complaints were sneezing (100%) and nasal itching or pruritis (99%), followed by rhinorrhea (97%), nasal obstruction (70%), headache (60%) and PND (69%). Patients also presented with discomfort in activities due to AR (71%), irritability (49%) and absence of sleep (46%). 62% of the patients on nasal examination had pale nasal mucosa, while 38% of the patients had pale nasal mucosa along with inferior turbinate hypertrophy.

Keywords: AR – Allergic rhinitis, DNS- Deviated nasal septum, PND- Posterior nasal drip

INTRODUCTION

Allergic rhinitis is characterized by inflammatory changes in the nasal mucosa by exposure to inhaled allergens. Allergic rhinitis is one of most common allergic diseases worldwide, affecting about 10-25% of population. It is a common disease, affecting between 0.8 and 39.7% of the world population with the prevalence in Western Europe of 23%[1]. In India 20-30% of the population suffers from allergic rhinitis and/or other allergic diseases, prevalence being increasing over past many years[2]. It causes significant disability and is often poorly managed. There may be co-morbidities with other organs being involved, commonly the eyes causing allergic conjunctivitis and the lungs with allergic asthma. Indeed, these diseases are increasingly considered to be a single entity, with a spectrum of respiratory allergic response, termed the unified allergic airway. Allergic rhinitis is caused by an inflammatory response to an allergen to which the patient has already been exposed. In this abnormal response the individual has produced allergen specific immunoglobulin E(IgE) which binds to the mast cell surface receptor. Subsequent allergen exposure causes this receptor/IgE complex to trigger mast cell degranulation with the release of preformed mediators. This inflammatory mediator release includes not only histamine, but also other granule contents (serine proteases, heparin), and newly synthesized eicosanoid mediators-leukotriene C4, prostaglandins D2, thromboxane and PAF. These inflammatory mediators cause the classic symptoms of allergic rhinitis; nerve irritation causes sneezing and itching, loss of mucosal integrity causing rhinorrhoea and vascular engorgement causing block. Histamine

drives the majority of acute nasal symptoms such as sneezing and itching with leukotrienes and prostaglandins being involved in longer term symptoms such as block.

In this study we aim to study the presenting complaints, clinical features and findings in a group of 100 patients of allergic rhinitis.

LITERATURE REVIEW

Large family size, more frequent infections and unhygienic contacts may all be protective for allergic rhinitis –the hygiene hypothesis. This suggests the reduced exposure to infective agents reduces the Th1 response and leads to an overdrive of the Th2 immune response leading to excessive production of IgE and consequent atopy. Genetic factors are certainly involved in the etiology of allergic rhinitis. Having parents who are atopic may increase the risk of a child having an allergic disease by 3-6 times. Pollen induced allergic rhinitis is uncommon before the age of 2 years suggesting that exposure over two seasons is required for sensitization.

Young children may simply present with block. Other complaints such as itchy eyes, pharyngeal itch, hearing loss due to otitis media with effusion, atopic eczema, asthma, nasal polyps, loss of smell, chronic cough, snoring, fatigue, sore throat and halitosis may occur. In children, dental malocclusions & facial deformities can also occur. Triggers of Allergic rhinitis are domestic allergens as mites, domestic animals, insects or of plant origin; common outdoor allergens include pollens and moulds; occupational triggers as latex; tobacco smoke; automobile exhaust include ozone, oxides of nitrogen and sulphur dioxide; aspirin and other non-steroidal anti-inflammatory drugs.

MATERIALS & METHODS

A total of 100 patients with allergic rhinitis were enrolled into the study. We conducted a prospective interventional study on adult population (>=18 years) suffering from AR having two or more of the following symptoms–

Sneezing, itching in nose, eyes, ears and palate, nasal discharge, nasal obstruction, allergic salute, allergic shiner, anosmia, pale blue nasal mucosa, hypertrophied boggy inferior turbinates. We excluded patients with nasal polyposis, DNS, adenoid hypertrophy, history of sinonasal surgeries, patients with immunotherapy, pregnancy, nasal neoplasm, history of smoking, bronchial asthma, cystic fibrosis, chronic bronchitis and systemic diseases for the study group.

RESULT

Table 1. Age-group based distribution of patients

Age-group (years)	Number of patients
18-30	46
31-40	31
41-50	14
51-60	9

Table 1 shows the Age-group based distribution of patients depicting that 46% of the patients were in age-group of 18-30 years. The mean age group of the patients is 32.7 years.

Table 2. Gender-based distribution of patients

Gender	Number of patients
Male	47
Female	53

Table 3. Presenting complaints

		Number of patients
Itching	Yes	99
	No	1
Sneezing	Yes	100
	No	0
Rhinorrhea	Yes	97
	No	3
Nasal Obstruction	Yes	70
	No	30
Headache	Yes	60
	No	40
Postnatal Discharge	Yes	69
	No	31
Facial Pain	Yes	1
	No	99
Discomfort in activity	Yes	71
	No	29
Absence of sleep	Yes	46
	No	54
Irritability	Yes	49
	No	51
Cough	Yes	17
	No	83

Table 4. Distribution of patients on the basis of duration of symptoms

	Number of patients
<6 months	22
6-12 months	25
>12 months	53

Table 4 shows that majority of the patients 53, duration of symptoms was more than 12 months.

Table 6. Distribution of patients on the basis of nasal anterior rhinoscopy findings

	Number of patients
Pale mucosa	62
Pale mucosa and inferior turbinate hypertrophy	38

Table 6 shows distribution of patients on the basis of nasal anterior rhinoscopy findings.

DISCUSSION

Our study shows that 46% of the patients are within the age group 18-30 years, indicating high prevalence in young population. Cazzoletti et al found the mean age of onset of AR was 16-18 , and the prevalence of AR also decreased with age[3]. Previous studies have found that the prevalence of AR peaks around the age of 16-24 and decreases in subsequent years up to the age of 65-70[4,5]. Aggarwal et al found that the maximum number of patients of AR were between 21-25 years[6]. Bozek et al found the mean age of disease onset in patients of AR was found 17.6+-4.8 years in Poland. Individuals gradually develop symptoms of AR before the age of 20 years with approximately 40% of patients becoming symptomatic by 6 years of age. The trend of age groups was confirmed by the present study.

Gender distribution

Our study reveals that percentage of male and female in the study group was 47% and 53% respectively. Agarwal at al in their study found that the prevalence of AR in males and females was 65% and 35% respectively[6]. The prevalence of AR by Larsson et al[7] among women and men aged 21-51 years in Sweden was found 41% and 40% respectively, consistent with that documented by Hellgren et al in Sweden as 42% and 36% respectively[8].

Presenting Complaints in patients of AR

Our study shows that the most common presenting complaints were sneezing (100%) and nasal itching or pruritis (99%), followed by rhinorrhea (97%), nasal obstruction (70%) , headache (60%) and PND (69%). Patients also presented with discomfort in activities due to AR (71%), irritability (49%) and absence of sleep (46%).

Agarwal et al concluded in their study that the most significant complaints of patients were mainly paroxysmal sneezing, nasal obstruction and watery nasal discharge[6] He S found the most common nasal symptom in AR was nasal obstruction[10]. Blaiss et al reported adolescent sneezing and rhinorrhea as the most bothersome compared with children and were less likely than adults to report nasal pruritis as the single most bothersome symptom. AR was significantly associated with shorter duration of night time sleep and snoring. Study by Lee KS et al showed that sinusitis was the most common comorbidity in AR and sleep disturbance was associated with the severity of rhinitis[11]. Montnemery et al found that 33% adults (20-59years) in Southern Sweden reported significant nasal symptoms ,a combination of blocked nose, sneezing, nasal discharge and thick yellow nasal discharge[7].

Duration of symptoms

Our study shows that patients of AR who were suffering with the symptoms for less than 6 months was 22% , 25% of the patients had symptoms for 6 to 12 months and 53% of the patients had symptoms for more than 12 months.

Findings on Examination

Our study shows that 62% of the patients on nasal examination had pale nasal mucosa , while 38% of the patients had pale nasal mucosa along with inferior turbinate hypertrophy. These results show that most common finding on anterior rhinoscopy in patients of AR is pale nasal mucosa.

CONCLUSION

We found that there is high prevalence AR among young people. There was no difference in the prevalence of AR between males and females. Our study shows that the most common presenting complaints were sneezing (100%) and nasal itching or pruritis (99%), followed by rhinorrhea (97%), nasal obstruction (70%), headache (60%) and PND (69%). 53% of the patients had symptoms for more than 12 months, which indicates the chronicity of the disease. On anterior rhinoscopy results show that most common finding in patients of AR is pale nasal mucosa.

Declaration by Authors

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